

Socio-Emotional Competencies and Educational Attainments: Probing Higher Education Readiness in the Transitional Phase

THESIS

Submitted in partial fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

By

DEEPANJANA CHAKRABORTY

ID: 2019PHXF0416P

Under the supervision of

Dr. Tanu Shukla

&

the co-supervision of

Prof. Virendra Singh Nirban



BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

2024

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

CERTIFICATE

This is to certify that the thesis titled **Socio-Emotional Competencies and Educational Attainments: Probing Higher Education Readiness in the Transitional Phase** submitted by **Deepanjana Chakraborty** holding ID No: **2019PHXF0416P** for the award of Ph.D. of the Institute embodies original work done by her under our supervision.

Signature of the supervisor

Dr. Tanu Shukla

Associate Professor

**Department of Humanities and Social
Sciences**

**Birla Institute of Technology and Science
(BITS)Pilani, Pilani Campus,
Rajasthan, 333031**

Date:

Signature of the co-supervisor

Prof. Virendra Singh Nirban

Professor

**Department of Humanities and Social
Sciences**

**Birla Institute of Technology and Science
(BITS) Pilani, Pilani Campus,
Rajasthan, 333031**

Date:

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Dr. Tanu Shukla, for her constant support, guidance, feedback, and direction in my research work. This journey would have been incomplete without her constant direction and guidance. Our continuous brainstorming sessions helped me in developing my research skills and ideas for research. I would like to thank my co-supervisor, Prof. Virendra Singh Nirban. His advice helped me with the formulation of my research tools, methodological framework, and theoretical perspectives.

I express my utmost gratitude to my Doctoral Committee Members, Dr. Madhurima Das and Dr. Rajneesh Choubisa. Dr. Madhurima Das has been a support pillar throughout my journey. I sincerely thank Dr. Rajneesh Choubisa for his constant support and guidance.

My profound thanks to Prof. Devika Sangwan, Head of the Department, Prof. S.K. Choudhary and Departmental Research Committee for their continuous support and motivation. I express my gratitude to Prof. Shamik Chakraborty for his timely help. Special thanks to my friends, Dr. Divya Dosaya, Dr. Mounika Prashanthi and Ms. Ranjini Nadig, for our brainstorming sessions and discussions, which helped me towards the accomplishment of my thesis. I thank the office staff and library staff for helping me in all possible ways.

I express my earnest gratitude to my grandmother, Late Mrs. Sadhana Devi Chakraborty. Her invaluable support and the inception of this journey had been the sole motivator throughout my learning period. I am grateful to my maternal uncle, Mr. Sujit Chandra, for his unconditional love and constant support at every step of my writing phase. I would like to thank my parents, Mr. Tushar Chakraborty, and Mrs. Supriya Chakraborty, for their support and motivation. I would also like to thank my brother, Mr. Deepranjan Chakraborty, for his support during the thesis writing phase and his encouraging words.

Lastly, I would like to thank everyone who participated in my study and provided valuable suggestions. Their constant support helped me thrive in this situation successfully.

SUMMARY

The trajectory of transformative changes has been accompanied by levels of education. These transformative changes are manifested in terms of employment, income and well-being and quality of life towards fostering the well-being of a community. It is imperative that educational endeavours are focused on enhancing the four fundamental foundations of education: acquisition of knowledge, development of practical skills, cultivation of harmonious coexistence, and nurturing of personal growth. It is imperative to comprehend the determinants that enable students to acquire the essential and enduring learning capabilities required in the 21st century.

Secondary education has a crucial role in bridging the gap between primary and higher education, making it a significant contributor to the nation's human capital. This recognition is evident in current policy-making initiatives. The significance of secondary education is crucial in fostering the acquisition and development of skills and capacities in transitioning students, thereby equipping them for future endeavours towards better employability. Multiple surveys and research have consistently indicated a deficiency in fundamental abilities among students upon completion of primary education in India. As a result, secondary education assumes a dual function of fostering both foundational skills and the cultivation of specialised competencies.

There is a paucity of high-quality research that specifically examines the significance of obtaining competencies in addition to academic learning within the context of secondary education. In the Indian scenario, most of the research undertaken thus far has been focused on the primary education sector, specifically pertaining to the acquisition of academic information disseminated in the class-settings among students. Consequently, there exists a notable lacuna in the emphasis on practical skills within the realm of formal institutional education that can consolidate the theoretical learning during the primary years as well as facilitate the derivation of the meaningfulness of school learning. Existing literature in the field of

school education demonstrates a significant emphasis on the technical components of academic performance. Moreover, this trend persists in higher education, disregarding the essential competencies and abilities needed in the secondary phase to facilitate a successful transition into the realm of employment prospects while still in schooling phase.

The absence of socio-emotional skills among secondary level students in India has resulted in a challenging paradox. The country possesses a substantial population of learners who are hesitant to pursue higher education, while those who do, often find themselves unemployed despite holding a degree. This situation can be attributed to the predominant emphasis on academic grades. The pedagogical approach that prioritises rote learning and examination systems primarily evaluates the capacity for memorising information, rather than effectively evaluating functional abilities such as analytical thinking, problem-solving, deductive reasoning, and others that are anticipated to be cultivated through the academic programme. These competencies are crucial for addressing real-world challenges that extend beyond the confines of the educational institution.

The study examines the current state of student attainment using an approach that assesses educational attainment and socio-emotional abilities, prioritising practical application above academic emphasis. The study also evaluates the variables associated with the preparedness for higher education, which contribute to the improvement of students' readiness for advanced learning in secondary schools located in the districts of Kanpur and Bahraich in the state of Uttar Pradesh. This study examines the variations in the patterns of cause-and-effect relationships among different demographic parameters, as well as endeavours to assess the comparative academic attainment of young learners in schools located in two different districts.

The research problem has been addressed using a mixed-method approach. The data has been gathered using both quantitative and qualitative methods, allowing for a comprehensive examination of the prevalence of the phenomena being investigated. These two sets of data complement each other, providing a more thorough

understanding of the subject matter. The measurement of educational attainment has been conducted through the utilisation of an adapted version of the PIAAC Scale, which serves as an assessment tool for evaluating adult literacy skills. The measurement of socio-emotional competencies has been achieved through the development of the Socio-Emotional Competencies Scale, which was constructed by identifying and extracting dimensions from a comprehensive desk analysis.

The measurement of preparedness for advanced education has been assessed through the development of the Higher Education Readiness Scale. The instruments underwent rigorous assessment of their reliability and validity through the collection of data in the pilot survey. The present study employs appropriate methods, including factor analysis, to establish the reliability and validity of a standardised scale. Factor analysis was used to identify latent factors within the dataset. In a similar vein, semi-structured inquiries were employed to facilitate interviews with secondary school students and their respective educators. The concluding phase of the fieldwork involved gathering data, encompassing both quantitative and qualitative measures, from the selected educational institutions. The collection of qualitative data involved the administration of semi-structured interviews to students from both districts. Thematic analysis was subsequently employed to analyse and interpret the participants' responses. The research findings indicated significant variations in educational attainment, socio-emotional competencies, and higher education readiness in the students of Kanpur Nagar and Bahraich districts. Students from the Kanpur district reported higher levels of educational attainment, socio-emotional competencies and overall higher education readiness compared to students from the Bahraich district. The study revealed noteworthy positive associations between socio-emotional competencies and higher education readiness in the students at the secondary level.

The findings are thoroughly examined and analysed by drawing upon existing literature and theoretical frameworks. The research has successfully identified several contextual factors that are linked to educational achievement, socio-emotional skills,

and preparedness for higher education. This study offers valuable perspectives for implementing policy modifications and devising initiatives at the district level. These measures aim to tackle the issues associated with skill acquisition and enhance the general level of secondary education. The findings of this study would contribute to a thorough comprehension of secondary education as a system that emphasises practicality-oriented learning, fosters employability and the development of multiple competencies, enhances the efficacy of schools in preparing students for higher learning, and facilitates the formation of policy practices aimed at promoting sustainable growth of human capital.

TABLE OF CONTENTS

| | |
|---|--------------|
| Acknowledgements | IV |
| Summary..... | V |
| List of Tables | XII |
| List of Figures..... | XV |
| List of Pictures | XVIII |
| Abbreviations | XX |
| 1. INTRODUCTION | 1 |
| 1.1 Background of the Study..... | 2 |
| 1.2 Challenges of Secondary Education in India | 6 |
| 1.3 Educational Attainment | 10 |
| 1.4 Socio-Emotional Competencies | 12 |
| 1.5 Higher Education Readiness..... | 18 |
| 1.6 Emerging Need of Higher-Secondary Education..... | 24 |
| 1.7 Rationale of the Study | 25 |
| 1.8 Research Questions..... | 27 |
| 1.9 Research Objectives..... | 28 |
| 1.10 Thesis Structure | 29 |
| 2. REVIEW OF LITERATURE..... | 32 |
| 2.1 Educational Attainment | 33 |
| 2.1.1 Numeracy Abilities..... | 41 |
| 2.1.2 Scientific Literacy Competency | 45 |
| 2.2 Socio-Emotional Competencies | 47 |
| 2.2.1 Innovative Expression | 51 |
| 2.2.2 Academic Perseverance..... | 53 |
| 2.2.3 Proactive Leadership | 54 |
| 2.2.4 Sustainable Engagement..... | 56 |
| 2.2.5 Academic ICT Competence | 56 |
| 2.3 Higher Education Readiness..... | 58 |
| 2.3.1 Frameworks of Higher Educational Readiness | 62 |

| | |
|---|------------|
| 2.3.2 Professional Aspirations..... | 65 |
| 2.3.3 Higher Education Buoyancy..... | 66 |
| 2.3.4 Academic Transferability | 69 |
| 2.3.5 Entrepreneurship Activity Based Learning (EABL)..... | 72 |
| 2.4 Research Gap | 74 |
| 3. METHODOLOGY | 78 |
| 3.1 Method Used..... | 78 |
| 3.2 Sources of Data..... | 79 |
| 3.3 Population and Sample..... | 80 |
| 3.4 Tools for Data Collection | 83 |
| 3.4.1 Educational Attainment Test..... | 84 |
| 3.4.2 Socio-Emotional Competency Scale | 86 |
| 3.4.3 Higher Education Readiness Scale..... | 87 |
| 3.4.4 Interview Schedules..... | 88 |
| 3.5 Operational Definitions | 89 |
| 3.6 Pilot Study | 91 |
| 3.6.1 Development of Socio-Emotional Competency (SEC) Scale | 92 |
| 3.6.2 Development of Higher Education Readiness (HER) Scale | 98 |
| 3.6.3 Factor Analysis of HER Scales | 100 |
| 3.7 Data Collection..... | 104 |
| 3.8 Data Analysis..... | 104 |
| 4. RESULTS | 106 |
| 4.1 Analysis of the Data | 106 |
| 4.1.1.A Objective 1..... | 107 |
| 4.1.1.B Objective 1..... | 127 |
| 4.1.2.A Objective 2..... | 141 |
| 4.1.2.B Objective 2..... | 162 |
| 5. DISCUSSION | 171 |
| 5.1 Objective 1..... | 171 |
| 5.2 Objective 2..... | 206 |

| | |
|---|------------|
| 5.3 Objective 3..... | 242 |
| 5.4 Objective 4..... | 259 |
| 5.6 Objective 5..... | 273 |
| CONCLUSION | 277 |
| 6.1 Major Findings of the Study..... | 280 |
| 6.2 Policy Implications..... | 281 |
| 6.3 Limitations and Further Scope of the Research | 282 |
| REFERENCES..... | 284 |
| APPENDICES..... | i |
| APPENDIX A - Educational Attainment Test..... | ii |
| APPENDIX B – Socio-Emotional Competency Scale..... | xxii |
| APPENDIX C – Higher Education Readiness Scale | xxviii |

List of Tables

| | |
|--|-----|
| Table 1 The residential areas more than five kilometers from school..... | 8 |
| Table 2: International comparisons for global performance on skills for selective countries | 15 |
| Table 3: Representation of selected countries on the closure of the gender gap | 16 |
| Table 4: Representation of selective states with drop-out rate and transition to secondary education (U-DISE+ 21-22)..... | 23 |
| Table 5: Division-wise representation of the literacy rates of the districts..... | 81 |
| Table 6: Demographic characteristics of the sample analysed | 91 |
| Table 9: Communalities | 93 |
| Table 10: KMO and Bartlett’s Test | 94 |
| Table 11: Factor loadings- Socio-Emotional Competencies | 95 |
| Table 7: Descriptive Statistics- Socio-Emotional Competency | 96 |
| Table 8: Descriptive Statistics- Higher Education Readiness..... | 99 |
| Table 12: Communalities | 100 |
| Table 13: KMO and Bartlett’s Test | 101 |
| Table 14: Factor loadings- Higher Education Readiness..... | 102 |
| Table 15: Descriptive Statistics of Educational Attainment Scores-Kanpur and Bahraich | 108 |
| Table 16: Descriptive statistics of Socio- Emotional Competencies Scores- | 110 |
| Table 17: Descriptive statistics of Socio- Emotional Competencies Scores- Kanpur and Bahraich | 111 |
| Table 18: Descriptive statistics of Higher Education Readiness- Kanpur and Bahraich. | 112 |
| Table 19: Demographics wise Mean, S.D. and t-value/F-value for Educational Attainment scores..... | 114 |
| Table 20: Demographic-wise Mean, S.D., and F-value of Educational Attainment scores (ANOVA) | 115 |
| Table 21: Demographics wise Mean, S.D. and t-value/F-value for Socio-Emotional Competencies scores | 118 |

| | |
|--|-----|
| Table 22: Demographic category wise Mean, S.D., and F-value of Socio-Emotional Competencies scores | 119 |
| Table 23: Demographics wise Mean, S.D., and t-value/F-value for Higher Education Readiness scores | 122 |
| Table 24: Demographic category wise Mean, S.D., and F-value of Higher Education Readiness scores (ANOVA) | 123 |
| Table 25: Demographics wise Mean, S.D., and t-value/F-value for Educational Attainment scores..... | 127 |
| Table 26: Demographic category wise Mean, S.D., and F-value of Educational Attainment scores (ANOVA) | 129 |
| Table 27: Demographics wise Mean, S.D. and t-value/F-value for Socio-Emotional Competencies scores | 132 |
| Table 28: Demographic category wise Mean, S.D., and F-value of Socio-Emotional Competencies scores | 133 |
| Table 29: Demographics wise Mean, S.D. and t-value/F-value for Higher Education Readiness scores | 136 |
| Table 30: Demographic category wise Mean, S.D., and F-value of Higher Education Readiness scores (ANOVA) | 137 |
| Table 31: Demographic profile of students who participated in the study – Kanpur | 141 |
| Table 32: Correlation between student demographic characteristics and educational attainment- Kanpur | 143 |
| Table 33: Multiple Regression results of student demographic characteristics on EA Score- Kanpur..... | 144 |
| Table 34: Correlation between student demographic characteristics and SEC scores- Kanpur..... | 146 |
| Table 35: Multiple Regression results of student demographic characteristics on SEC Score- Kanpur | 147 |
| Table 36: Correlation between student demographic characteristics and HER scores- Kanpur..... | 149 |
| Table 37: Multiple Regression results of student demographic characteristics on HER Score- Kanpur | 150 |
| Table 38: Demographic profile of students who participated in the study – Bahraich.... | 151 |

| | |
|---|-----|
| Table 39: Correlation between student demographic characteristics and educational attainment- Bahraich..... | 153 |
| Table 40: Multiple Regression results for effect of student demographic characteristics on EA Score- Bahraich | 154 |
| Table 41: Correlation between student demographic characteristics and SEC scores- Bahraich | 156 |
| Table 42: Multiple Regression results of student demographic characteristics on SEC Score- Bahraich..... | 157 |
| Table 43: Correlation between student demographic characteristics and HER scores- Bahraich | 159 |
| Table 44: Multiple Regression results of student demographic characteristics on HER Score- Bahraich..... | 160 |
| Table 45: Correlation between SEC and HER scores- Kanpur | 162 |
| Table 46: Regression results between SEC and HER scores- Kanpur | 163 |
| Table 47: Correlation between SEC and HER scores- Bahraich..... | 164 |
| Table 48: Regression results between SEC and HER scores- Bahraich | 165 |

List of Figures

| | |
|--|-----|
| Figure 1: Government secondary schools in selective states (U DISE+ 2021-22)..... | 7 |
| Figure 2: representation of Implicit theoretical framework of educational attainment | 35 |
| Figure 3: Diagram representing the theoretical framework of Quantitative Learning | 36 |
| Figure 4: Diagram representing the Challenge Learning Framework of Educational Attainment..... | 37 |
| Figure 5: Representation of four component in learning..... | 38 |
| Figure 6: Representation of the abilities for educational attainment | 39 |
| Figure 7: KOLB's model..... | 39 |
| Figure 8: Cognitive Abilities Framework of numerical Ability | 43 |
| Figure 9:Representation of Active Framework of Numerical Abilities..... | 44 |
| Figure 10:Scientific Literacy and Analytical Cognition Framework (Viera & Viera, 2014) | 46 |
| Figure 11: Diagram of the sampling technique..... | 83 |
| Figure 12: Level-wise representation of scores in Scientific Literacy Competency Test (Top to Bottom) | 85 |
| Figure 13: Difficulty Levels..... | 86 |
| Figure 14: Scree plot for SEC factors | 95 |
| Figure 15: Scree plot for HER factors | 102 |
| Figure 16: Normal Probability Curve- Educational Attainment- Kanpur, Bahraich & Combined data | 109 |
| Figure 17: Normal Probability Curve- Socio-Emotional Competencies- Kanpur and Bahraich data | 110 |
| Figure 18: Normal Probability Curve- Socio-Emotional Competencies- Kanpur and Bahraich data | 111 |
| Figure 19: Normal Probability Curve- Higher Education Readiness- Kanpur and Bahraich data..... | 113 |
| Figure 20: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in EA- Kanpur district. | 115 |
| Figure 21: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in Kanpur district. | 117 |

| | |
|--|-----|
| Figure 22: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in SEC-Kanpur district. | 119 |
| Figure 23: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12category-wise mean scores of students in SEC- Kanpur district | 121 |
| Figure 24: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in HER-Kanpur district..... | 123 |
| Figure 25: Graph representing age, school location, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in HER-Kanpur district. | 125 |
| Figure 26: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in EA- Bahraich district..... | 128 |
| Figure 27: Graph representing age, school location, Socio-Economic Status, | 131 |
| Figure 28: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in SEC-Bahraich district. | 133 |
| Figure 29: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in SEC- Bahraich district. | 135 |
| Figure 30: Graph representing class, gender, spatial reference and pursual to HE category-wise mean scores of students in HER-Bahraich district. | 137 |
| Figure 31: Graph representing age, place, Socio-Economic Status, favourite subject, and aspiration after 12th category wise mean scores of students in HER- Bahraich district. | 139 |
| Figure 32: Graph representing histogram and scatterplot for student demographics- EA Kanpur..... | 145 |
| Figure 33: Graph representing histogram and scatterplot for student demographics- SEC Kanpur..... | 148 |
| Figure 34: Graph representing histogram and scatterplot for student demographics- HER Kanpur..... | 151 |
| Figure 35: Multiple Regression results for effect of student demographic characteristics on EA Score- Bahraich | 155 |
| Figure 37:Graphs representing histogram and scatterplot for students- SEC Bahraich .. | 158 |
| Figure 38: Graphs representing histogram and scatterplot for students- HER Bahraich. | 161 |

Figure 39: Graphs representing P-P Plot and scatterplot for SEC on HER Kanpur 164

Figure 40: Graphs representing P-P Plot and scatterplot for SEC on HER Bahraich..... 166

List of Pictures

| | |
|---|-----|
| Picture 1: Countries with skill shortages. | 13 |
| Picture 2: Level wise representation in the Numeracy Competency Test(Bottom to Top) | 85 |
| Picture 3: Females with jobs serve as reference points for students at the secondary level | 174 |
| Picture 4: Laboratories remain locked during the school hours- Bahraich..... | 184 |
| Picture 5: A grade 11 student leaving the school during class hours - Bahraich..... | 186 |
| Picture 6: Students from diverse backgrounds are encouraged in schools of urban areas- Kanpur..... | 194 |
| Picture 7: Proper connection of roads maintained in urban neighbourhoods of government schools- Kanpur | 196 |
| Picture 8: Presence of functional chemical laboratories in government schools of urban spaces-Kanpur..... | 197 |
| Picture 9: Less students attend secondary class due to transportation difficulties- Rural area, Kanpur..... | 199 |
| Picture 10: Secondary school with difficulty of accessibility - Bahraich..... | 203 |
| Picture 11: School teachers standing outside the school during class hours- Bahraich... | 205 |
| Picture 12: Students make use of a discarded wall under ‘Kabaad se Juggad’ Scheme- Kanpur..... | 209 |
| Picture 13: Students taught about academic mastery through time-management competencies- Kanpur | 212 |
| Picture 14: Innovative ideas compared with practical scientific ideas in grade 12- Kanpur district | 215 |
| Picture 15: Science classes limited to discussion of textual knowledge- Bahraich district | 217 |
| Picture 16: Empty staffroom due to teacher absenteeism during school hours - Bahraich | 218 |
| Picture 17: Recognition of Central Business District (Zone I)- Kanpur district..... | 223 |
| Picture 18: Recognition of Transition Zone (Zone II)- Bahraich district | 226 |

| | |
|--|-----|
| Picture 19: Unutilized technological resources due to non-availability of enough students- Bahraich | 227 |
| Picture 20: Innovative expressions are fostered in students with formal sector aspirations- Kanpur..... | 231 |
| Picture 21: Dominance of agriculture relate jobs- Bahraich district..... | 234 |
| Picture 22: Classroom setting with a focus on textual knowledge- Bahraich district | 236 |
| Picture 23: Socioeconomic status of people- Bahraich..... | 241 |
| Picture 24: Secondary level female enrolments during a higher education lecture in school- Kanpur district | 245 |
| Picture 25: Students participating in a session focusing on the exchange of ideas | 247 |
| Picture 26: Availability of career guidance cell to handle everyday academic setbacks- Kanpur..... | 250 |
| Picture 27: BPL population living under intensely low financial conditions | 255 |
| Picture 28: List of industries displayed in Career expos under ‘Atmanirbhar Bharat Scheme’- Kanpur | 257 |
| Picture 29: Resource allocation in Science class includes wall paintings- Kanpur..... | 263 |
| Picture 30: Dominance of agro-activities make ‘no aspiration’ a forced choice- Bahraich | 264 |
| Picture 31: Presence of higher education institutes- Kanpur | 266 |
| Picture 32: Secondary students understand higher education as replication of school practices- Bahraich..... | 269 |
| Picture 33: Dilapidated class environment and absence of teachers in secondary classes during school hours- Bahraich district..... | 270 |
| Picture 34: Road to commute to school –Government Senior Secondary School, Kaiserganj, Bahraich | 270 |
| Picture 35: Locked school during school hours – Bahraich | 271 |

Abbreviations

| | |
|--------------|--|
| AICTC | Academic Information and Communication Technology |
| AIES | All India Education Survey |
| AISHE | All India Survey on Higher Education |
| ASER | Annual Status of Education Report |
| BPL | Below Poverty Line |
| CABE | Central Advisory Board of Education |
| CABE | Central Advisory Board of Education |
| DPEP | District Primary Education Programme |
| EA | Educational Attainment |
| GER | Gross Enrolment Ratio |
| GGGI | Global Gender Gap Index |
| GII | Global Innovation Index |
| GTCI | Global Talent Competitiveness Index |
| HDI | Human Development Index |
| HER | Higher Education Readiness |
| IALS | International Adult Literacy Survey |
| ICT | Information and Communication Technology |
| IE | Innovative Expression |
| ILO | International Labour Organisation |
| LJP | Lok Jambish Project |
| MDG | Millennium Development Goals |
| MPI | Multidimensional Poverty Index |
| NEP | National Education Policy |
| NIPUN | National Initiative for Proficiency in Reading with Understanding and Numeracy |
| OBB | Operation Black Board |

| | |
|---------------|--|
| OECD | Organisation for Economic Cooperation and Development |
| OKK | Operation Kaya Kalp |
| PA | Professional Aspirations |
| PIAAC | Program for the International Assessment of Adult Competencies |
| PISA | Programme for International Student Assessment |
| PoA | Program of Action |
| RMSA | Rashtriya Madhyamik Shiksha Abhiyan |
| RTE | Right to Education |
| RUSA | Rahtriya Uchchar Shiksha Abhiyan |
| SDG | Sustainable Development Goals |
| SEC | Socio-Emotional Competencies |
| SKP | Shiksha Karmi Project |
| SSA | Sarva Shiksha Abhiyan |
| TIMSS | Trends in International Mathematics and Science Study |
| U-DISE | Unified District Information System for Education |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| WIPO | World Intellectual Property Organisation |

Chapter 1

INTRODUCTION

The contemporary era demonstrates a strong inclination towards harnessing the inherent potential of the young workforce to achieve desired learning results. Assessing current educational systems worldwide necessitates an absolute makeover of the young learning population concerning the multifaceted socio-political environment in the context of global employability (Betti et al., 2011). Continuously improving educational standards to meet the surging global demands is a significant challenge that profoundly impacts the present deliberations within the existing education systems (Lee & Louis, 2019; Sohel-Uz-Zaman, 2016; Wani & Mehraj, 2014; Bessant et al., 2001). Addressing this challenge, the need of the hour is to thoroughly examine the learning domain for designing robust educational reforms that can facilitate the learning phase for better student sustainability. Providing high-quality education in secondary schools encompasses various interconnected elements within the educational system (Cohen, 2008; Maclean, 2001). Determinants such as learner knowledge, student abilities, school learning infrastructure, and learning preparation are among the numerous factors that might influence educational outcomes (Munhurrun et al., 2010).

The research investigates socio-emotional competencies' core elements contributing to higher education preparedness by examining real-world experiences. It seeks to evaluate the factors that impact pupils' educational attainment. The chapter examines the prevailing issues in the current pedagogical landscape, specifically emphasising the struggles encountered within secondary education. The present chapter examines previous research and policy measures to demonstrate the connections underlying educational attainment and socio-emotional competencies impacting preparedness for higher education at the transitioning level. It discusses policy measures related to educational achievement, the significance of secondary education, and the increasing recognition of socio-emotional skills as indicators of students' preparedness for higher education. The chapter also presents the justification for conducting the research, outlines the problem statement, formulates the research questions, and establishes the aims of the investigation.

1.1 Background of the Study

The international shifts in the competitive educational landscape have led to alterations in cultural paradigms, which in turn have necessitated corresponding modifications in organisational and educational collaborations. Education witnessed significant transformations in recent years, leading to a need for further discourses and discussion in the realms of dissemination of knowledge and acquisition of sustainable competencies to fulfil the requirement of a qualitatively competent workforce in the international markets (Adewumi, 2022; Chatterjee et al., 2018). Globalisation, privatisation, and technological growth have significantly elevated the significance of outcome-based education in contemporary society to ensure sustainable employability as a means of steady economic progress in a highly competitive global landscape (Hughes et al., 2016; Schalock, 2001; Prince, 2004). This trend has led to a significant interest in developing educational reforms heavily backed by cultivating competencies for future learners (Schlechty, 2018). The desire has resulted in an upsurge in industry-education collaborations, which increasingly prioritise establishing collaborative initiatives to unite formal institutions of learning, corporations, and the wider community (Moccia, 2016; Abowitz, 2000).

The concept of productivity is widely embraced by international markets to enhance the significance of school and higher education frameworks in the industrialisation of young individuals (Sudjimat & Parmadi, 2019). The paradigm shift has made it crucial to examine the essential components of a ‘productivity ensuring’ education in which many stakeholders occupy distinct roles influenced by unique viewpoints about disseminating knowledge. At the same time, students must demonstrate the productivity of the gained knowledge in their performance as the expected outcome (Dwivedi & Joshi, 2019). Therefore, it is imperative to address these concerns to foster a comprehensive comprehension of ‘productivity-embedded knowledge’ among students as they transition into the workforce following the culmination of their educational pursuits (Lemos et al., 2021).

The secondary education is a transitional phase towards the socio-emotional development of students; hence it is considered as a transitional phase. Secondary education aims to foster holistic development, instil civic responsibility, and ignite a passion for lifelong learning that caters to the demands of a sustainable workforce while

showcasing the efficacy of being employable (Evans et al., 2018). However, it cannot be accomplished separately, and so it becomes imperative to establish a comprehensive framework that encompasses the immediate contextual factors within a learning environment to enhance learning, development, and overall productivity.

Numerous nations have implemented compulsory formal education in their evolving educational reforms, but conflicting goals arise when attempting to cultivate a sustainable and thriving workforce in the global marketplace (Lewin & Caillods, 2001). Historically, initiatives to enhance employability have centred on formal education and regulations that gauge the potential of the learning population by assessing academic scores for future employment in the economic scenario (Mondolo, 2022; Nilsson & Rubenson, 2014; Mortimer, 2010). Nevertheless, due to the shift in viewpoint about developmental strategies for enhancing employability, the indicators have transitioned from being solely competitive to adopting collaborative frameworks prioritising longer sustainability (Zaleniene & Pereira, 2021; Jamwal et al., 2021). This breakthrough has facilitated the global transformation of educational frameworks, shifting the focus of learning outcomes from exclusively corporate collaborations to encompassing comprehensive citizenship for national development.

The various framework of education in today's era acknowledge their growing role in fostering employability competencies among the young learning population as a response to the prevailing economic transformations, persistent increase in government fund allocation over time, rising student demands, and mounting external pressures from both governments and employers on formal educational institutions, at the school and higher level, to ensure favourable employment prospects for the population with educational degrees (Tilak; 2020; Tilak, 2013). Consequently, education is widely recognised as a critical element in fostering sustainable development (Jamwal et al., 2021).

The focal point of most government programmes aimed at aligning with the Sustainable Development Goals stated by the United Nations is the learning population that participates in acquiring formal education at schools and higher institutions of learning (Jana, 2020). The Dakar Framework for Action on Education for All (EFA) in 2000 established the Education Millennium Development Goals (goal 2 and goal 3). As stated by UNESCO (2000), these goals were designed to attain Universal Primary

Education to ensure equitable achievement of primary education by students approximately at the end of 2015 (Owens, 2017). The aim employed various metrics, including the Net Enrolment Ratio in primary education, the proportion of students who commence grade 1 and progress to grade 5, and the literacy rate among those aged 15-24. The significance of the MDG goals pertaining to education lies in their ability to establish educational targets that promote equal opportunities and equitable measures. According to Sachs (2012), achieving these objectives relies on the augmentation of Gross Enrolment Ratio targets to enhance literacy rates, improve the quality of teaching-learning level, and diminish gender differences in educational enrolment so that a considerable population can avail secondary education as the next phase.

Given the commitment of international governing bodies like the United Nations to uphold the universal right to education, it is incumbent upon nations to ensure equitable access to standardised educational opportunities for children across their internal regions. Further, international endeavours must attain the Sustainable Development Goal through the Education Reform Movement, which advocates for universal access to high-quality education. Given the imperative for high-quality education at all levels, there is a fundamental shift in emphasis towards fostering learner competencies deemed transformative in formal education (Martens et al., 2010). These competencies are pivotal in cultivating pupils into essential contributors to civilisation (Alexander, 2008). To these goals, the education framework of India has solely focused on the ‘accessibility’ aspect of education by increasing the participation of students (Pahwa & Indira, 2021).

In contrast, the ‘quality’ aspect remained shadowed due to the existing ambiguity of the concept. The provision of quality education is contingent upon the proficient utilisation of diverse information by the learning individuals, enabling them to operate autonomously and contribute to resolving societal issues. This educational approach empowers individuals to perceive themselves as primary agents in shaping both their prospects and the collective destiny of the community (Jana, 2020).

As the initiation of the schooling period represents the start of the formalised learning of the child through the primary years, the completion of the formal education is demarcated by secondary education. So, secondary education refers to a collection of competencies, proficiencies, and other attributes, along with academic performance, that

enhance an individual's capacity after its completion to serve as the door to the world of employment. Most world educational forums have repeatedly supported the significant impact of investing in secondary schooling on financial expansion, which surpasses the effects of elementary-level education alone in the global labour markets (Osiobe, 2019; Tilak, 2013). This demonstrates the significance of secondary education as a crucial means to equip emerging economies with the necessary human capital to uplift substantial portions of their population from poverty; providing comprehensive secondary education, in conjunction with universal primary education, emerges as the sole viable approach to address this issue (Osiobe, 2019).

Higher education plays a crucial role in improving productivity (Hoxby & Stange, 2020). Students must comprehensively understand the fundamental principles of productivity upon completing their courses or programs (Yusnandar et al., 2019). This includes successfully implementing knowledge to improve personal lives and make meaningful social contributions (Brundiars et al., 2021; Battersby & Bailin, 2018). Nevertheless, there has been a global recognition that the younger population of students in secondary education is deficient in specific essential skills required to fulfil the requirements of the constantly evolving industrial sector. Hence, introducing the notion of incorporating higher education aimed to address the disparity between the learning outcomes of secondary education and the skills demanded by industries (Coertjens et al., 2017).

Recent research on higher learning indicates that a lack of inspiration to pursue post-secondary education hinders the acquisition of necessary competencies for financial growth and prevents a significant portion of young individuals from contributing to the broader economic advancement of their nation (Hanushek, 2016; Kruss et al., 2015). Previous scholarly investigations examining the correlation between pursuing post-secondary education and overall well-being have yielded consistent findings (Gupta, 2008; Agarwal, 2006). Specifically, post-secondary education has been consistently associated with enhanced social and economic conditions (Kotaskova et al., 2018). The presence of empirical data has necessitated for a comprehensive framework that integrates many preparedness competencies, including knowledge, competencies, and values, to showcase the level of "readiness" in both obtaining and effective application of knowledge.

1.2 Challenges of Secondary Education in India

Secondary education is an extended phase of the education system followed in India. Like many other industrialised countries, the education system in India is committed to achieving universal education by implementing mandatory schooling for individuals aged 6-18 years. However, it is essential to note that secondary education in India is specifically limited to individuals between the ages of 15 and 18. The assessment of the learning outcomes is contingent upon the administration of centrally conducted performance tests for students in the 10th and 12th grades. The educational phase can be divided into two distinct stages: lower secondary, which encompasses grades 9 and 10, and higher secondary, which includes grades 11 and 12. With the introduction of the New Education Policy, this compartmentalisation has transformed into a wholesome education phase wherein grades 9, 10, 11 and 12 comprise secondary education.

Considering the significant growth in education over the past few decades, it became evident that while education is commonly regarded as a continuous process, it seems that policymakers and educational planners have displayed notable bias towards two important spheres- the entry to education phase and the education required for employment. Historically, from the Kothari Commission to the execution of the National Policy of Education, a certain degree of emphasis has been placed on primary schooling and, to a lesser degree, higher learning in India. Contrastingly, secondary education continued to be significantly neglected because it was previously posited that secondary schooling plays a minor role in the advancement of an emerging, impoverished, agriculture-based nation (Tilak, 2020). The expansion of elementary education had been accelerated by various factors, including implementing the mid-day meals programme, the Right to Education (RTE) policy, and the Sarva Shiksha Abhiyan (SSA) initiative. However, it was soon realised that elementary education attainment was insufficient to propel the learning outcomes for securing economic stability. As a result, there is a growing recognition of the importance of secondary education. This shift in attention is driven by the desire to foster economic growth, enhance the distribution of wealth, alleviate poverty, and promote the advancement of humanity right after the completion of the schooling phase.

Secondary education is presently understood to play a crucial role in equipping individuals with the required abilities for job opportunities, entrepreneurial endeavours,

and the attainment of a financial source of income. According to this rationale, achieving educational milestones at the secondary level is crucial in supporting the progression from secondary to tertiary education and, thus, becomes a mandatory standard to be achieved by all the states. However, the U-DISE+ (2021-22) data presents a concerning picture regarding the availability of public schools compared to private schools. Figure 1 shows the percentage of available schools with secondary education in selective states.

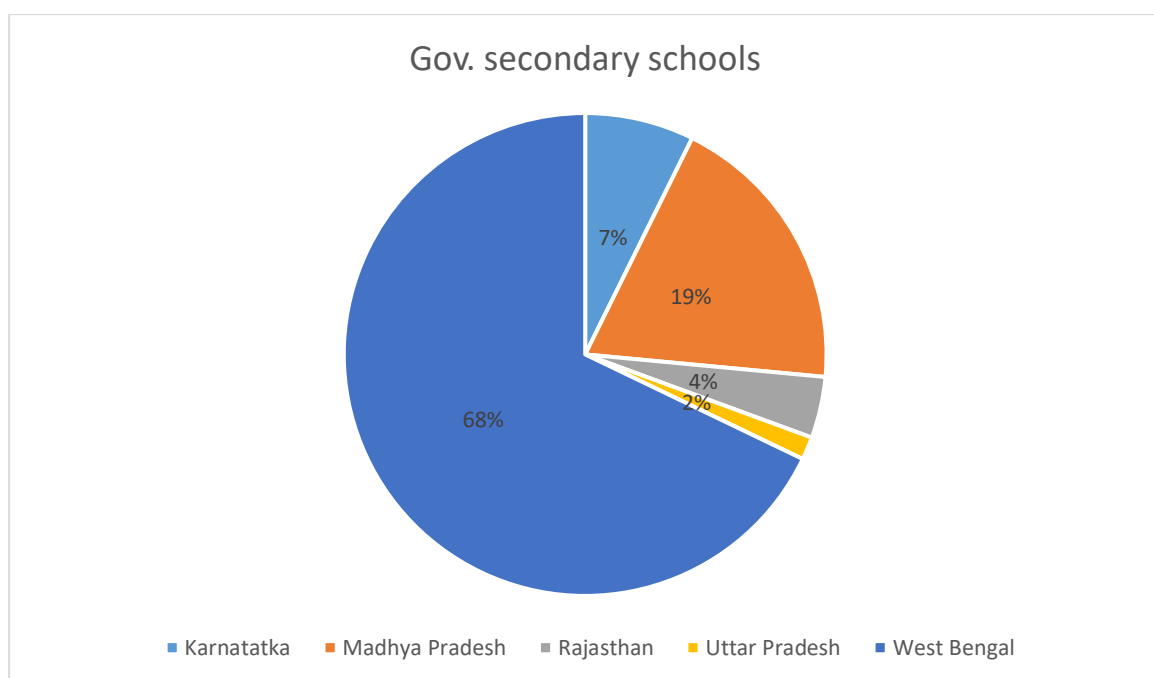


Figure 1: Government secondary schools in selective states (U DISE+ 2021-22)

The data is represented in the above figure compares the availability of government schools providing secondary education in the selective states. While West Bengal has 68 percent of government schools with the presence of secondary education, Rajasthan and Uttar Pradesh appear to rank very low in the availability of secondary schools for the learning population, with 4 percent and 2 percent, respectively. Besides the state-wise prevalence of differences in the availability of secondary education-providing schools, specific factors are particularly relevant to disparities in secondary education attainment.

According to the Secondary Education Commission (1952-1953), access to secondary schools became highly important. The Commission suggested distance-based guidelines to cater to the unequal habitation of its population by mentioning that secondary schools should be present within 5 to 7 miles by covering 10,000 to 15,000

people. It also focused on the optimum utilisation of existing primary school locations by recommending the inclusion of secondary grades within similar boundaries. Subsequent policies of the Education Commission (1964-66), National Policy of Education (1986), Plan of Action (1992), CABE (2005) and RMSA (2009) have recommended the standard distance between residential areas to schools as 5 to 8 kilometres. Based on statistics about residential usage levels released by NSSO and NCERT, many nearby areas lack a secondary school. The 8th All India Education Survey (AIES) (NCERT 2009) revealed that 88% of residences, serving 92% of the people, had secondary schools within eight kilometres. It was found that 79.94% of rural residential areas have secondary schools within a five-kilometre radius, serving around 85% of the entire rural population (Tilak, 2020). Table 1 demonstrates the current residential areas more than five kilometres from the schools.

Table 1 The residential areas more than five kilometers from school

| Residential space | Schools more than 5km |
|--------------------------|------------------------------|
| Rural | 122 |
| Urban | 7 |
| Mixed | 85 |

Source: 71st NSSO (2015)

It can be inferred from Table 1 that large parts of rural spaces still suffer from the unavailability of secondary schools within accessible distance as compared to urban spaces. Similarly, according to U-DISE information, during the preceding four years, there was a significant growth in the enrolment rate of both male and female students. However, the enrolment of male students is more significant than female students at the secondary levels. Unsurprisingly, many girls from low-income families cannot enrol in secondary and upper-secondary schools due to gender-based and geographical disparities. A crucial reason is the lack of secondary-level schools, particularly in spatial areas with geographical complexities. Providing secondary education within accessible distance is crucial to promoting equity and meeting the needs of underprivileged groups, including students with wider social diversity (Tilak, 2020).

The disparities have significantly impacted the quality of outcomes at the secondary level. As per the Mudaliar Commission (Mudaliar Commission, 1953), “secondary education plays a pivotal role in shaping individuals to become leaders in their local communities, as well as in socio-cultural arenas”. The report emphasizes the importance of a solid secondary education system that balances quality and quantity (Tilak, 2020; Jain & Prasad, 2018). It is widely recognised that secondary education plays a vital role in achieving various objectives, such as human development, social progress, political stability, and economic growth (Tilak, 2007). Due to its numerous benefits, the United Nations Development Programme (UNDP) has included secondary education in its social development goals (SDGs). Despite the existence of the Right to Education (RTE) Act in 2009, which aimed to provide fundamental education rights to children between the ages of 6 and 14, the impact of this legislation has primarily been towards an increase in student enrolment rather than a significant improvement in educational outcomes (Singh & Ehlers, 2019). Most Indian youth who complete primary education lack practical proficiency and numeracy competencies. The government's lack of attention to effectively address these challenges has resulted in financial and moral degradation. Several research studies in India argue that since 2009, a substantial percentage of young individuals, approximately 96%, have been enrolled in primary schools. However, the ASER reports for the years 2018 and 2019 indicate that the corresponding improvement in the proficiency levels of these young individuals has not been commensurate with the enrolment rates (Banerji, 2021).

Further, the gap in completion of secondary education is primarily the result of the learning gap from the primary years. In a conventional classroom set-up, where learning primarily involves students copying academic tasks from traditional blackboards and greenboards, the lack of literacy skills results in a predominantly mechanical learning system with limited educational benefits. Consequently, secondary students are inadequately prepared to pursue learning beyond the school boundaries due to the poor quality of knowledge acquired (Directive, 2020).

As secondary education is considered as a critical stage of transition in the lives of young individuals, it significantly impacts their future, irrespective of their entry to the workforce or furthering higher education. Considering India's goal to become a trillion-dollar economy, it is essential to prioritise the development of a robust and inclusive

secondary education system. After this stage, students are presented with the option of pursuing either vocational or university education. These educational pathways impart specialised expert education and offer degree programmes to the student population (Handbook of RUSA, 2017).

There exists a persistent disparity between the number of secondary-grade students who successfully pass their examinations and their subsequent ability to secure gainful employment (AISHE, 2019). This issue can be effectively addressed by pursuing higher education in various forms, such as short-term diploma programmes, undergraduate degrees, postgraduate degrees, M.Phil., and Ph.D. qualifications. Hence, it is imperative to emphasise the need for students to prepare themselves for the pursuit of advanced education. Research institutions have identified and are addressing the current deficiencies in secondary-level schooling to achieve this goal.

1.3 Educational Attainment

Educational attainment pertains to the intellectual achievements that are expected by students to obtain upon completing a specific assignment, class, course, or programme. It enables students to comprehend the practical significance and applicability of the acquired knowledge and abilities (Sullivan, 2001). For any attainment to have a significant effect, it is crucial to prioritise the practical implementation and incorporation of information. The assessment of educational achievement in most educational systems is typically based on grade-specific learning outcomes, which evaluate knowledge acquisition quantitatively and provide feedback.

The Right to Education (RTE) Act, which implemented the 'No Detention' policy similar to the 'No Child Left Behind' policy in the United States, has faced significant criticism in recent Indian studies. These studies have highlighted the negative impact of this policy on the educational attainment of young learners in various states of India. According to Banerji (2021), the thirteenth report of ASER titled "A Crisis in Indian Education" (2018) has provided significant evidence indicating that the Net Enrollment Ratio of kids aged 6-12 years has exceeded 96%. However, many of these pupils have not attained the fundamental reading skills at the grade-specific level. As an illustration, it has been observed that 70% of the pupils enrolled in the third grade have a deficiency in their ability to execute fundamental mathematical operations such as subtraction. In a

similar vein, it has been observed that a significant proportion of pupils in the eighth grade, precisely 72.8%, could demonstrate only fundamental reading skills proficiently. Therefore, it is evident that there is a persistent disparity in achieving grade-specific educational milestones throughout the elementary years, which then carries over into the secondary grades. This discrepancy ultimately leads to the detrimental outcome of an underperforming educational system in a nation that aspires to achieve a trillion-dollar economy soon.

Several significant considerations necessitate attention to improvise on the quality, including assessing students' attainment of competencies required for progression to subsequent grades and their degree of academic acquisition within the classroom setting. Empirical evidence spanning from the National Assessment Programme in 1970 to contemporary large-scale assessments such as the PIAAC Adult Skills Survey has demonstrated that the mere allocation of substantial financial resources or the augmentation of educational expertise does not necessarily ensure enhanced academic achievement among students (Singh & Ehlers, 2020). Similarly, there is a notable concern regarding variations in educational attainment among genders and different socio-economic classes for achieving the potential of attaining universalisation of secondary education. In the international scenario, the revelations based on the Human Development Index (HDI) for South Asian countries, as reported by the United Nations Development Programme (UNDP) in 2015, India ranks second lowest, with Afghanistan being the only country with the lowest ranking. This suggests that India exhibits a comparatively lesser level of achievement in terms of gender parity (Sumanjeet, 2016). Numerous scholarly investigations about human development posit educational attainment as a critical determinant of productivity within the internationally recognised employment sectors (Chevalier et al., 2004; Gintis, 1971). As mentioned above, the research examined the educational accomplishments of both men and women and determined no statistically significant disparity between the two genders.

International Labour Organisation (ILO, 2017) mentions the female workforce participation percentage in India is among the most minimal globally. Considering the notable progress made in enhancing female literacy rates, with an upsurge from 16.83 percent in 1951 to 65.46 percent in 2011 (Government of India, 2011), the rate of female engagement in the workforce remained relatively low in 2017, stagnated at 28.5 percent

as compared to 82 percent for men (World Economic Forum, 2017). There was a decrease in female involvement rates from 34.1 percent in 1999-2000 to 27.2 percent in 2011-2012. From all these trends, it is worth noting that significant gender disparities in participation rates continue to exist, transforming it into a matter of significant concern.

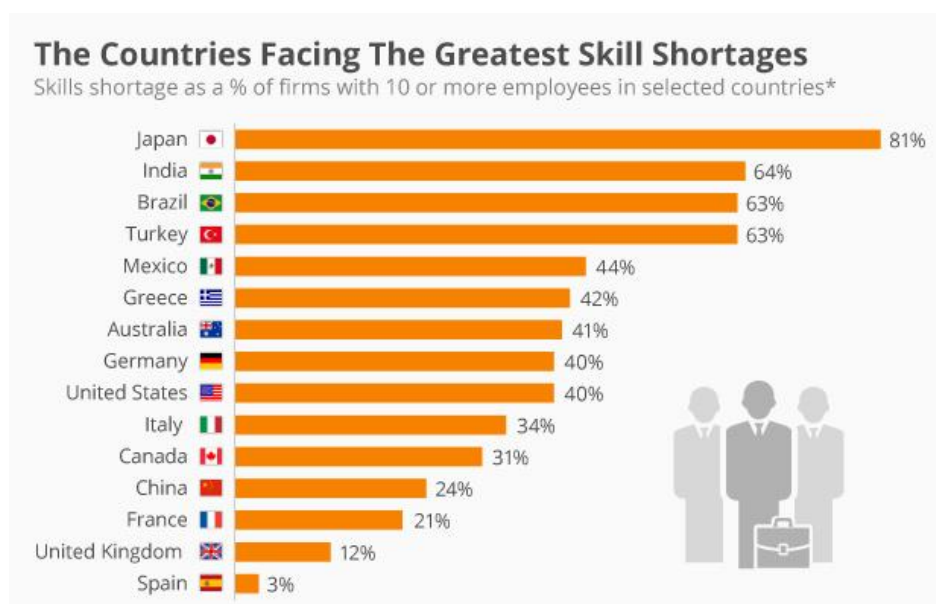
At the national level, the data presented by U-DISE during the past four years demonstrates a significant rise in the enrolment of both male and female students, with male enrolment surpassing that of females at both the secondary and higher secondary levels. The most recent statistics from the Unified District Information System for Education Plus (UDISE+) have revealed that the country possesses the most extensive educational system, consisting of more than 1.5 million schools, as of the 2020-21 academic year (UDISE+ 2021-22). Governmental measures such as Sarva Shiksha Abhiyan (SSA) have significantly promoted the widespread accessibility of universal elementary education at the district level. These initiatives have aimed to ensure that students of all genders have equal opportunities to attend public schools. This was achieved by attaining a Gross Enrolment Ratio (GER) of 106.3 in 2012-13, as reported by DISE 2013, Govinda & Bandhopadhyay 2010, and NIEPA 2002. According to the UDISE+ 2021-22 report, the Gross Enrollment Ratio (GER) for elementary education stands at 103.3 percent, while the GER for upper-primary education is 92.2 percent. The GER is reported to be 79.8 percent at the secondary level, and at the higher secondary level, it is recorded at 53.8 percent.

Simultaneously, it has been seen that numerous secondary schools are operating with a reduced student population, significantly impacting the quality of education these institutions provide. In the latest study, the field of secondary education has experienced substantial growth in the number of schools established in recent years. However, the study highlights that a significant proportion, approximately 65%, of these newly established secondary schools had fewer than 150 students enrolled during the academic year of 2013-2014. There was a slight decrease in the proportion of small government schools from 2009–10 to 2013–14 (Ojha, 2016).

1.4 Socio-Emotional Competencies

Comprehending socio-emotional competencies and academic performance at the secondary level is essential because the current levels of knowledge and acquired

competencies do not correspond with those of the fast-industrialising and expanding countries. The assessment of employability success is contingent upon an individual's capacity to effectively execute tasks and contribute profit to the relevant industry (Neumann et al., 2021). According to international comparisons, the Indian youth is found to possess a meagre interest in acquiring new competencies against the interest possessed by the youth population of other countries (Agrawal & Agrawal, 2017; Saini, 2015). Other organizations have highlighted similar comparisons in the context of the skill shortage due to a lack of interest in acquiring competencies.



Picture 1: Countries with skill shortages.

Source: OECD Skill Shortage Survey (2014)

The shortage of population with relevant competencies around the world is portrayed in the above figure. It suggests that India lies next to Japan on the second with a significant skill shortage in its working population against its industrial demand. In addition, another statistical finding indicates that just five percent of the Indian workforce between the ages of 20 and 24 has obtained any vocational training (World Bank, 2008). These data confirm that the requirement of competencies in the employability context has become a serious concern.

To comprehend 'competencies,' it is imperative to comprehend the difference between all the terms that reflect synonymous ideologies regarding competencies. The concept of 'ability' is very adaptable, enabling research investigations to unify skills,

abilities, capacities, and competencies to envision the industry's demands. The existing body of work has examined ability as a metric of intellect. At the same time, capacity has been conceptualised as the range of actions an individual may undertake within their constraints (Farazmand, 2004). Skills conceptualisation had been refined to encompass intellectual and affective traits, as mentioned by Hoffman et al. (2010).

Nevertheless, the lack of specificity in elucidating the emotive characteristics has significantly brought concerns of imprecision and misunderstanding. In contrast, competencies do not encompass a broad range of non-intellectual factors (Gervais, 2016). While 'skills' and 'competencies' have similar conceptualisations, their distinction resides in the objectivity of their origins' domains. Based on the findings of the Coleman Report, which highlighted the influence of social and cultural factors on students' attitudes towards continued education and employment, it is widely acknowledged that competencies enhance the competitive edge of the skills acquired within the existing educational framework. Hence, socio-emotional skills is predicated on cultivating human capital by focusing on values, attitudes, temperament, culture, and preferences (Jones & Doolittle, 2017).

As per the World Development Report (2019) "The Changing Nature of Work", the Human Capital Index of India is expected to contribute approximately 44% of productivity through its working-age population (World Bank, 2018). Furthermore, with the rise of technology in the international markets, human capital must combine its skills to address the burning issues by using artificial intelligence. Hence, the rise of hybrid tasks that include both human and automation at work necessitates the requirement of broad skills comprising of (i) rehumanization of time about the achievement of work-life efficiency, (ii) accountable normalisation underlining the social boundaries of acceptability of the technological usage in corporate areas, (iii) assessment coherence about the ultimate decision in case of task confusions. The recent patterns in the Global Talent Competitiveness Index (GTCI) for 2020 suggest that skilled labour disparities tend to expand, as represented by a growing imbalance among the countries with highly skilled and globally competent labour force and the remainder of countries, explaining the broader gap in economic disparities. This stability can be seen as a justification for their capacity to sustain themselves even under adverse employment situations.

Table 2: International comparisons for global performance on skills for selective countries

| Country | Score | Overall Rank | Income Group |
|--------------------------|-------|--------------|---------------------|
| United States of America | 79.09 | 2 | High income |
| Singapore | 78.48 | 3 | High income |
| Finland | 74.47 | 7 | High income |
| Germany | 72.34 | 11 | High income |
| Japan | 66.06 | 19 | High income |
| Indonesia | 41.81 | 65 | Lower-middle income |
| India | 40.42 | 72 | Lower-middle income |
| Kenya | 36.42 | 88 | Lower-middle income |
| Zambia | 31.73 | 103 | Lower-middle income |
| Pakistan | 30.63 | 106 | Low income |
| Tanzania | 29.40 | 111 | Low income |

Source: GTCI 2020

Table 2 reflects the selective representation of internationally compared countries on the competitiveness index. India is positioned at 72nd place with a score of 40.42 and is classified as a lower-middle-income country. In contrast, Singapore holds the third position with a score of 78.48, Finland ranks 7th with 74.47, and Japan ranks 19th with 66.06. These rankings aptly illustrate the high-income categorization of these countries compared to others in the context of the availability of skilled and internationally competent labour force. Furthermore, it may be argued that countries with a higher level of talent competitiveness exhibit greater stability in their achievements than countries that rank worse. Although the Global Innovation Index declares India as a global leader in the Central and Southern Asian region, it ranks on 46th position with a score of 36.4, against countries like Finland, Singapore and Japan, which are ranked on 7th, 8th and 13th position, respectively, places serious concern over the expectation of innovative growth shortly to support its expanding economy (WIPO, 2021). Presently, India is demonstrated as having achieved excellence in developing digitally advanced services that can be marketed on a global scale (Aghion et al., 2021). The Index comprises several sub-indices which assess the innovative capability of the country concerning its availability of

equitable resources and environment for the development of innovative resources for international level competence, namely, (i) institutions, (ii) Human Capital and Research (iii) Infrastructure (iv) Market Sophistication (v) Business Sophistication (vi) Knowledge and Technological Outcomes (vii) Innovative Outcomes. These sub-indices further provide a microscopic view of the new directions followed by the nation towards the generation of innovative competency. The country maintains its position as the global leader in the indicator of information and communication technology (ICT) exports (1st). It achieves high rankings on additional indicators, including Domestic sector diversification (12th) and Graduates in scientific studies (12th). Contrastingly, it ranks poorly on female employment with higher education (103), usage of the acquired knowledge for creating novel commercial avenues (115) and tertiary inbound mobility for the generation of skilled human capital (108).

The international comparisons further depict the existing social disparities that continue to plague the development outcomes of India. Among these disparities, gender emerges as the prime factor that continues to fluctuate the developmental outcomes. Regarding gender disparities at the global level, the Global Gender Gap Index assesses the extent of variance through its framework that is inclusive of sub-indices, namely (a) Economic Participation and Opportunity, (b) Educational Attainment, (c) Health and Survival, and (d) Political Empowerment. The report demarcates India to rank in 127th position regarding the recent improvements in female participation in the workforce (World Economic Forum, 2023). The table below represents the list of selected countries on their performance on closing the gender gap.

Table 3: Representation of selected countries on the closure of the gender gap

| Country | Rank | Score |
|--------------------------|------|-------|
| Finland | 3 | 0.863 |
| Germany | 6 | 0.815 |
| United States of America | 43 | 0.748 |
| Singapore | 49 | 0.708 |
| China | 107 | 0.678 |
| Japan | 125 | 0.647 |
| India | 127 | 0.643 |

Source: World Economic Forum, Global Gender Gap Index (2023)

Table 3 indicates that India is ranked quite low compared to countries like Germany, the United States of America, and China. These rankings indicate that the countries positioned in higher ranks have been able to lower the gender disparity at a commendable level, thereby harnessing the maximum population of their country towards labour force participation. Contrastingly, India's low position in improving the parity level explains the inequalities in participation rates in the current scenario. Thus, India faces the paradox of sustaining a huge youth labour force that cannot meet the competency demands of the world platform. In contrast to the mean duration of formal education, which is approximately 10+2 years for students, their performance on international achievement scales reveals a score of 355. It is important to note that a score of 625 indicates significant attainment, while a score of 300 represents the minimal level of attainment. These empirical findings from various international reports raise a crucial concern regarding the perception of contemporary educational policymaking concerning the efficient management of human resource potential. To meet these requirements, certain committees were formed.

The Central Advisory Board of Education (CABE) committee in 2005 recommended the universalization of secondary education by the year 2015. The objective aimed to achieve comprehensive enrolment, complete student retention, and proficiency of competencies across all types of content by most students exceeding 60% by 2020. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA), in collaboration with state legislatures, aims to ensure that every student in the nation is enrolled in Grades 9 and 10. The objective is to achieve universalization and secondary education attainment by 2017. The Sustainable Development Goals (SDGs) also aim to achieve an equitable and inclusive level of proficiency since the objective is to enhance the educational landscape and foster continuous learning prospects for the whole youth population of India by the year 2030.

However, the existing body of research encompassing UNESCO publications demonstrates significant differences in enrolment rates. It has become clear that the complete focus of the policy initiatives solely revolves around the 'concept of quantification of the academic performance' to prove educational accountability to other stakeholders. The international ranks adeptly depict that despite achieving maximum schooling enrolments at the secondary level with significant equity to support the

outcomes, a large proportion of the transitioning learning population remains unaware of the significance of a value-based education for building the quality of skill rather than mere academics. Hence, the outcomes cultivated throughout the culmination of the secondary education phase assume heightened significance. Rather than prioritising the extent of pedagogical content coverage, developing a conceptualisation of educational achievement that enables students to effectively apply the knowledge and skills acquired, both within the classroom and in real-world situations is crucial. These studies necessitate more investigation into effective learning inputs that can promote knowledge acquisition in a comprehensive manner, encompassing traits such as mathematics and scientific proficiency, problem-solving abilities, and critical thinking. Hence, it is vital to comprehend the socio-emotional characteristics that contribute to enhanced levels of learning in students and examine their influence on the inclination towards higher education.

1.5 Higher Education Readiness

The presence of a robust literate labour force equipped with the necessary knowledge and competencies for profitable and meaningful employment, as well as active engagement in societal affairs, holds advantageous implications for all nations. According to the Organisation for Economic Cooperation and Development (OECD, 2018), education is crucial in cultivating knowledge, skills, attitudes, and values that empower individuals to actively participate in and benefit from a future characterised by inclusivity and sustainability. According to Martin (2018), the purpose of education extends beyond preparing individuals for the workforce. It focuses on providing students with the necessary abilities to actively participate, take responsibility, and interact as citizens in society. However, today's learning population encounters many obstacles impacting their growth and welfare.

One of the foremost issues faced by several nations involves the prevalence of unemployment and the inadequate provision of suitable employability opportunities for young individuals. Despite collaborative efforts of the growing industries and education system, these challenges have shown to be persistently tricky to be tackled effectively. It is worth noting that despite the advancements achieved in enhancing fundamental literacy rates, some nations have encountered challenges in delivering high-quality education during the completion of their schooling phase to their younger learning

population, hence impeding their acquisition of essential competencies necessary for the contemporary labour market as well as the importance of continued learning to meet the ever-changing demands of the society.

Higher Education has progressively transformed from the narrowed quantitative expansion of only equity to the inclination towards continued learning with the fundamental objective of cultivating individuals as a crucial resource for the administration of many developmental indicators beyond mere economic living standards. Throughout the transitional phase from infancy to maturity, individuals in their youth begin delineating their ambitions, striving for financial autonomy, and solidifying their position within the societal framework. For many individuals, this phase encompasses the shift into employment. The current state of international affairs reveals that many young individuals encounter difficulties and challenges when transitioning from educational institutions to the workforce (Sefton-Green et al., 2019; Geller & Greenberg, 2009). A lack of security and dissatisfaction for many characterises this phase. The professional engagement of these individuals is distinguished by financial unpredictability and substandard employment prospects (Kreshpaj et al., 2020). For individuals who possess the capability to secure employment, it is frequently observed that they engage in informal sector labour and experience job insecurity. Conversely, a significant portion of the population encounters extensive durations of joblessness during the initial stages of their transition into the labour market (Shi & Wang, 2022). During prolonged periods of unemployment, the competencies that young individuals have earned during their academic years gradually diminish and lose their socioeconomic significance.

This rationalisation process has transformed education goals towards fostering a survival-oriented mindset during challenging circumstances. In the contemporary period, a pressing international need exists for a workforce that possesses specific and high-quality skills in essential competencies characterised by heightened industrial competitiveness, multiculturalism, and globalisation. At the International level, innovation and technological sustainability top the chart amongst other required competencies, further confirmed by the international comparisons available worldwide. Based on the recently published Global Innovativeness Index 2023 Report by the World Intellectual Property, India has been assigned the 40th position against Switzerland, the

United States, Singapore, Finland, China, and Japan, ranked 1st, 3rd, 5th, 6th, 12th and 13th respectively. India tops the lower-middle-income countries, followed by Vietnam, Ukraine, Philippines, Indonesia, Mongolia, Morocco (WIPO, 2023). These countries are categorised under ‘Performance above expectation for level of development’, which implies that India performs better than the expectations of the global community. Also, to ensure sustainable outputs in the face of global competition, it is imperative to possess both globally competitive and inventive qualities. According to the INSEAD report entitled "Global Talent in the Age of Artificial Intelligence," India has been positioned at the 72nd rank out of 130 countries on the Global Talent Competitiveness Index (INSEAD, 2020). Based on these international comparisons, it can be comprehended that India has demonstrated the ability to generate innovative outputs that surpass its inputs. This achievement can be attributed to the country fostering a supportive learning environment and commitment to equity expansion. It consequently propels the observation of the inputs provided by the national initiatives, which are directly related to the overall rank elevation of the country.

Due to a widespread change in the professional structure of the Indian economic conditions, which has transformed the employment context that was formerly driven by agriculture into those that have been replaced by technology, fresh competency prerequisites have been imposed on the growing workforce (Deming & Noray, 2020; Fabregas et al., 2019; Srivastava, 2012). Furthermore, India's steadfast dedication to offering consistent education presents a tremendous opportunity for enhanced efficacy within the employment sector. This suggests that, given its existing populace of 1.4 billion, there remains a notable imperative for the nation to make substantial advancements in cultivating a workforce capable of proficiently acquiring the internationally coveted competencies sets required within the labour market. Several investigations in India have presented proof of the advantageous influence of secondary and higher education on career administration and cultivating a labour force based on competencies (Lauder & Mayhew, 2020). Hence, it is inherent to comprehend that the transition from secondary education to higher education denotes the advancement towards vocationalization, requiring the procedure to be maximally enriching for the learners. Numerous investigations have pinpointed multiple elements that enable a

smooth progression to higher education. To understand these elements, it is imperative to understand the process of ‘transition’.

Transition can be defined as the life changes that a person or child may go through. A Transitional Phase is the growth and development a student makes in their learning or career paths. Since competencies are referred to as the core of development in a student, the transitional phase is the transformation period from student to adult life marked by changes in the acquisition of certain competencies that can help in adapting to the learning needs of a particular time frame.

A transition denotes a momentous alteration in a student's existence, self-perception, and acquisition of knowledge: conversion from one level of comprehension, growth, and maturity to another. Studies have demonstrated that these transformations are deemed genuinely significant by the students and the concerned stakeholders (Mehrotra & Parida, 2019). Some may be deliberate and foreseeable, while others may arise unexpectedly. Transitions manifest themselves throughout the student's educational journey, encompassing instances such as the progression from school to higher education, departing from home and assuming the role of an independent adult, and transitioning from being an unenthusiastic scholar to becoming enthusiastic and dedicated (or vice versa). A student may transform from being a passive and reliant learner to an active and self-governing learner, evolving from being an uninformed novice to becoming a proficient and knowledgeable expert, or shifting from being a zealous pupil to embracing a drug-oriented subculture, and so forth. The exact definition of a transition is not a definitive matter but rather a fluid concept (Boshuisen et al., 2003).

The foremost and significant transformation with students is the shift from being a relative novice to becoming a knowledgeable and skilled participant in a specific field of study. While elementary education merely provides the foundational knowledge to comprehend the world, higher education propels the application of the acquired knowledge. Consequently, secondary education emerges as the nexus connecting these two levels of education. Thus, secondary education programme bears the accountability to enable students to attain the recognised standard of knowledge, comprehension, and proficiency. The ultimate evaluation of students aims to determine how this objective has been accomplished. However, while this overarching transition may be the case, numerous other transitions are indispensable for its attainment. These transitions can

furnish the necessary means to guide students towards the acquisition of higher competencies required for employability and for this objective to hold genuine significance for both the students and society. For knowledge, comprehension, and proficiency to have value, they must be accompanied by various other factors (Hussey, 2010). The learner must possess the appropriate disposition towards their acquired knowledge, the motivation to employ it beyond the school boundaries, and the confidence to create the desired outcomes. They must appreciate the value of their development.

Secondary education encompasses a plethora of modifications in various forms and magnitudes. These alterations range from the acquisition of knowledge to the intricate application of textual concepts, ultimately preparing individuals for the demands of the workforce. Transitioning within the realm of education inherently entails identifying potential changes that may arise alongside the process of their acquisition while simultaneously avoiding others. Given the increasingly diverse pool of students in the present educational framework of India, it is inevitable that how these transitions are navigated will exhibit a heightened level of emotional and social frustrations. Some students can encounter substantial transformations, surpassing those experienced by their former seniors. Conversely, there lies a possibility for the students who complete their secondary education to lack the necessary competencies and confidence to navigate these transitions adeptly and expeditiously.

The results of the international comparisons also demarcate India's current challenges in ensuring the dissemination of complex, competitive factors like robust economic expansion, effectively navigating fluctuations within capital markets, maintaining regulated price inflation and budgetary shortfalls, expediting the process of technological modification, and mobilising resources to support the expansion of infrastructure to its young learning generation that is inclined towards higher education. It is noteworthy to observe that the comparability indices, which serve as key indicators for international sciences and innovative thinking ventures, namely publications in scientific journals, funding for research and development (R&D) costs, global patent submissions, and investment capital deals, are exclusively evident within the realm of higher learning at the global learning level. The assessments above indicate that the country's advancement in terms of the desired quality indicators in higher education is significantly slower than in nations like Switzerland and Finland. Further, studies

examining higher education across nations such as Finland and Switzerland have suggested that university learning plays a crucial role in fostering enhanced levels of innovative competencies, which in turn contribute to the long-term sustainability of the economy (WIPO, 2021).

Conversely, India continues to undergo a situation of expansive learning gaps right from the elementary level due to quality issues (ASER,2023). Although the enrolments at the elementary and secondary levels have been maximised, it does not represent the academic proficiencies of the students at the completion level of education. The existing struggles of the students in basic literacy and numeracy competencies are explained by the inequalities in the transition and drop-out rates. While the transition rates from the primary level are 93.18 percent, the transition rates from the primary to secondary level stagnate at 78.41 percent (UDISE+ 21-22). Similarly, many states are facing high drop-out levels for secondary education, including Bihar (20.5%), Uttar Pradesh (9.7%), Rajasthan (7.7%) and Haryana (5.9%) (U DISE+ 21-22). Table 4 shows the drop-out and transition levels of the selective states in the context of secondary education.

Table 4: Representation of selective states with drop-out rate and transition to secondary education (U-DISE+ 21-22)

| States | Dropout Rate | Transition to secondary level |
|---------------|---------------------|--------------------------------------|
| Bihar | 20.5 | 57.8 |
| Uttar Pradesh | 9.7 | 80.4 |
| Rajasthan | 7.7 | 86.7 |
| Haryana | 5.9 | 92 |

Table 4 suggests that states with high drop-out rates suffer from low transitions at the secondary level. In other words, the drop-out rate of the students is indirectly proportional to the transition rates. It further demarcates that by the end of the schooling phase, these states face the bulk of the elementary-educated workforce, which is forced to remain deprived of higher learning opportunities because they lack the required competencies to complete the secondary level education. Further, other social parameters

also demonstrate the importance of workforce participation. The issue of gender disparity in higher education is not only a significant moral and social concern but also a crucial financial obstacle. The worldwide financial market is predicted to have adverse consequences if women, who constitute half of the world's workforce, fail to realise their financial strengths. Several key factors significantly influencing female involvement in the workforce are higher transition rates towards further learning, conception rates and the onset of marriage, economic expansion and periodic effects, and industrialisation.

At the state level, a recent analysis showed that despite the enrolment of about 2 million students in the 6-14 age range throughout governmental and private educational structures, there is a significant proportion of girls aged 15-18 years, around 40 percent, who lack access to any form of education (Bandhopadhyay & Chugh, 2020). Moreover, many research papers examining the execution of government schemes promoting female education, such as "Beti Bachao, Beti Padhao", have highlighted the unfortunate existence of gender disparities in reaching higher education across different states in India. According to the World Development Report (2012), Tripura, Bihar, Rajasthan, Madhya Pradesh, and Uttar Pradesh are identified as states with low levels of secondary education attainment among females with 14%, 15%, 16%, 20%, and 21% percent reported for these states respectively. The significance of this issue arises from the fact that educational attainment in secondary school has a pivotal role in shaping the subsequent possibility of pursuing higher learning.

1.6 Emerging Need of Higher-Secondary Education

With the preceding discussion, it could thus be comprehended that the 'preparedness concept' with a focus on the practical orientation of education within the secondary programme has the potential to yield a more significant proportion of the transitioning learning population. The higher learning phase with intrinsically generated is more important interest than making it a forced choice which can yield adverse results. The awaiting uncertainties and current need for competency-inclined education raise questions about how to prioritise the understanding of the context and potential applications of knowledge and competencies to facilitate students' ability to make connections across different contexts, as well as to upgrade the process of assessment and evaluation for building the qualitative excellence in the upcoming learning generation. Hence, to advance in this domain, it is crucial to understand the components

of a viable framework for preparing students for higher education and the essential qualities that secondary-grade students must possess to be deemed competent for higher education.

Considering the bestowal of education to exceptionally gifted individuals during their secondary schooling, it is only logical to contemplate the factors contributing to pupils' readiness at the advanced learning levels. The Indian educational systems are currently seeking a solid mechanism to effectively guide and equip secondary-grade pupils to provide demonstrable long-term outcomes for the qualitative sustainability of the civilisation. Given human development's expansive nature, researchers and evaluators often focus on specific measurable domains. In this context, employability is a critical field of investigation, operating under the idea that employment plays a significant role in quantitative economic progress (Singh & Ehlers, 2020). Completing formal education is favourably associated with the potential for achieving employment in later years, as evidenced by large-scale evaluations such as PISA and TIMSS (Raitskaya & Tikhonova, 2019). Given the robust empirical evidence accumulated over several decades, it is reasonable to assert that individuals who have completed their secondary education are highly likely to find employment in relevant areas shortly after leaving educational institutions. Nonetheless, according to the report entitled "Schooling Ain't Learning," the efforts made by the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) to increase enrollment and retention rates among secondary grade students have not significantly translated into higher enrollment rates for advanced education, leading to potential gaps in employability (Pritchett, 2013).

1.7 Rationale of the Study

The rationale for conceptualising the competencies lies in their significant impact on cultivating the multifaceted attributes highly valued in contemporary job markets. While most educational models worldwide acknowledge the significance of socio-emotional competencies, there is a notable gap in the existing literature about its precise and unequivocal nature. Prominent scholars have posited differing perspectives on the nature of these competencies, with some emphasising their individualistic qualities while others advocate for their multiplicity (Kautz & Heckman, 2014). This ongoing debate

has yielded one consensus: Socio-emotional skills encompass a range of abilities essential for enhancing an individual's employability, both in social and emotional domains (Cefai et al., 2018).

The disparity between the number of students pursuing higher education and their subsequent employment in industrial settings has recently prompted inquiries on the limited integration of the youth population across the nation. According to Muralidharan, Singh, and Ganimian (2016), several characteristics of secondary education contribute to the extent of academic gaps experienced by plenty of pupils in meeting grade-level curriculum standards. According to Banerji (2021), a lack of academic progress was seen among students in classes VI to IX, with inadequate performance in their grade assessments in Delhi, Rajasthan, and Madhya Pradesh. This lack of progress persisted despite their regular attendance in school. In this context, the apparent disparity between the labour needs of the industrial sector and the availability of a youthful workforce becomes conspicuous due to the inefficiency in meeting the demands of the industry.

Educational reforms in India have addressed this deficiency to some extent through implementing higher education, which aims to bridge the learning divide. In other words, the industrial sectors' current requirements revolve around acquiring a workforce that has successfully completed a formal higher education programme, serving as a link between education and the changing criteria for employability. The Rashtriya Uchchatar Shiksha Abhiyan (RUSA) initiative was developed to enhance the quality of higher education and establish effective connections with the existing employability structure of global markets. This initiative was inspired by successfully implementing the Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA) programmes. Despite the significant increase in universities, colleges, and stand-alone private institutions in India, the latest data indicates that the Gross Enrollment Ratio (GER) in higher education remains relatively low at 26.3%. This figure contrasts the country's sizable youth population of 243 million (AISHE, 2019). Understanding the underlying factors contributing to the disparity in transitioning to higher learning for a better scope of employment necessitates the significance of preparedness for post-secondary education among students migrating from the secondary level.

It becomes evident while analysing the 2019 data, that Rajasthan, Maharashtra, Tamil Nadu, West Bengal, Uttar Pradesh, and Karnataka have significantly contributed

to the number of students pursuing higher education in India. According to the AISHE report 2019, Uttar Pradesh boasts impressive statistics and is among the top seven states regarding student enrollment in higher education. The state houses two dual-mode institutions, which offer regular and remote education, and 3156 colleges. Interestingly, Uttar Pradesh has 35 colleges for every one lakh population, while Karnataka has established 53 colleges for every one lakh population, as per the AISHE report 2019.

A noticeable difference between the number of male and female students enrolled in higher education in the state is observed. This contrasts with the higher proportion of females in Karnataka. This inequality makes it challenging to achieve the expected percentage of young people transitioning from secondary to higher education, which ideally should match the national average literacy rate of 77.7% (Pradeep, 2020).

1.8 Research Questions

The research questions formulated for the study are:

- How secondary education emphasise the significance of educational attainment and socio-emotional competencies in fostering higher education readiness of the students?
- What are the recommendations of the policies towards the advancement of developing socio-emotional competencies and higher educational readiness in the students?
- How are socio-emotional competencies associated with higher educational readiness, and what factors contribute to the socio-emotional competencies at the secondary level?
- What are the factors that shape the construct of higher education readiness at the secondary level students?
- How do demographics like class, age, gender, spatial reference, socioeconomic status, preferred discipline, aspiration after grade 12 and pursual to higher education exhibit any difference in the educational attainment of the students at the secondary level in Kanpur and Bahraich?
- Whether there exists a difference in the socio-emotional competencies based on class, age, gender, spatial reference, socio-economic status, preferred discipline, aspiration after 12th and pursual to higher education of the students at the secondary level in the public schools of Kanpur and Bahraich?
- Whether there exists a difference in the higher education readiness based on class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after

12th and pursual to higher education of the students at the secondary level in the public schools of Kanpur and Bahraich?

- How do the demographic attributes of students such as class, age, gender, spatial reference, socioeconomic status, preferred discipline, aspiration after 12th and pursual of higher education predict the educational attainment of secondary school students in Kanpur and Bahraich?
- How do the demographic attributes of students such as class, age, gender, spatial reference, socioeconomic status, preferred discipline, aspiration after 12th and pursual of higher education predict socio-emotional competencies of secondary school students in Kanpur and Bahraich?
- How do the demographic attributes of students such as class, age, gender, spatial reference, socioeconomic status, preferred discipline, aspiration after 12th and pursual of higher education predict higher education readiness of secondary school students in Kanpur and Bahraich?
- How do the student demographics and socio-emotional competencies predict the higher education readiness of secondary school students in Kanpur and Bahraich?

1.9 Research Objectives

Objective 1: To explore the differences of various student demographics on the Educational Attainment, Socio-Emotional Competencies and Higher Education Readiness of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

1 (a): To find the difference in Educational Attainment and its dimensions based on the demographic characteristics (class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE) of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

1 (b): To explore the difference in Socio-Emotional Competencies and their dimensions based on the demographic characteristics (class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE) of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

1 (c): To explore the difference in Higher Education Readiness and its dimensions based on the demographic characteristics (class, age, gender, spatial reference, Socio-Economic

Status, preferred discipline, aspiration after 12th and pursual to HE) of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

Objective 2: To analyse the effect of the various student demographics on the Educational Attainment, Socio-Emotional Competencies and Higher Education Readiness of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

2 (a): To analyse the effect of various demographics (class, age, gender, spatial reference, socioeconomic status, preferred discipline, aspiration after 12th and pursual to HE) on the Educational Attainment of students at the secondary level across both districts.

2 (b): To examine the effect of distinct demographics (class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE) on the Socio-Emotional Competencies of students at the secondary level across both districts.

2 (c): To analyse the effect of various demographics (class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE) on the Higher Education Readiness (HER) of students at the secondary level across both districts.

Objective 3: To identify the differences in the way the socio-emotional competencies predict higher education readiness in public secondary schools across Kanpur and Bahraich districts.

1.10 Thesis Structure

The thesis is composed of six chapters. The introductory chapter of the study outlines the primary variables being examined and establishes their significance and justification. The chapter comprehensively analyses the relationship between students' higher education readiness and other variables of socio-emotional competencies and educational attainment. Furthermore, it addresses the resolution of quality-related concerns about education at the secondary school level through the implementation of diverse policies and the recommendations put forth by these policies.

The second chapter provides a comprehensive examination and evaluation of the current body of research on different viewpoints regarding educational attainment, socio-

emotional competencies, and the advancement of higher education readiness on a global scale. The chapter provides a comprehensive analysis of socio-emotional competencies, delving into the numerous explanations put out by researchers to elucidate this construct. Furthermore, the discussion has revolved around the efforts made by different nations to establish diverse sets of competencies. The present study has utilised current research to expound upon the readiness abilities that influence an individual's development towards higher education programmes. The chapter also explores the diverse theoretical viewpoints that seek to elucidate the concepts of educational attainment, socio-emotional skills, and preparedness for higher education, encompassing theoretical frameworks. The literature study extensively examines the key elements and mechanisms that, based on current understanding, significantly contribute to socio-emotional competencies. Finally, the chapter provides a detailed analysis of the existing literature on higher education readiness and its associated factors, as well as the connection between higher education readiness and students' long-term development of competencies.

The third chapter provides a detailed explanation of the methodology employed by the researcher to address the study's objectives. The chapter provides a detailed explanation of the methodology employed in the study, including the data source, the demographic and sample selection, the tools utilised for data collecting, the pilot study conducted to refine the tools, and the data gathering and analysis procedures employed by the researcher.

The fourth chapter provides a comprehensive examination of the findings derived incorporating quantitative and qualitative analysis. The study begins by conducting a normality check on the datasets for both Kanpur and Bahraich districts. Subsequently, the t-test findings are presented, which reveal the significance of the difference in mean scores among students based on their demographic features. Regression analysis was employed to examine the impact of demographic factors on educational attainment scores, socio-emotional competencies scores, and higher education readiness scores across the entire dataset. Furthermore, causal connection between demographic characteristics were executed on the scores of socio-emotional competencies and preparedness for higher education for the student datasets of both districts. Content analysis was done extracting themes from the interviews obtained from the field

(Qualitative Content Analysis). The themes were refined multiple times for in-depth analysis towards a vivid and a holistic picture of the field reality.

Chapter five examines the outcomes of the present investigation about the findings of previous studies and established hypotheses. This chapter also aims to explain the predominance of the results obtained from the statistical analysis conducted in this study, in conjunction with the interview excerpts derived from the qualitative data gathered.

In conclusion, the final section of the study analyses the significant findings and their potential policy implications, and limitations as well as further scope of the research.

Chapter 2

REVIEW OF LITERATURE

The present chapter discusses the existing literature on Socio-Emotional Competencies, Educational Attainment and Higher Education Readiness. It has been divided into three sections. The chapter includes a review of the following concepts: Educational Attainment by exploring studies on numeracy abilities, scientific literacy, innovative expression, academic perseverance, proactive leadership, sustainable engagement, and Academic ICT competence. The chapter reviews Higher Education Readiness by investigating various frameworks of higher education readiness, professional aspirations, higher education buoyancy, academic transferability, entrepreneurship activity-based learning. The chapter provides a comprehensive understanding of different theoretical frameworks and various components associated with educational attainment, higher education readiness, of students in the transitional phase.

To conduct the investigation, it was imperative to do a comprehensive and rigorous examination of the relevant literature. The review was consistently maintained during the many stages of data gathering, analysis, and discussion during the research. The present research aims to investigate perceptions and attitudes about socio-emotional competencies and their preparation for higher education. The study also aims to examine the influence of learners' educational attainment and socio-emotional competencies on their preparedness for higher education in secondary school settings.

The study explored the relationship between educational attainment, socio-emotional competencies, and higher education readiness in secondary grades of government schools. A comprehensive examination of educational attainment in the literature demonstrates a deep comprehension of the contextual factors, historical background, and structural elements that currently influence educational achievement within the learning environment. The review considered socio-emotional competencies within a core competency framework, which assesses the skills and abilities that students develop during their secondary education. The scope of this study encompasses a comprehensive comprehension of the notion of preparedness and the framework of competencies necessary for the well-rounded growth of pupils, as now emphasised in educational policy.

2.1 Educational Attainment

The acquisition of fundamental education holds significance in both enhancing capacities and improving the living conditions of individuals. The presence of educational attainment enables individuals to engage in contemporary economic activities, allowing them to enhance their human capital and improve their financial prospects and quality of life. The concept of attainment can be characterised and defined in multiple aspects. While the understanding of 'attainment' is synonymous with 'achievement', it is further believed that achievement can happen in various aspects of life pertaining to performance in education, employment, art, and socio-cultural dimensions. Since the study focuses on observing the variables in the educational context, the literature survey is narrowed down to explore the evidential strength of educational attainment in relation to other variables. In this regard, the term "educational" can be defined as any endeavour that is related to formal education, such as academic studies or scholarly pursuits (Pandey et al., 1996). The concept of "educational endeavour" pertains to the outcomes attained by learners through their acquisition of knowledge, whereas "school activity" pertains to the curricular duties assigned by the school and is characterised by several phases. The term "achievement" pertains to the successful fulfilment and acquisition of an established educational standard that a student may attain through a sequence of educational or proficiency developing activities.

On the other hand, "performance" denotes the outcome of an assessment in an area of study or an entire discipline (Lamas, 2015). Nevertheless, there exists a divergence among researchers about the conceptualisation of educational attainment, with certain researchers positing that it is synonymous with the quantification of performance. Consequently, it is this discrepancy in the interpretation of attainment and grades as the quantified performance that has led to variations in the definitions of educational attainment among researchers (Brookhart et al., 2016).

In addition to the understanding of the terminological difference and the importance of the choice of 'educational attainment' as the apt term, the literature surveyed the definitions in terms of various viewpoints. For instance, some definitions have reflected that educational attainment encompasses a range of student traits, including expertise and abilities, which are collectively referred to as ability (Barth et al., 2007). The definition portrays educational attainment as an outcome of the extent of

abilities possessed for acquiring the 'learning behaviour'. Numerous scholarly studies conducted globally have acknowledged a strong correlation between educational attainment and the procedure of learning (Chandra, 2015; Qarareh, 2012).

The concept of learning is commonly understood as a 'sustained transformation in behaviour'. However, academic learning encompasses this definition with simultaneous incorporation of the educational context (Edition, 2010; Maehr & Anderman, 1993). In other words, learning inside formal educational institutions, such as schools, is commonly defined as a sustained modification in academic conduct that possesses broad applicability and is therefore understood as the academic outcome of learning in the students (Corcoran et al., 2018; Bowen et al., 2007). Moreover, a significant number of studies examining the concepts of "academic achievement," "learning outcomes," and "scholastic achievement," in addition to educational attainment, argue that there are positive associations between changes in academic behaviour learnt and the level of educational attainment gained grade levels (Peng & Kievit, 2020; Corcoran et al., 2018).

The studies provide a comprehensive analysis that highlights the significance of modifications in academic conduct with respect to intellectual abilities due to learning (Peng & Kievit, 2020). According to the National Academies of Sciences, Engineering, and Medicine (2018), various academics have indicated that intellectual abilities are intricately linked to the acquisition of profound knowledge and learning abilities inside a formal educational framework. However, the vastness of such abilities cannot be quantified. So, scholars have limited the abilities to the domains of language, reading, numeracy and scientific abilities for the global comprehension of the abilities to quantify educational attainment. This viewpoint is reflected in the international definition, in which educational attainment is understood as the output of scientific competencies that encompass the capacity to effectively interact with concepts and ideas within the realm of science to arrive at a well-defined and accurate conclusion (OECD, 2017). This international definition highlights the importance of abilities that are intellectual in nature and stimulate the cognition of the student for better performance in terms of the output within the academic scenario.

When examining the relationship between formal education and life outcomes, there is a notable emphasis on intellectual ability (Nisaar et al., 1996). The ongoing discourse surrounding the malleability vs crystallisation of intellectual abilities have led to the development of multiple theoretical frameworks regarding the academic abilities,

which aim to promote educational attainment among students (Romero et al., 2014; Brunette et al., 2013). Within this context, the emergence of some of the frameworks that have gained popularity in the field of educational attainment may be traced to understand the current viewpoint regarding educational attainment.

One of the theoretical frameworks that dominates maximum research studies is the comprehension of the ‘*Implicit Theories of Intelligence*’ in the processes of learning and skill acquisition. Numerous academic publications have examined the strong association between implicit viewpoints regarding intellectual abilities and educational attainment (Blackwell et al., 2007). For instance, Costa and Faria (2018) conducted a study involving a meta-analysis of 46 studies, with a collective total of 412,022 students to find robust correlations between Implicit Theories provided for the intellectual abilities and the educational attainment of the students. The theoretical framework these theories posit focuses on the fact that intellectual ability is flexible and operates at an unconscious level. It suggests that using conscious endeavours to enhance academic learning may enhance the intellectual abilities over time, leading to improved educational attainment as an outcome. Figure 2 presents the theoretical framework in a diagrammatic view.

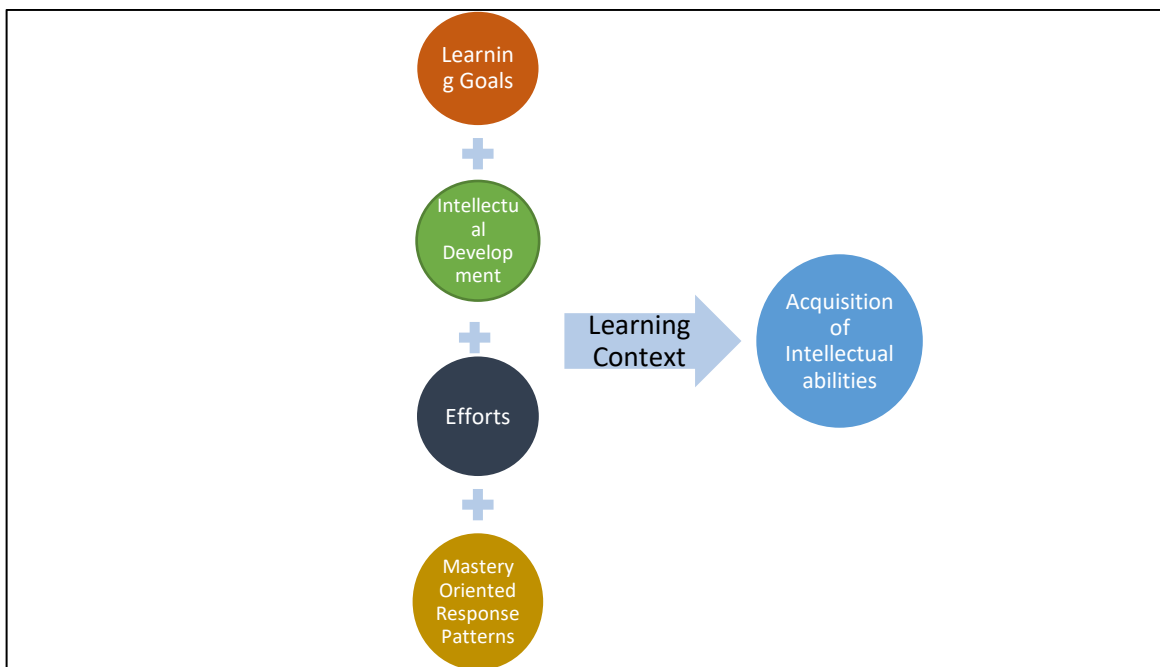


Figure 2: representation of Implicit theoretical framework of educational attainment

The Figure 2 illustrates the theoretical framework of educational attainment, in which intellectual development is depicted as one of several components. These various elements converge within a learning environment, whether structured or unstructured, to facilitate the process of acquisition of intellectual abilities. The unique characteristic of this approach is the incorporation of "implicit initiatives" in the form of concerted endeavours. Put simply, the theoretical model encompasses all four components as necessary factors for the occurrence of educational attainment. Conversely, Robbins et al. (2002) have asserted that poor educational attainment is attributed to the absence of a certain component, leading to the development of academically helpless behaviour. Recent academic studies have consistently found evidence supporting the beneficial effects of implicit theories on academic performance in specific disciplines (Chenanutwiler, 2017; Gunderson et. al, 2017; Greece grow Ben and height, 2017).

Due to the quantifiable nature of educational attainment, another theoretical framework was examined- '*Framework of Quantitative Learning*', which centres on educational attainment by incorporating several factors such as verbal skills, quantitative abilities, general assessments, and self-reported grades. This approach has significantly expanded the quantitative realm by incorporating language, literacy, reading, biology, and mathematics.



Figure 3: Diagram representing the theoretical framework of Quantitative Learning

Figure 3 illustrates the theoretical foundation of Quantitative Learning. The uniqueness of this model rests in its ability to perceive and comprehend the verbal

domain, general assessment domain, and self-reported domain with a similar level of knowledge. The quantitative domain is notably distinguished by its emphasis on specific skill requirements, such as literacy, reading, and mathematics, for the educational achievement of students.

Additional research investigations have examined the impact of beliefs as a significant element and have discovered robust associations with educational attainment (Burnett et al., 2013) and addressing particular academic shortcomings (Alisi et al., 2016). The theoretical framework under consideration is characterised by the learning process employed when faced with problems in a particular subject. Within this framework, certain predictors of goal orientation play a role in determining the level of academic achievement (Botswik et al., 2017; Romero et al., 2014). The framework denotes that the attainment level is contingent only upon the goal-directed actions employed during the educational journey inside a subject of academic rigour. The theoretical framework might be conceptualised as the subsequent model.

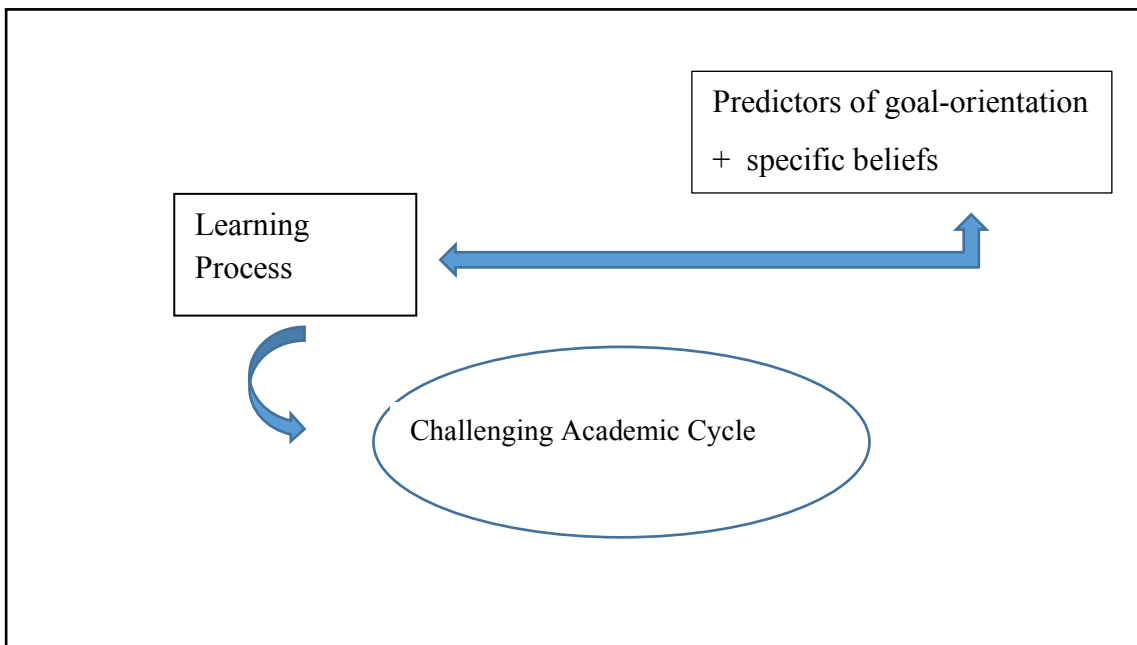


Figure 4: Diagram representing the Challenge Learning Framework of Educational Attainment

Figure 4 illustrates the influence of several elements on the development of a stronger orientation towards reaching academic goals within a specific time frame. These aspects are helpful in mitigating personal inadequacies and developing the abilities required to enhance educational attainment in challenging courses (Costa & Faria, 2018).

Several academic studies have examined the academic difficulty of Mathematics and have demonstrated the effectiveness of factors such as goal orientation, motivation, and interest in enhancing the learning process and achieving higher levels of educational attainment across different learning contexts (Alhadabi & Karpinski, 2020; Law, Geng & Li, 2019).

An extensive literature survey has also revealed that the current form of educational attainment includes the importance of being able to grasp academic abilities experientially (Watson, 2019). Thus, Kolb's Experiential Learning Model is considered to study educational attainment. The framework presented in the literature illustrates that learning is closely linked to internal cognitive processes, as individuals acquire abstract concepts that can be flexibly used across many contexts (Morris, 2020). This acquisition of abstract concepts is facilitated by exposure to novel events (McLeod, 2017). Epistemologically, Kolb's theory operates on a dual-level framework: According to Watson et al. (2019) and Cassidy (2004), there exists a four-stage cycle of learning as well as four distinct learning styles. The learning outcomes of a student, in terms of the acquisition and flexible application of learnt knowledge, are determined by the combination of these two levels (McLeod, 2017). The experiential learning process depicted in Figure 5 is comprised of four components: (a) Concrete experience, (b) Reflective observation, (c) Abstract conceptualization, and (d) Active experimentation.

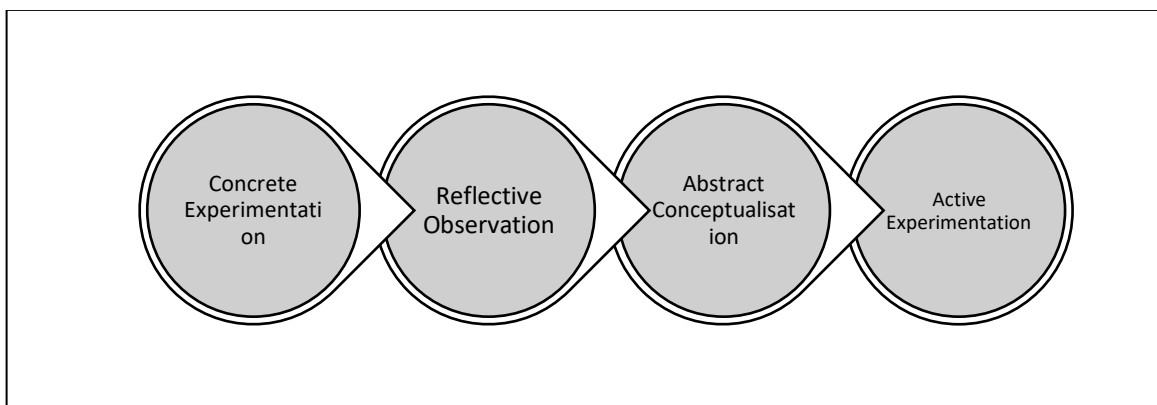


Figure 5: Representation of four component in learning

The provided figure offers additional evidence to uphold the perspective that the efficacy of the learning process is influenced in a cyclical manner by several factors such as the influence by the initial encounter with new experiences or the reinterpretation of existing experiences; process involves observation and reflection on these experiences;

causation of the development of abstract conceptualizations and generalised ideas; facilitation of the planning for prospective initiatives.

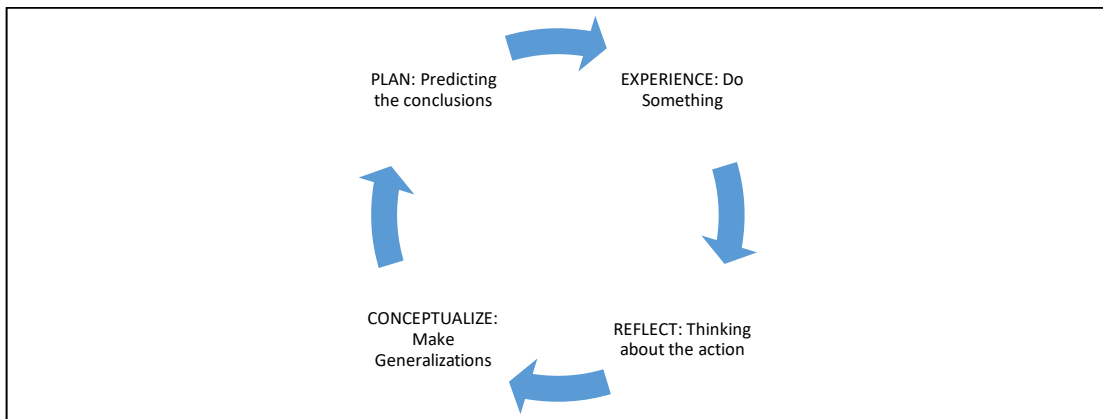


Figure 6: Representation of the abilities for educational attainment

Figure 6 illustrates that the cyclic process effectively integrates all intellectual abilities in the learning process. The model's unique characteristic is its capacity to integrate the real-time relevance of intellectual abilities to each stage in a sequential way, resulting in simultaneous execution. According to McLeod (2017), the depiction of Kolb's theory can be more effectively examined through the utilisation of a 'processing continuum' on the horizontal dimension and a 'perception continuum' on the vertical axis. The theoretical framework thus includes processing continuum refers to the strategy employed when acquiring subject-specific knowledge, whereas the perception continuum pertains to the emotional reaction elicited by the subject-specific knowledge (McLeod, 2017).

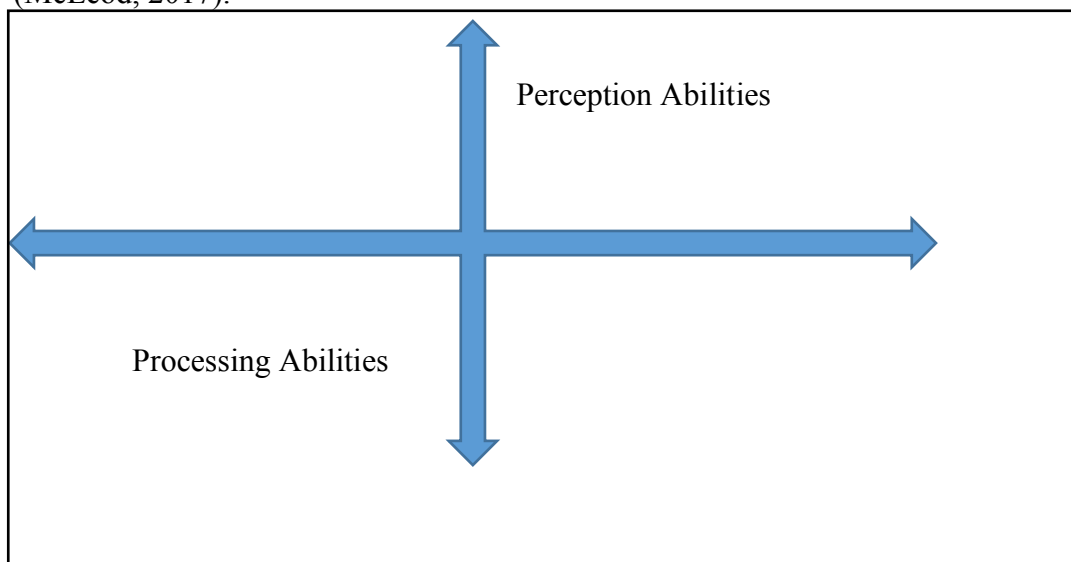


Figure 7: KOLB's model

In accordance with Kolb's model and the aforementioned frameworks, it is demonstrated that the intricate and diverse interconnection between the level of education achieved and the progress of the economy is a subject of complexity that varies across different nations. In the context of advanced economies, education plays a pivotal role in fostering innovation and the generation of novel technologies, which subsequently propels the growth of the economy (Altinok, 2017). On the other hand, in developing economies, education serves as a catalyst in facilitating the assimilation and implementation of emerging technologies, thereby resulting in amplified levels of productivity and economic advancement (Gustafsson, 2016).

Scholarly investigations have demonstrated that educational systems that prioritize academic triumph, administer top-notch instruction, and cultivate secure and well-organized school environments tend to exhibit elevated levels of accomplishment, consequently contributing to the economic growth (Gustafsson et al., 2016). Nevertheless, it is essential to acknowledge that the quality of education also bears significant weight. In the event that the quality of education provided is substandard, it may fail to instill the requisite aptitudes that are indispensable in driving economic progress. Overall, although there is substantial evidence indicating a positive correlation between the attainment of education and economic growth, the specific dynamics of this relationship are contingent upon the individual country as well as the calibre of education dispensed.

The correlation between educational attainment and academic performance has garnered considerable attention in the realm of research. Numerous investigations have delved into this association and have discovered a positive correlation between these two variables. Hanushek and Woessmann (2012a, 2015) unearthed that the quality of schools, as measured by intellectual abilities, exerts a substantial influence on economic growth, whereas the mere number of years spent in schooling does not. Moreover, parental involvement has been observed to yield a beneficial impact on scholastic accomplishments (Wilder, 2014; Wilson, 2009; Xu, 2010; Zedan, 2012; Zellman & Waterman, 1998). Furthermore, the school environment, encompassing aspects such as safety, organization, and academic focus, has demonstrated its influence on academic achievements (Mullis & Martin, 2007). These findings indicate that both individual and contextual factors contribute to the determination of academic performance.

Educational attainment exhibits a close correlation with employment prospects. Enhanced levels of education generally correspond to elevated wages and improved employment outlooks (LaForest, 2022; Wambugu, 2011). In developing nations such as Kenya, achieving access to formal employment and higher remuneration typically necessitates advanced educational levels (Aliprantis & Zenker, 2011). Nevertheless, in rural regions of China, the emergence of off-farm employment opportunities has resulted in a persistent disparity in income and educational accomplishment between rural and urban areas (McGuire et al., 2007). Within Israel, despite the expansion of the education system, disparities in educational attainment among socioeconomic groups have escalated, and the economic benefits associated with education have diminished (Bar-Haim et al., 2013). These studies underscore the importance of educational attainment in shaping employment outcomes and suggest policy-level prioritization of enhancement in access to advanced levels of education in order to augment employment prospects and alleviate inequality.

With such empirical evidence and the inference from the theoretical frameworks, a more specific categorization of these two domains is undertaken, explicitly focusing on the abilities of numeracy ability and scientific literacy ability, to achieve optimal educational attainment. The processing continuum of intellectual ability encompasses learning styles such as conceptualization and planning, which play a prominent role in the acquisition of numeracy abilities. On the other hand, the perception continuum of intellectual ability involves learning styles such as reflection and experience, which are particularly influential in the development of scientific literacy for educational achievement. Both of these abilities will be further elucidated in the following sections.

2.1.1 Numeracy Abilities

The significance of mathematical proficiency is progressively rising in relation to secure employment opportunities in the prospective labour market. The progression of automation and artificial intelligence has rendered mathematical thinking and expertise indispensable for future occupations. According to the findings of a recent survey conducted among over three hundred prominent leaders from various international organisations, it was revealed that 72 percent of these individuals consider numerical and problem-solving abilities to be among the four most essential qualities

companies seek in potential employees (Moore, 2020). Mathematical proficiency has been discovered to be indicative of occupational achievement, as individuals endowed with mathematical skills are inclined to make specific career choices. A study conducted by Williams (2015) explored the potential relationship between numerical ability and career accomplishment. The findings revealed that people with strong numerical abilities may exhibit improved innovation in leadership roles and tend to choose professional choices that align with their numerical aptitude. The study suggested that numerical ability could serve as a predictor of career performance. Moreover, numerical ability is closely linked to additional abilities programming within the realm of Computer Science Education, underscoring its significance within the professional domain (Pramata Sari et al., 2018). Furthermore, there exists evidence supporting a genetic foundation for mathematical aptitude, implying that targeted assessments aimed at evaluating mathematical proficiency among family members could be advantageous. In summary, mathematical proficiency assumes a central role within the labor market and is associated with secure employment opportunities and career achievement.

Numerical ability pertains to the intellectual ability for executing mathematical computations and comprehending numerical concepts. It encompasses diverse cognitive processes encompassing verbal, spatial, somatic, memory, and executive functions (Gerardi et al., 2013). The progression of numerical abilities can be witnessed in both the annals of human history and the trajectory of child development, advancing through various stages such as global quantification, recognition of small quantities, enumeration, counting, and arithmetic (Ardila, 2018; Dehaene, 1992). In the Indian context, some scholars have defined numerical ability as the intellectual ability to effectively engage, apply, interpret, and articulate numerical knowledge and principles, enabling individuals to take an active interest in and navigate the numerical demands encountered in many contexts (Holenstein, 2021; Chaman & Callingham, 2013). Other scholars have expanded the understanding of numerical ability to be defined in terms of requisite abilities and understanding needed to perform mathematical operations, address complex problems, and grasp fundamental numerical concepts (de Barros & Ganimian, 2023; Gustaffson, 2016). These definitions evidentially prove that numerical ability is a crucial component of educational attainment, which encompasses the capacity to effectively utilise and interpret mathematical concepts concerning school success (Areepattamanni,

2014; Chaman et al., 2014). It is specially important for succeeding in school because the comprehension and application of numbers hold significant importance for students in various contexts, including ordinary life circumstances, as well as academic predictions and presumed accuracy of the results. Previous studies have shown evidence that several characteristics, including numerical knowledge, numerical self-perception, textual comprehension, and other intellectual abilities, play a significant role in the progression of numerical ability and its correlation with future achievements (Verschaffel et al., 2020; Kenedi et al., 2019).

Numerous frameworks have been developed to comprehend the components of numerical ability. The Cognitive Abilities framework of numeracy ability comprises the capacity to engage in mathematical thinking, utilise computational ideas, and develop computational techniques for problem-solving and interpretation. The figure 8 represents the diagrammatic view of the framework.

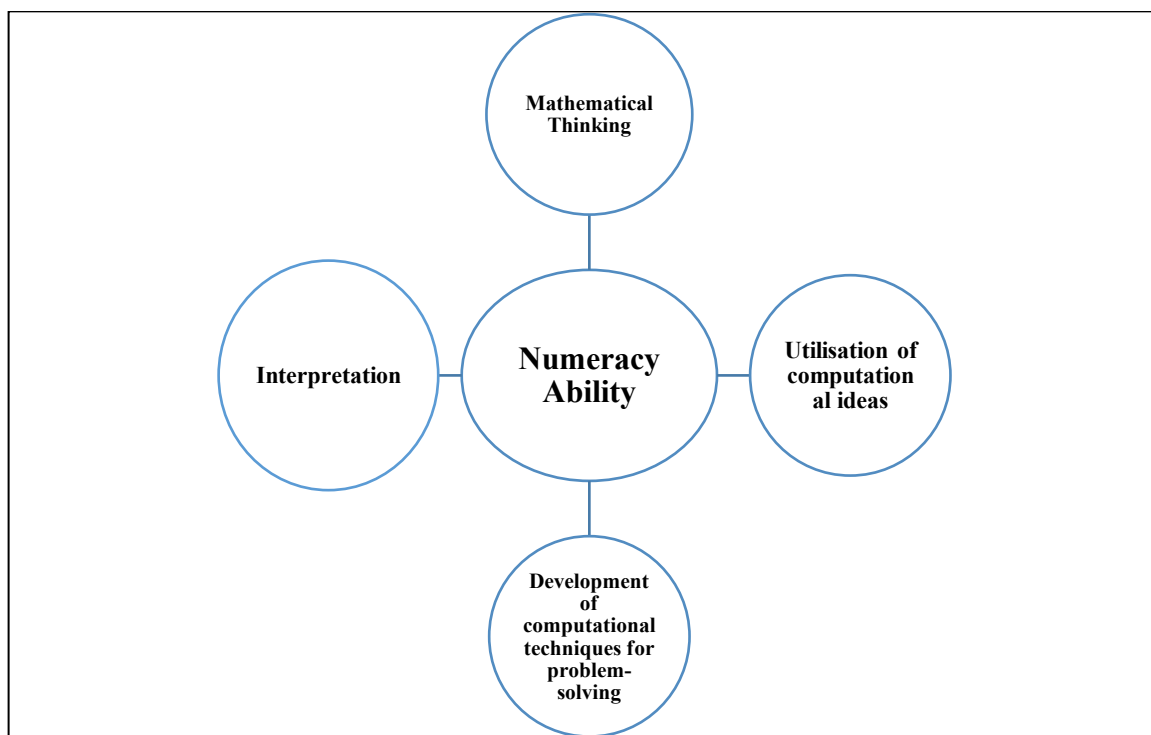


Figure 8: Cognitive Abilities Framework of numerical Ability

Similarly, Niss and Hojgaard (2019) presented an Active Framework of numerical abilities that is quite expansive in covering all the dimensions of abilities in numerical learning. The framework exhibited numerical ability to be composed of two numerical responses- (i) Ability of efficient-response-engagement comprising of (a) basic numerical cognition (b) solution of numerical problems (c) comprehension of numerical

models and (d) identification of numerical logic. Further, another numerical response is the mastery of numerical language, including (a) comprehension of numerical illustrations (b) acquisition of numerical symbols (c) recognition of numerical expressions (d) understanding the use of numerical materials and tools.

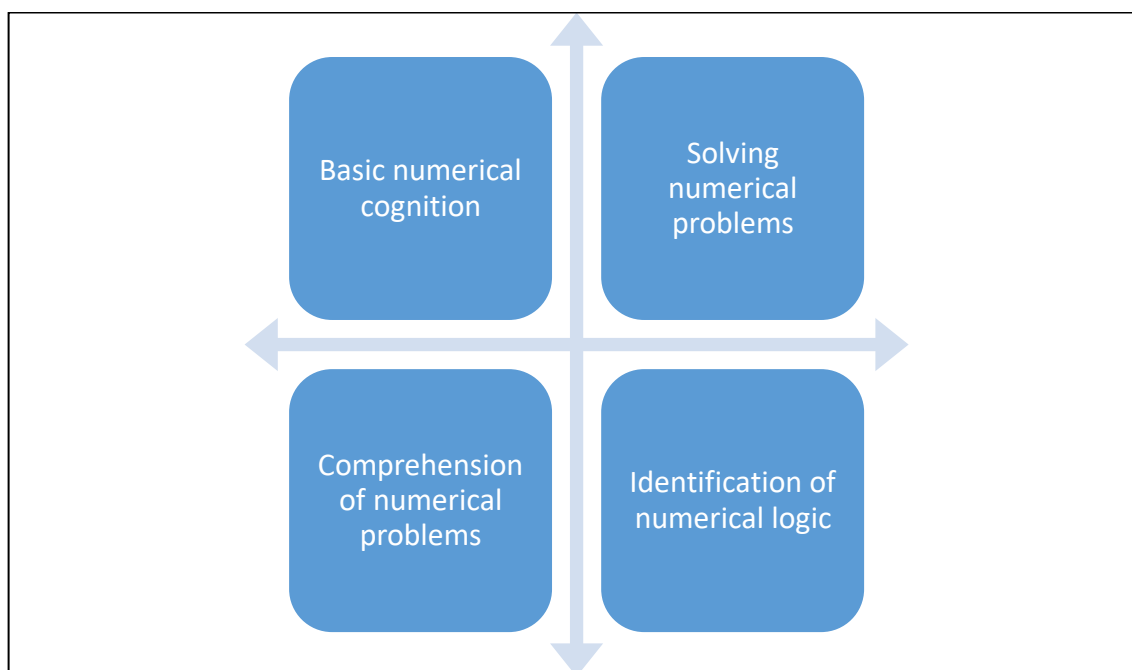


Figure 9:Representation of Active Framework of Numerical Abilities

Figure 9 aptly represents the framework of numerical activity that is used to acquire numerical abilities in a detailed sense. It is interesting to note that large-scale assessments like PISA and TIMSS constitute of frameworks that exhibit the elements of numerical ability. The TIMSS (2007) assessment encompasses various cognitive elements, including contextual understanding, data-driven conception, regular problem-solving, and rationality (Mullis et al., 2005). In the subsequent TIMSS 2015 framework three distinct aspects of numerical abilities were compared in the study namely (i)knowledge acquisition (ii) utilisation of educational expertise, and (iii) the ability to solve unfamiliar issues (Gronmo et al., 2015). Studies have proven that the influence of gender in classroom environments, particularly in the context of the acquisition of numeracy competency, is not significant (Kundu et al., 2021; Hyde et al., 2008). The study conducted by Uwineza et al. (2018) revealed that there were no significant differences in the opinions and perspectives of men and women regarding numerical comprehension.

The study conducted by Mullis et al. (2016), research based on the Programme for International Student Assessment (PISA) and the Trends in International Mathematics

and Science Study (TIMSS) has indicated that boys tend to outperform girls in academic performance. This finding underscores the influence of cultural variables on numerical ability. The socio-cultural approach emphasises the presence of gender-based cultural biases that associate numeracy and scientific literacy abilities with masculinity, hence perpetuating gender discrimination in countries like India (Sahoo & Klasen, 2021; Landry et al., 2020; Wang et al., 2013). In their study, Brown and Alexa Anderson (2020) found that there was no significant difference in numeracy competency between genders. Numerous research investigations have indicated that attitude plays a significant role in areas such as numeracy and scientific literacy abilities, with no discernible disparity in performance across genders (Levine & Pantoja, 2021; Dowkar et al., 2019; Cespedes et al., 2021).

2.1.2 Scientific Literacy Competency

The concept of scientific literacy has proven to be challenging to define with precision since its inception in the late 1950s. The objective of scientific literacy was succinctly articulated by Charles Eliot, the chairman of the National Education Association's (NEA) Committee and a former president of Harvard University (1869-1895), as follows :

“The realisation of effective power in practise is the ultimate objective of scientific literacy, as opposed to the mere accumulation of knowledge. In contemporary times, the primary aim of scientific literacy is to provide students with the ability to independently engage in a wide range of tasks that would otherwise be beyond their capabilities in the absence of formal instruction. An educational system that fails to cultivate in students the ability to apply theoretical knowledge, translate acquired skills into practical use, and effectively utilise their organised abilities for productive purposes, might be considered as having deviated from its primary objective”.

In accordance with such articulations, other researchers have demonstrated their inclination to scientific literacy ability. In their study, Yore et al. (2007) proposed that analytical cognition is a crucial element within the foundational concept of Scientific Literacy. They characterised scientific literacy as the ability to make informed decisions on beliefs and actions in response to empirical challenges. When confronted with a significant difficulty, concern, or dilemma, an individual with scientific literacy will

assess and determine the appropriate course of action or belief. This decision will be substantiated by reliable evidence and logical criteria, justifying the claim or judgment made. These studies have laid the foundation of the Scientific Literacy and Analytical Cognition Framework. The framework includes four dimensions (i) scientific knowledge comprising of scientific explanations and novel ideation (ii) scientific dispositions including curiosity for evidential support, intellectual stability and perseverance (iii) scientific standards demonstrating precision, objectivity, reliance and validity in the procedures (iv) scientific processes consisting information analysis, formulation of hypothesis, formation of arguments, assessment and planning of tasks and drawing conclusions (Viera & Viera, 2014).

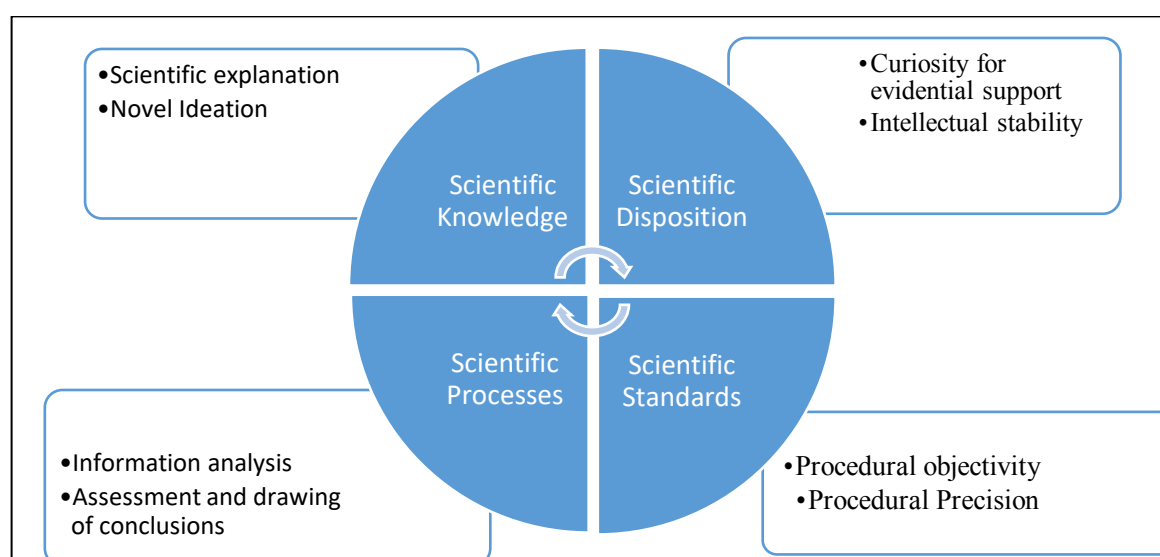


Figure 10:Scientific Literacy and Analytical Cognition Framework (Viera & Viera, 2014)

Figure 10 portrays that the inclusion of numerous scientific activities pertains to the attainment of scientific literacy at the transition level. The distinctiveness of this model is that it combines knowledge acquisition along with realistic abilities that carry a quantified nature. In a study from three datasets of PISA projects spanning the years 2003 to 2009, the researchers employed data envelopment method to investigate the impact of schools on student attainment.

The study revealed that there were notable disparities regarding attainment across various types of schools, and these disparities persisted consistently across all three applications. In schools with secondary education, high schools with inclination to science were found to be most successful, while vocational high schools were identified

as the least effective (Suna, Tanberkan & Ozer, 2020; Yalçın & Tavşancıl, 2014). Another examined socioeconomic status as the predictor of scientific literacy and found that families with science education of mothers influence the interest in science in the students which predicts higher scientific literacy (Blums et al., 2017; Gorard & See, 2009; Akhtar, 2012). Further, studies have found scientific literacy to be highly correlated with economic growth (Liu et al., 2023; Erdem & Kaya, 2021). In an international study involving 400, 000 high school students' higher interest in science was found to be positively linked to higher GDP (Tucker-Drob, 2014). Mhlanga (2021) has reflected in his study that scientific literacy bears the accountability of meeting the international goals for the emerging economies.

2.2 Socio-Emotional Competencies

The prevalence of prioritising educational achievement has been a prominent aspect of academic curricula due to the benefits associated with measurable developmental outcomes (Wu et al., 2021). Nevertheless, the ability to navigate the practical aspects of life necessitates a set of proficiencies that extend beyond mere scholarly pursuits. Accordingly, the educational sector widely acknowledges the significance of competencies as emphasised by the European Reference Framework for Lifelong Learning.

“In light of the ongoing process of globalisation, with a multitude of issues, it is imperative for every individual to possess a diverse set of essential skills in order to effectively navigate and adjust to the dynamic and interdependent nature of the contemporary international landscape. Education, with its multifaceted function encompassing both societal and economic aspects, has a pivotal position in guaranteeing that the populace acquires the essential skills and abilities necessary to effectively adjust and respond to dynamic transformations....” (The European Commission, 2007).

The recognition of Socio-Emotional Competencies has expanded due to the increasing need for a versatile workforce to drive the progress of nations and enterprises. In recent times, the enhanced accessibility of global data pertaining to intellectual abilities, whether assessed during formal education or in adulthood, has facilitated research efforts that surpass the conventional metrics of education, such as years of formal schooling. Instead, these studies concentrate on the influence of quantifiable

competencies on both individual and collective economic outcomes (Brunello & Schlotter, 2014). Nevertheless, there has been a growing interest within the academic community about the progressive exploration of additional competencies that have little relationship with intellect yet possess the power to significantly impact human advancement and economic growth. These abilities encompass a range of socio-emotional competencies.

Majority of the earliest definitions of Socio-emotional Competencies hold personality traits in centrality (Brunello & Schlotter, 2014). However, the gradual interest in the drawing associations between socio-emotional competencies have shaped the definition as ‘those malleable competencies that have the capacity to influence the course of an individual's life, resulting in enduring effects on their educational achievements and outcomes in the job market’ (Sorrenti et al., 2020). These definitions portray that the lack of availability of a conceptually stable definition has contributed to the ‘changeable’ feature in its understanding, making it open to modifications according to the demands of the society. Gradual research has shown that socio-emotional competencies refer to abilities distinct from the academic arena, including retention, attention, planning, vocabulary, and logical thinking (Martin-Raugh et al., 2023; Ou et al., 2021; Freshman, 2000). According to Chung et al. (2020), students' cognitive, affective, and behavioural tendencies can be defined as "patterns of mental, emotional and behavioural processes." Social contexts influence these patterns and can be developed and refined throughout an individual's lifetime to yield advantageous outcomes. These encompass individual characteristics, actions, and underlying drives (Collie, 2022).

Previous research has argued that socio-emotional competencies encompass several attributes, such as social intelligence, compassion, leadership abilities, and verbal and non-verbal communication (Collie, 2020; Chen, 2012). Socio-emotional competencies exert an influence on an individual's overall behavioural patterns (Boyden et al., 2019). For example, a student who communicates effectively with teachers and classmates demonstrates socio-emotional competencies. Since there exists less clarity on the huge array of competencies that continue to be discovered according to the societal upgradation, majority of the frameworks formed, collaborate the competencies based on the need of the field. Accordingly, some of the frameworks that were found during the literature survey to strongly shape the socio-emotional competency set for the study are illustrated.

In their study, Humphries and Kosse (2017) conducted a comparative analysis of several methodologies employed for assessing socio-emotional competencies. This investigation aimed to examine the effectiveness of these qualities in predicting educational attainment during the latter stages of adolescence. The study used the German Socio-Economic Panel (GSOEP) youth research data to generate four generalised frameworks about socio-emotional competencies. These frameworks encompass beliefs, commitments, mindsets, and interactions.

A separate framework was also constructed to examine the interplay between basic personality traits and economic circumstances. The findings indicate various interconnections between numerous socio-emotional characteristics, with both negative and positive associations observed. Another framework that strongly advocates the base of competency development very comprehensively in the literature is the 21st Century Skills and Competencies Framework which centralises on the reduction of unevenly dispersed competencies into an analytically arranged framework where the competencies are sorted according to the (a) available data (b) communicative expression (c) ethics and community effect (Ananidou & Claro, 2009). These components include competencies sorted according to the internationally compared responses for the arrangement. The information dimension includes competencies related to resolution of the problems namely, media literacy, creativity, problem solving and decision formation. The communicative expression dimension includes critical comprehension of communication, participation in communicative tasks and ability of verbal oral exchange of ideas. The ethics and community effect includes social responsibility, team working, flexibility, social initiation towards change. Research studies have found that the 21st century skills framework is strongly related to academic engagement in the students (Istance & Kools, 2013). Other studies have acknowledged its relevance and recommended its integration with the teaching learning process (Caena & Redecker, 2019; Pellegrino, 2017; Bhattacharya & Sharma, 2007).

A robust correlation exists between generalised socio-emotional competencies and character traits such as prudence and endurance (Consiglio et al., 2013; Sharma, 2012; Singh, 2010). However, the association between these abilities and other personality characteristics exhibits variability. Moreover, in the context of educational attainment, research has indicated that the fundamental framework of the Big Five personality taxonomy has superior performance compared to the generalised socio-emotional

components framework like time utilisation (Singar, 2022; Hoorani et al., 2022; Blom & Saeki, 2011). This suggests that stronger correlations with the core characteristics of the fundamental model possess greater predictive capacity in relation to students' grade point average (GPA).

Previous research studies have expanded upon the existing connections between socio-emotional competencies and their linkages with optimism, proficiency, and behavioural patterns in subsequent phases of employment readiness (Ertac, 2020; Yamauchi et al., 2018; Black et al., 2017). A positive correlation exists between individuals' socio-emotional competencies, emotional states, and behavioural tendencies in their developmental stages. Several studies provided evidence of potential associations between socio-emotional competencies and traits such as diligence, persistence, and teamwork (Attanasio et al., 2020; Ikesako & Miyamoto, 2015). The acquisition of these abilities is crucial for achieving success as a student, encompassing both academic and non-academic domains. Job competencies are essential components that contribute to their overall abilities. These skills encompass academic, socio-emotional competencies and job-specific competencies. Merchant et al. (2018) conducted a study investigating socio-emotional competencies tested in several provinces and the similarities and differences in the acquisition, evaluation, and documentation of these competencies. The findings indicate that there is a significant variation in the levels of these competencies across different regions. However, the assessment of teamwork, accountability, organisation, and freedom remains consistent across all provinces that were evaluated, using a rating scale ranging from 3 to 4 points. It is worth noting that these four competencies closely correspond to the employability skills recommended by the Conference Board of Canada in 2015.

According to Heckman and Krueger's book 'Inequalities in America' (2014), individuals who possess traits such as persistence, determination, adaptability, and efficiency frequently achieve better-transitioning outcomes towards higher learning compared to those with greater intellectual capacity. This study is important because it exhibits the priority of competencies in gaining transition and the ability to climb the 'ladder' of continued learning that is supposed to be very complex. These socio-emotional competencies encompass characteristics like management, endurance, and effective comprehension, which are not typically evaluated through statistical

assessments. While not usually innate, the primary characteristic of the aforementioned abilities is the nature of 'acquirability' (Sanchez, 2017).

Numerous scholars have contended that academic advancement is not solely contingent upon acquiring subject-specific knowledge. In recent years, several longitudinal and experimental investigations have provided empirical evidence supporting this principle. Mills et al. (2016) conducted research investigations to examine the effects of incentivization by studying the Louisiana Scholarship Programme (LSP) on socio-emotional competencies and social acceptance among students, specifically focusing on the dual-year period following the end of the LSP programme. The study consisted of an interview conducted on a randomly selected group of 999 learners. The findings revealed slight differences in socio-emotional competencies and civic competencies between students who participated in the programme and those who did not. Studies have revealed a lack of a substantial link between socio-emotional competencies and academic performance.

Researchers in the field of education have consistently shown an insatiable curiosity in examining the socio-emotional competencies that are closely linked to educational attainment. The following section presents a concise overview of the specified dimensions based on the existing literature.

2.2.1 Innovative Expression

The dimension of innovative expression has garnered considerable interest lately within the realm of research and is now recognised as the paramount component in establishing a profitable competitive edge. In specific industries, the ability to consistently generate innovative concepts has emerged as a fundamental element of economic expansion and a requisite for long-term viability. Despite recognising inventiveness as a crucial component in driving innovative expressions within specific industries, there appears to be a limited understanding of the factors that influence these components or govern comparable procedures (Lempiala, 2010). There exists a scholarly discourse on the exact differentiation between the concepts of invention and innovative expression.

In the realm of innovative expression, innovation is commonly defined as the “manifestation of uniqueness through the application of novel notions”. This uniqueness is characterised by an individual’s ability to conceptualise and act independently. The

primary notion of innovative expression can be traced all the way to Ellis Paul Torrance's work in 1965. Torrance proposed a systematic approach to identifying obstacles, deficiencies, information deficits, and absent components. This approach involves detecting obstacles, devising strategies, drawing inferences or formulating theories to address the gaps discovered, conducting tests to verify these assumptions, considering prospective alterations, and ultimately disseminating what is learned. According to Corazza (2016), the intricate notion of innovative expression can be characterised as "a procedure that necessitates the presence of prospective uniqueness and efficacy". According to Wallach and Kogan (1965), innovative expression can be defined as an 'individual's intellectual aptitude or capability to generate significant and distinctive conceptual associations'. According to some scholastic experts, the concept of innovative expression pertains to "the enhancement and refinement of items and procedures that result from the transmission of information among different entities, such as enterprises and other stakeholders within their environment" (Nasierowski & Arcelus, 2012). Similar clarity on the innovative expression in question is derived from the definition put forward by the Oslo Manual (Opazo-Basaez et al., 2022). According to this manual, the essential requirement for an innovative expression in a service or item is to qualify as novel or substantially enhanced within the context of a specific commercial field without necessitating uniqueness worldwide (Gault, 2019; Matsunaga, 2019).

Innovative expression pertains to implementing imaginative approaches that were never previously utilised, emphasising fluidity of intelligence and originality. Given the inherent difficulty in quantifying the boundaries of innovative expression, the operational definition of innovative expression is the "competency to conceptualise and analyse existing learning resources and actively assess and utilise knowledge to validate new ideation in real-life contexts".

Recent scholarly investigations have delved into the notion of relevance in propagated learning material and have discovered favourable correlations with subsequent socio-emotional competencies, such as innovative professional practices (Hanani, 2020; Khoiriyah & Husamah, 2018). The concept of innovative professional practices can be described as the deliberate act of generating, introducing, and implementing novel concepts within the context of a professional role, group of people, or organisation to enhance task performance, group dynamics, or organisational outcomes (Kwon & Tim, 2020; Afsar et al., 2019). In the field of education, the

cultivation of innovative professional practices is crucial for instigating substantial transformations and enhancements within the learning milieu. Thus, some frameworks on innovative expression facilitate a nuanced understanding in the competencies required under this component for the learning generation. According to King and Anderson (2002), the criteria for determining innovation involve three key factors which are as follows: (a) novelty maintenance throughout its specific context (b) relevance and appropriateness within the social and organisational setting are impacted through innovation. (c) advantageous to the wider community, such as aiding in task completion, addressing pressing issues, fulfilling requirements, or leveraging existing assets. Multiple stages characterise the process of individual innovative expression and encompasses a specific sequence of activities or activities in every phase (Agrawal, 2015; Bhatnagar, 2012). Studies that research upon highly mechanical and technological industries like automobiles find that innovative ideation exert positive effect on on the organizational culture (Kumar et al., 2022; Chaubey & Sahoo, 2019; Agrawal, 2015). Other studies in the Indian context have demonstrated that incorporating innovative thinking entails assuming risks and leveraging domestic resources through frugal approaches (Verma et al., 2019; Radjou et al., 2012).

2.2.2 Academic Perseverance

Academic perseverance can be understood as the combination of persistence and enthusiasm that drives individuals to achieve their ultimate goals. Scholars have regularly made references to the concept of academic perseverance as being associated with emotional resilience in the face of challenging circumstances (Caza et al.,2020; Lan & Zhang, 2019). Accordingly, academic perseverance can be regarded as the ability to pursue a specific objective despite encountering obstacles within the relevant domain. Thus, academic perseverance is labelled as “ the competency of students to persist, overcome challenges in their pursuit of educational goals, and exert diligent efforts in overcoming hurdles to attain academic pursuits”.

The attribute of academic perseverance has increasingly been seen among humans in general as a determinant of success in life, independent of one's level of intellect. The concept of academic perseverance can be more comprehensively grasped as the combination of tenacity and commitment towards achieving goals in the future. Multiple studies have indicated that students who possess the trait of academic

perseverance exhibit a heightened sense of integrity in their lives and demonstrate a commitment to living authentically, prioritising personal authenticity over societal pressures. Consequently, this inclination towards authenticity positively impacts their general well-being, improving their quality of life.

The researchers believe proficiency alone is insufficient to achieve ambitious goals; instead, the cultivation of talent and sustained motivation are equally crucial factors. Furthermore, several research investigations have posited that students who develop the competency of academic perseverance at an earlier stage exhibit continuous improvement throughout their lifespan, analogous to the natural variance shown in physical attributes among humans. In contrast, multiple studies have indicated that persons with higher levels of academic perseverance may suffer comparatively fewer advancements in their careers compared to their peers of lower academic perseverance within the same generational cohort. However, it is essential to note that the significance of these findings is not well-established in the existing body of literature.

The construct of academic perseverance has been found to have a positive correlation with favourable outcomes, as well as with experiences of satisfaction and purpose in one's life. Furthermore, interventions that cultivate academic perseverance have demonstrated the potential to enhance an individuals' and meaning in life. According to Lucas and Donnellan (2007), while short-term contentment may be sufficient, long-term academic perseverance allows for opportunities for growth and development in higher learning. It gives individuals the necessary time and attention to pursue their goals, establish interpersonal relationships, and engage in fluid activities (Diener, 2000).

2.2.3 Proactive Leadership

Leadership can be defined as the act of motivating and guiding a collective of persons towards a common objective. Within the context of an organisational setting, this entails assuming a leadership role to guide and direct subordinates and colleagues towards fulfilling the organization's objectives. Leadership encompasses the fundamental qualities of being prepared and enthusiastic to motivate and influence people. Thus, leadership in students is defined as the competency to motivate a collection of individuals towards a common objective by fostering social and inspirational abilities both within and beyond the educational setting. According to Mumford et al. (2017),

effective leadership relies on communicating ideas, whether genuine or derived from others, in a way that effectively engages individuals and motivates them to perform according to the leader's objectives. Deductively, from these definitions, proactive leadership can be operationally defined as “the competency to motivate a relatively small unit of persons towards a common cause with simultaneous prompts toward transformative actions both within and beyond the educational setting”.

Scholars have posited that leadership is the act of motivating colleagues to promote action-oriented behaviour while also exerting control over their work process. This qualitative study aimed to investigate the influence of encouragement on the development of leadership styles among influential students in the senior years of the school. The research methodology employed in this study involved the utilisation of semi-structured in-depth interviews and appreciative surveys to gather and analyse the narratives of newly appointed school administrators. According to Boerema (2011), the research emphasises the effectiveness of verbal encouragement and support in facilitating the growth and development of novice school leaders and in shaping their individual leadership approaches. In addition to the active involvement of student leaders, the research contributes to the existing body of literature on mentoring by incorporating the perspectives of new school leaders in subsequent chapters. This inclusion provides valuable insights into the characteristics and effectiveness of mentoring activities.

The significance of a trans-morphing vision as the foundational element of effective leadership is studied by Mombourquette (2017). It could be argued that the effectiveness of a proactive leader is contingent upon the level of commitment exhibited towards social transformations. Therefore, an additional crucial aspect is the implementation of efficient strategies for delivering the purpose and strengthening specific people by encouraging goal attainment. In contrast, several research studies have found that certain leadership styles can have negative consequences, namely when leaders prioritise attaining their vision quickly. This approach can result in undesirable outcomes. According to Kassymova (2019), interpersonal difficulties might arise due to chaos and high-pressure work settings. In instances where such issues arise, the lack of leadership experience and immaturity prompt the student to perceive the task of addressing disagreements among fellow students as a personal matter. Leaders demonstrate too much focus on achieving ambitious goals, causing them to overlook

behavioural issues and employee well-being. This oversight can lead to the development of dictatorial behaviours, ultimately harming students' overall academic performance in subsequent outcomes.

2.2.4 Sustainable Engagement

Developing sustainable competencies is a crucial aspect of navigating and adapting to the complex dynamics of contemporary society. Certain scholars in the field of educational studies have characterised sustainable competencies as encompassing individual as well as professional competencies. The concept of sustainable engagement competency, as derived from existing literature, refers to the capacity to exhibit compassion and sensitivity regarding issues of the ecological sphere. Interpersonal abilities and a comprehensive understanding of the importance of service to ecological preservation and development demonstrate this capacity. The term centres on the concept of "social sustainability measures."

Several studies on social talents have provided evidence supporting the notion that a critical characteristic of sustainable engagement is effective interpersonal communication regarding the changes in the surroundings, enabling positive interactions with others. The existing literature provides substantial evidence that sustainable engagement can be considered equivalent to eco-awareness in both personal and professional contexts (Borner et al., 2018). Research conducted in the organisational domain has examined the associations between sustainably engaged employees and their colleagues. These studies have revealed that the quality of interpersonal communication, both in terms of initiation and maintenance, plays a crucial role in fostering and sustaining positive relationships with employers, peers, and network contacts towards natural ecology development (Perez et al., 2020; Borner et al., 2018). It is operationally defined as the competency of individuals within a society to possess and exhibit awareness, skills, values, and practices that contribute to the preservation and longevity of a community, consequently mitigating the adverse impact of human activities on the ecosystem.

2.2.5 Academic ICT Competence

The 21st century has witnessed significant technological developments, culminating in a notable technological advancement. The inclusion of Information and Communication Technology competencies throughout educational systems has been necessitated by the classification of core strengths in this context. Academic Information

and Communication Technology Competencies are commonly defined as the set of abilities necessary to effectively utilise digital technology, communication applications, and internet networking to access and manage content, as per the definition provided by UNESCO. This encompasses a wide range of digital proficiencies. These ranges exhibit distinct contexts established by recognised educational organisations. The UK Department of Education (DFE) offers the most extensive classifications of possibilities for Information and Communication Technology Competencies across schools and colleges. These categorizations, referred to as "core computerised capabilities," encompass the fundamental areas where digital literacy abilities are used. The system, jointly designed by the Department for Education (DFE), Accenture, and other collaborating organisations, delineates the essential ICT competencies across six domains. These categories are further separated into two subcategories: Academic Information and Communication Technology Competencies and supplementary digital competencies for employability.

The explanation of Academic Information and Communication Technology Competencies refers to the competency for understanding Information and Communication Technologies, acquisition, and application of technological competencies in the context of education, and encompassing the utilisation of technologically accessible devices, communication applications, and internet access to enhance the accessibility of educational content.

Numerous studies have provided evidence to support the notion that Information and Communication Technology competencies are sufficient for those employed in traditional work environments who have adopted contemporary methods to improve productivity, safeguard data, and ensure ease of use. However, implementing acquired digital abilities differs significantly depending on gender within different contexts. Multiple studies have been conducted to investigate the extent of Information and Communication Technology competence among students pursuing higher education in universities. The primary aim of the study was to examine the potential influence of gender and age on levels of Academic Information and Communication Technology competence, as explored by González et al. (2017). The study employed a descriptive research approach, utilising quantitative tools. The researchers employed an interactive survey to collect data about individuals' knowledge and perceptions of the

various ICT awareness and management dimensions. The research sample comprised 70 students who were selected using a basic randomised sampling method from a population of education students pursuing college studies at the University of Porto in Portugal. The results of the study indicated that the participants in the group being studied had a positive perception of their comprehension of ICT principles, held a favourable view of their proficiency in operating devices and technological resources, and exhibited an overall positive mindset towards computing. The findings of the study indicate significant discrepancies favouring men in terms of expertise, leadership, and perspectives, as observed through the examination of the influences of gender and cognitive maturity.

2.3 Higher Education Readiness

Higher Education could be viewed as the measure of value of education for a longer period. The contemporary understanding of higher learning places significant emphasis on job marketability, operating under the assumption that employment catalyzes quantifying financial expansion (Croak, 2018). This assertion is bolstered by the findings of comprehensive assessments such as PISA and TIMSS, which have demonstrated a favourable relationship between the attainment of formal higher education and the likelihood of achieving employment in subsequent periods (Papadakis, 2020). The significance of pursuing higher education is commonly perceived as the capacity of learning individuals to effectively comprehend and apply acquired knowledge to improve their personal lives and make valuable contributions to society through the utilisation of academic, digital, and inventive abilities (Cai et al., 2020).

Numerous studies have demonstrated the importance of higher education in fostering economic growth (Tilak & Choudhury, 2018) and developing critical thinking skills in individuals (Suleman, 2018). Early definitions of higher education referred to postsecondary programs as “a means of acquiring knowledge after completing a full course of study” (Everwijn et al., 1993). Later definitions describe higher education as “a carefully curated program that helps students transform their school competencies into employability competencies within a complex learning environment, leading to multidimensional well-being” (Maclean & Pavlova, 2013). John Henry Newman (1852), in his seminal work "The Idea of a University", defined higher education as the pursuit of knowledge for its own sake and the development of the intellect. He emphasized the importance of liberal education in cultivating critical thinking and moral character. "The

general principles of any study you may learn by books at home; but the detail, the colour, the tone, the air, the life which makes it live in us, you must catch all these from those in whom it lives already." In the present time, characterised by heightened competitiveness, cultural diversification, and internationalisation, there exists a pressing global need for a workforce that possesses specific and high-quality skills in essential competencies (Riaz, 2016). Therefore, the significance of higher learning becomes paramount in equipping the learning generation with the necessary resources to ensure long-term sustainability.

Currently, higher education can be perceived as ‘a specifically developed curriculum intended to be embarked on, following completion of secondary education, with the objective of facilitating the transition from academic skills to professional abilities, within a comparatively intricate educational setting in order to promote holistic attainment of well-being’ (UNDP, 1990). From a microscopic perspective, this conceptualization places significant emphasis on three crucial aspects: a) The commencement of a study plan is obligatory upon the conclusion of the secondary learning phase. b) The shift towards employability skills from the skills obtained during the previous learning phase. c) The existence of a learning environment that encompasses a greater scope than traditional academic surroundings. While the compulsion to pursue advanced learning has slowly gained international importance, the design of instilling a ‘bridging’ learning curriculum that can realistically connect knowledge with the available profession remains confusing mainly for the Indian educational reforms today. In this regard, international organisations like OECD endeavour to build the clarity of the content required for the higher learning phase as follows:

"In the forthcoming generations, the acquisition of skills related to the establishment of well-defined and meaningful objectives, collaboration with individuals possessing diverse viewpoints, exploration of unexplored possibilities, and the identification of numerous resolutions for significant challenges will be of utmost importance. The objective of higher learning should extend beyond only preparing young individuals for the workforce. It should also focus on providing students with the necessary abilities to become proactive, accountable, and involved members of society."

The above clarification highlights the importance of higher education in fostering information, abilities, perspectives, and values that empower the learning individuals to

actively participate in and derive advantages from an equitable and sustainable future. Since the demand for this curriculum is quite broad and the requisites are primarily complex, the institutions that foster these learning programmes are referred to as higher learning environments that are relatively more multi-contextual in content and multicultural in nature (Kezar, 2023; Krishnamurthi, 2003).

Pursuing such an intricate learning phase with transformations in higher learning environments tends to intimidate many students (Fook & Sidhu, 2015). While some studies have shown the students to refrain from embarking on continued learning after the schooling phase (Choi, 2021; Sheikh, 2017), other studies highlight the inability of the students to adapt to higher learning environments, thereby leading to dropout levels (Varghese, 2015; Rizvi & Gorur, 2011). These complexities call for creating ‘preparation’ towards higher education so that the learning population can avail post-secondary learning effectively. Thus, understanding the action of ‘being ready’ emerges as a crucial juncture in liaising the two learning phases.

Readiness has been defined as “a combination of cognitive, emotional, and motivational qualities that enable individuals to pursue opportunities in industrial sectors” (Seryapina, 2018). Repetuyeva (2009) defines readiness as a set of attitudes and relevant associations that enable individuals to perform activities effectively, regardless of their industry or profession.

The concept of preparedness has garnered significant attention within the realm of school learning as well as higher learning. The concept of readiness has been explored by multiple scholars, who have examined it both as an individual characteristic and as a situational factor (D’yachenko & Kandybovich, 1976). The recognition of readiness as an individual characteristic is drawn from multiple research investigations that illustrate readiness as ‘the manifestation of capabilities.’ Readiness has been generally conceptualised in many research investigations as a composite construct encompassing a range of individually acquired attributes (Anan’ev, 2001; Seryapina, 2018). Furthermore, specific definitions have delineated the scope of readiness by conceptualising it as the integration of cognitive, emotional, and motivational attributes within an individual. These attributes, in a psychophysiological manner, enable a profound understanding of the path or possibilities for engagement in industrial sectors (Nerseyan & Pushkin, 1969;

Pugni, 1993). In general, the definitions presented depict readiness as a ‘collection of significant attitudes, qualities, and personal features that enable the learner to achieve professionalism and creativity in their occupation’ (Kondrashova, 1984).

The concept of school readiness encompasses various factors, including the development of fine and gross motor skills, cognitive abilities, attitudes, and emotional competence (Bowman et al., 2001). In the field of educational psychology, there has been a significant shift away from limited maturational viewpoints that attribute "readiness" as an inherent trait of a kid (Sriprakash et al., 2020). Generally, school readiness pertains to the level of skills and abilities a kid exhibits upon their introduction into formal education, which is deemed crucial for their future achievements (Snow, 2006). Nonetheless, there exists limited agreement within the field of educational psychology regarding the fundamental elements and theoretical foundations of the concept. The concept of "readiness" is commonly interpreted as a reciprocal socio-cultural interaction influenced by the kid and their surroundings (Carlton & Winsler, 1999; Murphey et al. Burns, 2002). The school readiness model proposed by UNICEF establishes three key components: "ready children," "ready schools," and "ready families." According to this model, each dimension is deemed "ready" when it has acquired the necessary competencies and skills to effectively interact with the other dimensions and facilitate seamless transitions (UNICEF, 2012).

According to Vasquez, Sneider, and Comer (2013), Higher Educational Readiness can be defined as the extent of preparedness exhibited by a learning individual concerning possessing essential competencies required to effectively comprehend and engage with academic knowledge at the transitional level. Thus, the operational definition of Higher Education Readiness can be understood as the “level of readiness concerning essential competencies developed by a learning individual for acquiring academic competencies at the transitional stage and their practical application to prepare for advanced learning experiences both within and beyond the conventional learning environment”. This readiness is crucial for successfully navigating advanced learning experiences that extend beyond the confines of the school setting. The broadening of the range of higher learning experiences beyond traditional classroom settings is commonly recognised as enhancing aptitude for employment and fostering practical problem-

solving abilities. The dimensions that are encompassed by the definition are briefly examined.

2.3.1 Frameworks of Higher Educational Readiness

The Higher Education Readiness frameworks have undergone a progressive evolution with the fundamental objective of cultivating individuals as a crucial resource for the governance of various developmental indicators, beyond just economic well-being. It is imperative for individuals in the educational community to exhibit a specific range of abilities that reflect their readiness to engage in learning within the context of higher education institutions. Nonetheless, there exists limited agreement within the field of educational psychology regarding the fundamental elements and theoretical foundations of the aforementioned concept. The concept of readiness is rooted in a theoretical foundation of fostering approaches to learning among students, which can facilitate the cultivation of advanced learning abilities. Academics advocate the integration of evaluation into the learning paradigm for young learners due to the strong connection between schooling and the accumulation and utilisation of abilities (Tolstova & Levasheva, 2019). Generally, school readiness pertains to the level of skills and abilities a student exhibits upon their introduction into formal education, which is deemed crucial for their future achievements (Bingham & Whitebread, 2012; Snow, 2006).

The concept of readiness is rooted in a theoretical foundation of fostering approaches to learning among students, which can facilitate the cultivation of advanced learning abilities. Academics advocate the integration of evaluation into the learning paradigm for young learners due to the strong connection between schooling and the accumulation and utilization of abilities (Tolstova & Levasheva, 2019). The conceptual framework of Pascarella's Model of Student Development influences the evolution and advancement process by considering various factors. The assessment model for student development or transformation takes into account both the immediate and subsequent effects of a college or university's institutional characteristics and social environment. The concept encompasses the notion that students' growth and development are influenced by the interplay of five distinct factors: (a) the precollege attributes of learners encompassing their socioeconomic situations, readiness for college-level academic study, and demographic attributes., (b) the structural and organisational features of the higher education institution including their number of students, degree of specificity,

geographical position, association with secular or faith-based institutions, and residential nature., (c) the cultural and environmental aspects of the educational facility, (d) the socialising facilitators present on campus wherein the determination of the quality and substance of interaction is a responsibility entrusted to educators, managerial staff, and experts in student services., and (e) the level of endeavour exerted by the learners with respect to the unique attributes of individuals, along with the prevailing cultural norms and anticipated standards inside the academic institution (Long, 2012; Pascarella & Terenzini, 2005). While the model highlights the importance of considering both individual traits and higher-level institutional factors, it emphasises that individual characteristics hold greater significance than organisational factors. Therefore, given the significance of "precollege traits" and the "quality of initiative" among students, this framework primarily focuses on preparation as a capacity or competence.

The existing Higher Education Readiness (HER) are derived from the present understanding of readiness or preparedness across various levels. School Readiness refers to the concept of preparedness of children to enter and succeed in formal education settings, such as preschool or kindergarten. The initial acknowledgement of preparedness at the federal level of policy-making was illustrated by the U.S. National School Readiness Indicators Initiative (2005), which defined school readiness as the state whereby students possess the necessary bodily, intellectual, emotional, and interpersonal growth to engage in formal education (Gilbert, 2011). The most common elements of school readiness include (i) physical wellness (ii) social comprehension (iii) emotional growth (iv) intellectual and linguistic development (v) common awareness domain (Prior, Bavin & Ong, 2011). Literature survey has also highlighted about considering graduation as an important phase of learning, making entry to college an inevitable part. So, college readiness pertains to the level of academic and non-academic skills, knowledge, and abilities that high school students should possess to be successful in post-secondary education. Furthermore, university readiness encompasses the set of competencies, including academic skills and critical thinking. Professional Readiness, which is related to the possession of abilities that make the individual adequately prepared for the demands and expectations pertaining to the profession pursued. These dimensions all contribute to the cultivation of preparedness for college. Comparably, Gutkina's (2006) framework on university readiness has delineated logical components,

individual components, and Voluntary Behaviour Regulation as factors that contribute to the development of problem resolution and the ability to embrace diverse perspectives, which are considered essential preparatory competencies for university education (Nisskaya, 2018).

The literature also establishes the notion of professional readiness as a form of ‘socially important activities demanding distinctive expertise, abilities, and professional knowledge (Simonova et al., 2016). According to Chelysheva & Mikhaleva (2023), scholars have posited that professional readiness encompasses two distinct domains. The first domain, practical readiness, encompasses individual characteristics, expert information, and capabilities. The second domain, theoretical readiness, encompasses a deep understanding of professional knowledge, specific aptitude regarding the selected occupation, and effective management abilities. The emphasis on practical preparation within higher education systems has led to a significant increase in professional demand generation since it prioritises the development of sustainability skills. However, theoretical readiness has experienced a decline in prominence.

The primary focus of the Framework on Sustainable Skills, as discussed by Wiek et al. (2015), pertains to developing analytical abilities necessary for sustainability within higher education. The framework encompasses a wide range of problem-solving skills across multiple areas. The capacity for systems thinking encompasses the aptitude to collaboratively examine intricate systems spanning several domains (such as society, ecology, and economy) and diverse sizes (ranging from local to global). Anticipatory competence encompasses the capacity to collaboratively analyse, assess, and construct comprehensive representations of prospective scenarios. Normative competence encompasses the capacity to collaboratively identify, define, implement, harmonise, and deliberate about sustainability principles. Strategic competency encompasses the capacity to collaboratively devise and execute interventions, modifications, and progressive governmental approaches. Interpersonal competency encompasses the capacity to effectively encourage, empower, and promote interactive and participatory endeavours in sustainability study and resolution of problems.

These frameworks play a crucial role in fostering specific dimensions of preparedness across various stages of the learning population's developmental trajectory.

The World Bank's Skills Towards Employment and Productivity (STEP) Framework addresses the need for an extensive readiness spectrum, which is essential for policymakers, analysts, and researchers to develop systems that effectively facilitate job attainment. The framework proposed by Banerji et al. (2010) presents a comprehensive model consisting of five interconnected stages that span from Early Childhood Development to aligning skills with labour market requirements in later stages of life. These stages encompass the following: ensuring appropriate early childhood development opportunities for children, promoting universal learning for all students, cultivating skills that are relevant to the job market, fostering entrepreneurship and innovation, and Facilitating labour mobility and effective job matching.

Using these theoretical frameworks, the concept of Higher Education Readiness may be comprehended from a multifaceted standpoint, encompassing several dimensions such as Professional Aspirations, Higher Education Buoyancy, Academic Transferability, Entrepreneurship Activity Based Learning and Higher Academic Efficiency Practices.

2.3.2 Professional Aspirations

There is a considerable degree of variability among college students regarding their preparedness for the college-level environment. Specific individuals possess the aptitude and psychosocial competencies to successfully adapt to college's academic environment, while others seem to struggle. Several professional development theories have explored the conceptualization of professional aspirations as a significant career growth opportunity for young learners. According to Super's vocational development theory, professional identity holds significant importance in the process of job selection, as it aligns with personal beliefs about the possessed potential. This self-concept is shaped through the dynamic interplay involving the learning individual and their surroundings.

According to Holcomb-McCoy and Young (2012), there was a correlation between self-image and career trajectory projection. The phenomenon was shown to be associated with an individual's manifestation of career-oriented objectives or aspirations. The concepts of choice and initial aspiration can be utilised to forecast subsequent professional aspirations in the later years. Hart (2016) has projected aspirations as desires that are directed towards the potential future and are influenced by a combination of

conscious and subconscious impulses. They indicate an individual or group's dedication to a specific path or goal. Similarly, another definition emphasises professional aspiration through the importance of students selecting jobs that align with their personal beliefs about self-potential (Patton & Creed, 2007). Based on such definitions, professional aspirations can be operationalised as “the extent of a preparatory mindset to dispense selective attention to academic choice, career interest and career orientation-related activities to build awareness towards higher learning prospects”.

Rowan-Kenyon, Perna, and Swan (2011) found that a significant proportion of pupils (10.2%) exhibited indecisiveness regarding their future employment and could not identify a particular profession of interest. Moreover, a greater proportion of secondary-level entering students (13.5%) expressed uncertainty regarding their career objectives compared to ninth-grade students (7.6%). A recent investigation carried out by Dar (2019) revealed that 17.83% of students exhibit diminished professional expectations, while 58.33% fell within the category of mild professional goals, where they frequently swayed between 'formal' and 'informal' professional options. This indicates that while certain teenagers uphold their professional aspirations and economic projections for the years to come, there is variability in vision-oriented thoughts, among others (Beal & Crockett, 2010). Other studies have focused on the fact that alterations in professional aspirations transpire because of the pernicious impacts of societal influences, familial context, economic circumstances, availability of chance in the educational and employability systems, and social factors (Akos et al., 2007; Gutman & Schoon, 2012; Sadolikar, 2016; Schoon, 2001). According to Patton and Creed (2007), it is necessary for the learning youth to modify their professional objectives as they progress from professional fantasies to actual expectancies. This adjustment is crucial as they better understand the personal and environmental obstacles that may hinder realising their professional aspirations. The Professional Aspirations encompass a variety of components, including academic interest, academic choice towards the specific subject, and career orientation towards the financial practicality of the selected profession.

2.3.3 Higher Education Buoyancy

The continuous rise in the level of attention on attributes that are linked to the academic achievements of pupils in higher learning has pushed the scholars to look at the

details of the higher educational paradigm very closely (Duckworth & Yeager, 2015). Higher Education Buoyancy is an attribute or personal quality that has garnered significant public interest in the pedagogical and socio-scientific literature. The characteristics of this dimension are found to overlap with grit. For instance, grit is defined as the “combination of perseverance and enthusiasm crucial for achieving ambitious academic targets” (Duckworth, 2007). The disadvantage of this attribute is simply the narrow boundaries of academics that it covers. Higher education is a realm that is broadened not just in the context of academic knowledge but also in the educational experiences that occur during the learning tenure. So, another convenient move is to understand Higher Education Buoyancy through the lens of Academic Buoyancy, which is defined as the pupils' ability to endure academic stress and pressure in everyday classroom settings. Thus, Higher Education Buoyancy is conceptually illustrated as “the competency to effectively navigate and transcend obstacles and setbacks commonly encountered in the academic realm and the institutional environment where the learning individual exists”.

Higher Education Buoyancy entails a perceived sense of adaptability, academic hardiness, and complex coping strategies to attain competence in scholastic endeavours. Martin (2010) has provided evidence to support the hypothesis that buoyancy is an adaptive concept. It has been projected that buoyancy is positively associated with adaptive factors such as engagement and perseverance. The predominant theoretical frameworks on resilience and risk highlight a strongly intertwined relationship between these two components, emphasising a dynamic process. According to prominent theoretical frameworks, it is posited that humans possess the capacity to transition from a state of vulnerability to one of resilience. In the study conducted by Morales (2000), a resilience cycle was put forth, which encompasses the identification and mitigation of risks, along with the acquisition of knowledge on how to address them effectively. According to Abdollahi, Abu Talib, Yaacob, and Ismail (2015), empirical evidence suggests that there is a growing prevalence of stress and sentiments of pessimism among students in higher education. Psychological hardiness serves as an individual's private asset in the context of job advancement. The aforementioned situation can significantly influence an individual's career advancement and readiness to transition into the professional realms that start from the boundaries of higher learning today. Academic

hardiness has been identified as an individual characteristic that contributes to the process of professional growth (Abdollahi & Noltemeyer, 2018; Haghghi & Gerber, 2019). Academic hardiness represents a construct encompassing a person's attitudes and beliefs, enabling them to effectively engage with the external environment and transform adverse conditions into favourable prospects (Maddi, 1999, 2002; Maddi et al., 2012). In the higher educational context, it refers to the capacity to effectively adjust and creatively address the challenges associated with pursuing a higher learning process in the contemporary era, characterised by a volatile, unpredictable, and constantly evolving job market (Wilkins-Yel et al., 2018).

In a study conducted by Westman (1990), the focus was on examining the relationship between hardiness and academic achievement among male and female individuals enrolling at the University of Military Officers. The findings indicated a positive correlation, suggesting that those with higher levels of hardiness tend to exhibit higher levels of academic achievement. In a study conducted by Patton and Goldenberg (2007), it was discovered that the academic achievement of nursing students might be influenced by factors such as anxiety and psychological hardiness. The study conducted by Shaunessy, (1992) revealed a significant correlation between hardiness and academic ability. One of the notable variations among individuals is their cognitive styles, which have been identified as the second independent variable in the current research investigation. In a study conducted by Bernando, Zhang and Callueng (2002), the investigation focused on examining thinking styles and their correlation with academic accomplishment among a sample of 429 Filipino students. The findings of the study revealed a favourable association between thinking styles and academic achievement.

There is an identification of a parameter which makes a distinction between stress and psychological hardiness. Singh (2016) showed that there existed gender differences among school adolescents with regards to their levels of stress and psychological resilience. The study also found that there exists a negative link between. The findings of this study are consistent with those of Sharma and Tankha (2015), who observed that female students in urban areas obtained greater scores in hardiness compared to their male counterparts in both rural and urban schools within the Jaipur District of India. While certain studies have primarily focused on examining gender differences in psychological hardiness, others have predominantly explored the various dimensions of

this construct. For instance, Spiridon and Karagiannopoulou (2012) conducted qualitative research to investigate the potential domains of academic hardiness, including its constituent elements such as commitment, control, and challenge. The findings of this study indicate that academic hardiness comprises three primary domains: commitment, control, and challenge. These domains play a crucial role in equipping students with the resilience necessary to effectively navigate challenges within the educational environment.

Numerous prior studies have been conducted on the subject of career decision-making self-efficacy. The focus of their study revolved around the assessment of career decision-making self-efficacy domains and the exploration of its relationship with many other factors. Ziebell and Louise (2010) made predictions on the relationships between several elements, including individual characteristics, ecological factors, career advancement, and career decision, which makes self-efficacy, occupational result expectancies, and practical work choice goals among a sample of inner-city students in grades 10 to 12. The findings of the study revealed a strong link between job decision-making self-efficacy and occupational results expectations with employment choice goals. There was a lack of significant gender differences observed in career decision-making self-efficacy. The findings of this study differ from those reported by Tien, Wang & Liu (2009), who found that male students at Taiwan High School exhibited higher levels of self-efficacy in realistic domains compared to their female counterparts. Conversely, the female students showed higher levels of self-efficacy in artistic domains compared to the male students.

2.3.4 Academic Transferability

Among the various topics garnering significant interest in higher learning in the current learner evaluation procedures, some topics have emerged. The vital aspect is the transition towards evaluating students' transferable personal competencies in addition to their academic knowledge pertaining to their chosen field of study. Competencies can be conceptualised as a component of human assets that is not inherent but rather obtained from formal learning, training, and practical experience. Competencies are intricately connected to job activities, as the successful execution of specific job responsibilities necessitates the possession and use of requisite abilities. Yet, it is often observed that

competencies tend to have a broader scope compared to functions. For instance, proficiency in mathematics equips an individual with the ability to undertake many computing and logical jobs.

Similarly, healthcare abilities can be utilised across a multitude of job-related duties pertaining to human well-being. In this context, it is common for competencies to possess transferability, enabling an individual to execute activities across many occupations. This may be due to the occurrence of comparable duties in other jobs or the possession of a set of abilities that enables the performance of diverse tasks.

Research undertaken in the field of higher learning in the United Kingdom has demonstrated that the UK Enterprise In Higher Education (EHE) project has had a significant impact on the way tutors engage with and convey knowledge to students (Brown & Knight, 1994). Furthermore, educators are increasingly acknowledging the value of imparting a curriculum that emphasises both competence development and academic accomplishments. Boud and Lublin (1983) define academic transferability as “a crucial educational procedure wherein pupils develop the capacity to objectively evaluate their personal achievements and effectively regulate their own educational progress”. Based on these definitions, academic transferability can be operationally understood as “the competency to transmit knowledge, learning processes, and abilities developed in lower academic levels like secondary education to advanced academic levels such as undergraduate studies and beyond”. Academic Transferability encompasses knowledge transfer, learning process transfer, and skills transfer both in and outside the classroom.

Within the domains of academic transferability, knowledge transfer pertains to the use of employing an existing issue as a means to address an original challenge that shares an analogous framework. (Babadimas, Boras, Rendoulis, Welsh and Begg). The learning transferability from training refers to the successful and ongoing utilisation, by individuals undergoing preparation, of the expertise and abilities acquired during the training process, both within and outside of their work environment. The concept of transferability involves simultaneously the preservation of underlying activity and its extension to novel contexts. The concept of transfer of learning mostly pertains to the realm of adult education, vocational or professional training, and workplace education.

It encompasses the extent to which individuals can successfully utilise the knowledge, abilities, and attitudes acquired inside an educational setting in their actual job environment.

Transfer of training is a phenomenon that has been conceptualised and described by scholars and writers. It refers to the impact that acquiring knowledge or skills in certain disciplines in higher learning has on an individual's performance in professional contexts later. The concept of skill transferability pertains to the skill needs that are sought after in various employment positions. The transfer of graduate skills and knowledge from the university to the workplace has received relatively little attention, as evidenced by the scarcity of relevant studies (Ettington & Camp, 2002; Leberman et al., 2006). It seems that the concept of skill transfer is either taken for granted by the stakeholders involved in undergraduate education (Leveson, 2000) or educators have delegated this complex aspect of learning theory Hakel M. & D. Halpern., (2005) to the metaphorical 'too hard basket'. The lack of interest in graduate transfer is unexpected, considering the current emphasis on graduate employability and the industry's expectations for immediate performance in many industries and organisational contexts.

Prominent models about graduate employability, such as the ones proposed by Dacre Pool and Sewell (2007) and Yorke and Knight (Yorke & Knight, 2004), primarily emphasise the cultivation of specific non-technical skills, sometimes referred to as employability skills, in order to enhance graduates' preparation for the workforce. Efforts to enhance skill development in higher education mostly revolve around integrating skill outputs into fundamental curricula and enhancing opportunities for service and work-integrated learning (WIL). While there may be a political aspect to the skills strategy in higher education (Young, 2009), and some educators may oppose it (Pegg et al., 2012), it is steadily gaining traction due to the demand from industries for graduates who possess not only disciplinary expertise but also a wide range of skills and knowledge.

Knowledge transfer involves transmitting knowledge from individuals or entities possessing knowledge to those who receive it (Zapata Cantú et al., 2009). This process entails the identification of readily available knowledge and its use in the development of initiatives that provide the beneficiaries with a competitive edge (Fong Boh et al., 2013). The recipients should possess a comprehensive understanding of the knowledge

that is being transferred (Graham et al., 2006; Nevo & Wand, 2005), and it should be relevant to their specific needs (Trott et al., 1995). Upon the culmination of the Knowledge Transfer process, individuals who receive the knowledge should possess an enhanced capacity to effectively utilise the knowledge that has been shared by the originating entity (Lepik & Krigul, 2016; Wu & Lee, 2015).

The process of Knowledge Transfer should ideally be a closed-loop transfer of knowledge between Higher Education Institutions (HEIs) and society (Nigel et al., 2009). This is done in order to strengthen the connection between research and training, as emphasised by Dilanthi and Sepani (2009). The user's text does not provide any information to rewrite academically. The activities of Knowledge Transfer comprise the diffusion of knowledge across companies (Carlile & Reberich, 2003). These activities involve a wide range of endeavours that encourage collaborative efforts between Higher Education Institutions (HEIs), corporations, and the public sector, with the aim of achieving mutual benefits.

2.3.5 Entrepreneurship Activity Based Learning (EABL)

Entrepreneurship is widely seen as a significant catalyst and a driving force in a nation's economy, as it plays a pivotal role in generating employment opportunities. Consequently, it is imperative for students to undergo a shift in their thinking in order to embrace self-employment as a viable career path as a by-product of higher learning. Therefore, it is imperative to amalgamate the various elements that influence the entrepreneurial mindset among learners in higher education. The significance of entrepreneurship in national economies lies in its capacity to generate employment opportunities, foster inventiveness, and enhance competitive edge within the labour force (Barba-Sánchez et al., 2022). To provide a comprehensive definition of entrepreneurship, it is necessary to adopt an inductive approach that focuses on the actions and behaviours exhibited by those involved in entrepreneurial activities. The other method involves presenting a pre-established concept of entrepreneurship and its associated behaviours, consequently categorising individuals as entrepreneurs based on their involvement in entrepreneurial activities.

The concept of entrepreneurship originates from the French phrase "entreprendre" and the German term "unternehmen," which are both representatives of the "act of

undertaking" (Cunningham & Lischeron, 1991). During the early 18th century, Cantillon provided a description of an entrepreneur "as an individual who assumes the dangers associated with purchasing goods at known costs and afterwards selling them at values that are unpredictable". The definition proposed by Jean Baptiste Say was further expanded to encompass the notion of integrating numerous aspects of production. Say highlighted the importance of the entrepreneur possessing distinct personal attributes (Cole, 1946; Stevenson & Jarillo, 1990).

The notion of entrepreneurship in contemporary discourse was initially proposed by Schumpeter (1934), who provided a definition that posits individuals as entrepreneurs solely if they "...actively engage in novel configurations and relinquish this designation once they have established an organisation and assume a managerial role similar to the position of another enterprise operators....". The definition provided by Schumpeter encompasses some crucial aspects that differentiate entrepreneurship from other employment strategies. At its core, entrepreneurship entails the establishment of an organisation intending to pursue a disruptive potential. Furthermore, Schumpeter's perspective extended beyond the realm of nascent businesses, as he recognised the presence of entrepreneurship inside pre-existing organisations. Schumpeter made an indirect reference to the notion that an individual assumes the role of an entrepreneur through their actions.

Entrepreneurship is ultimately characterised by the specific acts undertaken, and a shift takes place at a certain juncture when the corporation's structure and the individual's actions evolve, leading to a shift into managerial roles. Prince, Chapman, and Cassey (2019) gave a fundamentally functional framework to define entrepreneurship as 'the act of generating and developing an idea for validation' that is correlated to economic growth. Also, in contemporary discourse, there has been a growing recognition that entrepreneurship encompasses not only the act of starting and managing a business but also a distinct mindset and set of behaviours (Leitch et al., 2012; Mustar, 2009). According to Fayolle, Gailly, and Lassas-Clerc (2006), when considering a broader perspective on entrepreneurship, it appears evident that it encompasses both an attitude and a set of abilities. Consequently, entrepreneurship learning refers to "any educational programme or activity that aims to cultivate entrepreneur mindsets and competencies". Deducing from these definitions, Entrepreneurship Activity Based Learning is

operationally defined as the ‘competency to incline towards promote beneficial outcomes by providing services and goods that address societal concerns.’

Definitional cohesiveness is achieved by intentionally incorporating an intricate framework. The paradigm created by Audretsch et al. (2015) revolves around three prevalent definitional themes that are identified as: organizational position, entrepreneurial ventures, and organizational or personal achievement. This framework acknowledges the intricate nature of diverse entrepreneurial viewpoints while offering valuable guidance for analysis. Pittaway and Cope (2007) undertook a comprehensive investigation and thematic examination of entrepreneurship learning research spanning the years 1980 to 2004. Narrative coding was employed to discern the inconsistencies present in the domain of the delineation of entrepreneurship education, so emphasising the necessity for the discipline to embrace a unified vocabulary. Another significant discovery was the lack of clarity regarding the success of entrepreneurship education, which was anticipated due to the absence of a commonly agreed-upon terminology. In their recent study, Nabi et al. (2017) did a methodical investigation from 2004 to 2016. They employed an instructional framework to investigate the correlation between instructional techniques and entrepreneurial outcomes. The study critically assessed the methodological merits prevalent in the area and arrived at the conclusion that a significant number of research primarily rely on short-term and subjective outcome measures. Based on such empirical strength, Entrepreneurial Activities Based Learning is bifurcated into three sub-dimensions: socio-transformative mindset, social entrepreneurial behaviour and superior service delivery.

2.4 Research Gap

The literature review offered demonstrates the existence of research studies that have been undertaken on educational attainment and socio-emotional competencies. Numerous international research studies have placed significant emphasis on the role of higher education in cultivating employability competencies, sometimes adopting a mechanistic approach. There is a notable scarcity of scholarly literature pertaining to the cultivation of preparedness for post-secondary education among students in the secondary grades. Hence, the survey of the literature proves serious crevices at many ends.

The major objective of education is to equip the young learning generation in the nation with pertinent knowledge that can enhance their competencies in response to evolving circumstances. When examining the literature for this primary objective, it is evident that complete educational research on formal institutional education and education systems is based on various fragments. It is imperative to synchronise the entire educational system as a comprehensive and integrated framework that facilitates the holistic development of students rather than in disjointed stages. The implementation of career counselling for secondary students primarily focuses on addressing academic performance concerns while mainly neglecting the promotion of higher-level learning orientations. Given the inclusion of holistic learning within the cumulative learning process, it becomes imperative to provide a comprehensive framework that seamlessly links secondary school with higher education within the educational ecosystem system.

There is a pressing need within the educational system to establish a clear and universally accepted 'definition of educational success' in the context of learning endeavours worldwide. Incorporating new measurement indices inside the Human Development Index (HDI) has resulted in a notable transformation in the emphasis placed on the assessment of meaningful education. Specifically, this movement has moved the focus from prioritising 'equity' to emphasising 'quality', hence highlighting the significance of educational excellence rather than solely the accessibility of educational assets.

The paradigm shift has significantly transformed the understanding of education as outlined in the Sustainable Developmental Goal (SDG 4.0) worldwide since it appears to be geared towards preparing individuals for a globally competitive labour market. However, upon reviewing education policies, it becomes evident that the inspiration from 'No Child Left Behind' policy of the Western education System in terms of 'No Detention' policy up to 8th grade under the Right to Education Act (RTE) in India has led key stakeholders to believe that the primary focus of government initiatives ought to be on maximising student enrolment in elementary education, rather than prioritising the success of students in secondary education, which builds upon the foundational learning acquired during the primary years. Therefore, the studies mentioned above appear inadequate in their ability to provide insights into the comprehension of 'practically applicable' secondary knowledge that can be valued for its utilitarian value both within

and beyond the confines of the educational setting. The prevailing instructional system necessitates a comprehensive focus on practical competencies in the current educational landscape. These competencies are designed to equip students with the necessary abilities to enhance the quality of results in government schools at both district and state levels.

The New Education Policy (2020) places significant emphasis on the importance of providing education that is not just geared towards enhancing employability following secondary education but also towards fostering beneficial skills and knowledge that contribute to a high quality of life beyond the schooling years. Through the execution of this policy, students assume a central role within a transformative learning system, where the responsibility for acquiring a high-quality education rest with the student, with the aim of fostering useful learning and enhancing future employability outcomes for sustainable development. In relation to this matter, the existing academic literature on the formulation of academic goals in students was also consulted. It was discovered that there were significant variations in the comprehension of the skills and knowledge that students need to develop their individual preferences when selecting their educational trajectory as a component of high-quality education. The existing research in the field has emphasised chiefly abilities beyond academics, although it fails to address the question of how to systematically incorporate higher learning competencies into pedagogical frameworks.

Furthermore, certain studies have focused exclusively on Youth Mentoring Programmes, which could fail to address the efficacy of these programs in adequately preparing students for advanced educational pursuits. Moreover, the available literature indicates that the frameworks designed for the readiness instillation solely narrow down to the theoretical acquisition of the knowledge disseminated in the higher learning institutions. There is a dearth of evidential knowledge on an ‘array of competencies’ that promises to build the confidence of thriving in Higher Education Institutes (HEIs), which are broader institutions with a wide scope of knowledge and social diversity of the student population comprehensive academic learning competencies along with the competencies to that can enable students to obtain lucrative and sustainable employment opportunities and practically initiate positive societal transformations.

This study aims to investigate the factors associated with increased educational preparation. This would foster an examination of the various aspects that can promote

the acquisition of socio-emotional competencies to enhance educational attainment and subsequent higher learning that is necessitated by the career prospects available in the global markets today.

Thus, the study has the potential to comprehend the way highly educated and skilled younger generation contribute towards lifelong learning abilities to fulfil the current global needs. With this the study to address the existing gap in understanding the key elements that contribute to the development of preparation for higher education within the domains of socio-emotional competencies and educational attainment.

Chapter 3

METHODOLOGY

This chapter presents a comprehensive research framework and justifies the methodology framework adopted for the current study. The research study explores higher education readiness, socio-emotional competencies, and educational attainment at the secondary school level to ensure adequate student learning and quality education for better transitioning to higher education. It is centrally based on the techniques of the research used in the study, the proposed research design for the objectives, the designing of the targeted sample and population, the tools required for data collection, the methods of data collection, the layout for a pilot study before commencing the full-fledged test and the analytical procedures.

The entire chapter consists of eight sections. The first section comprises the method followed, details and justification of the usage of mixed methods research design, and details of the method along with its scientific explanation. The second section demonstrates the details of the sources of data collection. The third section comprises the sampling procedure and the techniques to design a non-ambiguous targeted sample from the available population. The fourth section explains the tools used for data collection and details about the quantitative test, questionnaires for the secondary level student sample, and details of the qualitative data collection tools. The fifth section includes the dimensions constructed for measuring socio-emotional competencies and higher education readiness in secondary-level students and the operational definitions of the variables used in the study. The sixth section highlights the reliability and validity scores of the constructed tools and the factor extraction process through Exploratory Factor Analysis undertaken in the study. The seventh section provides the entire test and data-gathering process. The eighth section follows the brief overview of the data analysis presented in the next chapter.

3.1 Method Used

The research employed qualitative and quantitative methods as it aimed to analyse how student characteristics affect educational attainment, socio-emotional competencies, and higher education readiness in both regions at the secondary level. It also centralises

on measuring the impact of socio-emotional competencies on the higher education readiness of the students at the secondary level.

A mixed method approach was used to achieve the research objectives, the study used a combination of quantitative and qualitative test. According to Halcomb & Hickman (2015) and Almeida (2018), this method improves the reliability and validity of study findings and is excellent for gathering various but complementary data on the same subject. Combining quantitative and qualitative data in educational research aims to take advantage of each technique's advantages while also making up for the others' shortcomings (Dawadi et al., 2021; Sahin & Ozturk, 2019). This is the most popular mixed-methods approach and has been extensively explored in the literature (Kelle et al., 2019; Farquhar et al., 2020), leads to richness and clarity in research investigations (Turner et al., 2017). The information was gathered in a single-step process using both quantitative and qualitative methods to support it (Almeida, 2018; Alexander, 2020). The study used complementary datasets to measure a similar phenomenon; findings were subsequently combined and evaluated.

3.2 Sources of Data

The study comprises the use of primary data and secondary data for the objectives undertaken. The research relied heavily on the Educational Attainment Test as its primary data source, which was meticulously collected and modified to suit the study's objectives. The other two scales, namely, the Socio-Emotional Competencies Scale and the Higher Education Readiness Scale, were duly constructed by the researcher with inspirations from various frameworks and available tools in the reviewed literature. Students were provided with a combined set of these three tests near the completion of their secondary studies. The investigator's qualitative data includes semi-structured interviews with students, teachers, and available parents on the day of the field investigation. Moreover, an examination of policy documents that addressed the significance of education, the development of competencies, and the preparation of students for higher education were conducted, with their recommendations being analysed. To assess student's readiness for higher education and socio-emotional competencies, it is necessary to establish the appropriate dimensions for the variables.

3.3 Population and Sample

The primary data for the research investigation was gathered from Uttar Pradesh's government senior secondary schools. The overall literacy rate in Uttar Pradesh is 67.68%, lower than the national average of 74.04%, per the 2011 census. With an increase in enrolment, improved availability of educational institutions, and a better teacher-student population ratio, the state has achieved significant strides over the last ten years. The study also uses some data from the combination of a Secondary Education Management Information System (SEMIS) called the Unified District Information System for Education (U-DISE+), which is an extensive and improvised database where information regarding the student enrolment rates, dropout rates, statistics on equitable resource distribution within the school, teacher availability and shortage, and other such information of the government schools of India can be tracked.

The UDISE+ (2021-22) data shows that Uttar Pradesh is a densely populated state that currently caters to approximately 2,58,054 total schools with the Net Enrolment Ratio (NER) of 4,71,81,438 students, which is the highest in terms of availability of formal learning institutions than rest of the states. A large number of 1,90,56,651 students continue to avail education in government institutions. However, the secondary schooling systems need more infrastructure and considerable discrepancies in the learning quality compared to the national average (NAS, 2021).

The population of the study includes the UDISE+ (2021-2022) data reflecting approximately 1,37,024 public schools in Uttar Pradesh, the highest number of government schools across India. Of these 2, 686 secondary inclusive schools provide secondary-level education to 6,31,206 adolescent students. The state is made up of 75 districts organised into 18 divisions for administrative purposes. The literacy rate of each district can be analysed through the Population Census 2011. These districts were arranged in their respective divisions to comprehend their cumulative performance. It is demonstrated in Table 5, representing the literacy rate of every division.

Table 5: Division-wise representation of the literacy rates of the districts

| Division | Literacy Rate |
|-----------------|---|
| Agra | Agra (71.58), Firozabad (71.92), Mathura (70.36%) |
| Aligarh | Aligarh (67.52%), Etah (70.81%), Hathras (71.59%), Kasganj (61.02%) |
| Ayodhya | Ambedkar Nagar (72.23%), Amethi (59.41%), Ayodhya (68.73%), Barabanki (61.75%), Sultanpur (69.27) |
| Azamgarh | Azamgarh (70.93%), Ballia (70.94%), Mau (73.09%) |
| Bareilly | Badaun (51.29%), Bareilly (58.49%), Pilibhit (61.47%), Shahjahanpur (59.54%) |
| Basti | Basti (67.22%), Sant Kabir Nagar (66.72%), Siddharthnagar (59.25%) |
| Chitrakoot | Banda (66.67%), Chitrakoot (65.05%), Hamirpur (68.77%), Mahoba (65.27%) |
| Devipatan | Bahraich (49.36%), Shravasti (46.74%), Balrampur (49.51%), Gonda (58.71%) |
| Gorakhpur | Deoria (71.13%), Gorakhpur (70.83%), Kushinagar (65.25%), Maharajganj (62.76%) |
| Jhansi | Jalaun (73.75%), Jhansi (75.05%), Lalitpur (63.52%) |
| Kanpur | Kanpur Nagar (79.65%), Auraiya (78.95%), Etawah (78.41%), Farrukhabad (69.04%), Kannauj (72.70%), Kanpur Dehat (75.78%) |
| Lucknow | Hardoi (64.57%), Lakhimpur Kheri (60.56%), Lucknow (77.29%), Raebareli (67.25%), Sitapur (61.12%), Unnao (66.37%) |
| Meerut | Gautam Buddha Nagar (80.12%), Bagpat (72.01%), Bulandshahar (68.88%), Ghaziabad (78.07%), Meerut (72.84%) |
| Mirzapur | Mirzapur (68.48%), Sant Ravidas Nagar (68.97%), Sonbhadra (64.03%) |
| Moradabad | Amroha (63.84%), Bijnor (68.48%), Moradabad (56.77%), Rampur (53.34%), Sambhal (55%) |
| Prayagraj | Fatehpur (67.43%), Kaushambi (61.28%), Pratapgarh (70.09%), Prayagraj (72.32%) |
| Saharanpur | Muzaffarnagar (69.12%), Saharanpur (70.49%), Shamli (81.97%) |
| Varanasi | Chandauli (71.48%), Ghazipur (71.78%), Jaunpur (71.55%), Varanasi (75.60%) |

Based on this observation, the top two divisions with high literacy are- Kanpur and Meerut and, the divisions with lower literacy are Bareilly and Devipatan. The study used a random sampling method to select one division each. Thus, Kanpur and Devipatan divisions were selected to represent the areas of high and low literacy. Then, by the random sampling method, two districts with maximum literacy rates from Kanpur division- Kanpur Nagar (79.65%) and Auraiya (78.95%) were selected. Two districts in the Devipatan division, Bahraich (49.36%) and Shravasti (46.74%), were observed to have the lowest literacy rates. Subsequently, random sampling (lottery method) was employed to select one district, each with high and low literacy, from the chosen divisions. Accordingly, Kanpur Nagar district was selected because of its high academic performance and transition percentage compared to the rest of the districts. Bahraich district was chosen because of consistent problems in the educational output and achievement of better secondary learning population transition rates. The research study population includes the students from the government senior secondary schools of Kanpur and Bahraich districts of Uttar Pradesh for comparative analysis.

Sampling Technique

The study examined how socio-emotional competencies and educational attainment work together to assist students in higher education readiness. The study comparatively analyses several demographics between Kanpur and Bahraich, two districts in Uttar Pradesh. The sample design was developed based on the recent district report card. The selection process involved using purposive sampling to identify an urban and a rural block from two districts.

A comprehensive study was conducted on eight schools with equal representation from urban and rural schools, randomly selecting four schools from each district. The chosen schools were then evenly distributed, with two schools from urban block and two from the rural block of Bahraich district. Similarly, the four schools in Kanpur district were located. In the 11th and 12th grades, a total of 682 pupils in Kanpur and 714 in Bahraich were identified from these eight schools. Using Yamane formula, where the population size was determined at 5% precision (e) levels to choose the learner's sample size. The equation

$$n = \frac{N}{1 + Ne^2}$$

where n = sample size, e = margin error, N = target population.

The sample size is calculated at the sampling error of 0.05. According to the formula used to calculate the sample size, the representative population must consist of 256 pupils from the Bahraich district and 252 students from Kanpur. The study investigated the requirements for choosing the population size through the statistical standpoint (Inferential statistics) and factor analysis to compute the sample size.

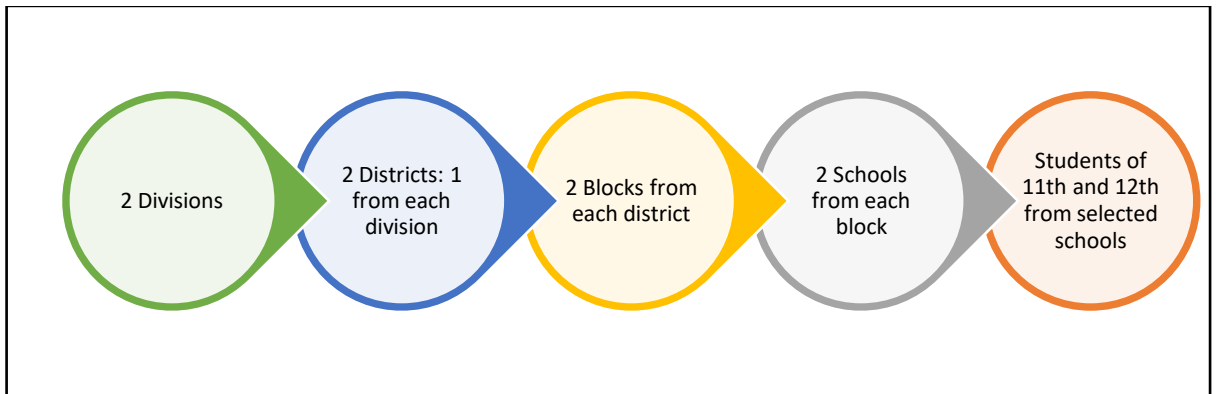


Figure 11: Diagram of the sampling technique

The method of choosing the sample group for the study is depicted as shown in Figure 11. For confirmatory factor analysis, Kline (2013) thought a sample size of 300 was sufficient, although Goretzko, Pham, and Buhner (2021) asserted that 300 was a decent sample size, 500 was beneficial, and 1000 was significant. Thus, the study included five hundred pupils; 250 were from Kanpur and 250 from the Bahraich district.

3.4 Tools for Data Collection

The Educational Attainment Test (Appendix A), the Socio-Emotional Competency Scale (Appendix B), and the Higher Education Readiness Scale (Appendix C) were developed as three types of assessments for the objective of gathering data. Qualitative metrics for conducting semi-structured interviews were also developed to support quantitative data. This verification solely pertained to triangulating the acquired data regarding the significance of the high education readiness and relevant difficulties in its acquisition. The questionnaire was formed into a question booklet, which consisted of an initial page of informed consent, followed by a part to enter the demographic details

inclusive of- name, age, gender, grade of the student, spatial location, socio-economic status, favourite subject, aspiration after the completion of secondary studies and perceived willingness to pursue higher education after 12th.

3.4.1 Educational Attainment Test

The PIAAC framework was adapted to assess the level of academic retention, enabling the estimation of real-world scientific and mathematical competencies necessary in the subsequent stages throughout life in the students anticipated to transition from secondary schooling to further learning phase (Kirsch et al., 2020). The investigation was highly inspired by measurement dimensions of the PIAAC framework, specifically the Numeracy and Literacy Test, which the Organisation designed for Economic Co-operation and Development (OECD). This framework evaluated educational attainment within scientific subjects like Science and Mathematics. This study focuses specifically on assessing numeracy, scientific literacy, and comprehension within the context of educational attainment.

The Educational Attainment Test included sections A and B. Section A contained questions assessing numeracy competency, where the maximum scores allotted were 52. In contrast, Section B contained questions assessing scientific literacy competency with the maximum allotted 48 marks. The summation of the scores from both examinations was utilised to measure the students' educational attainment.

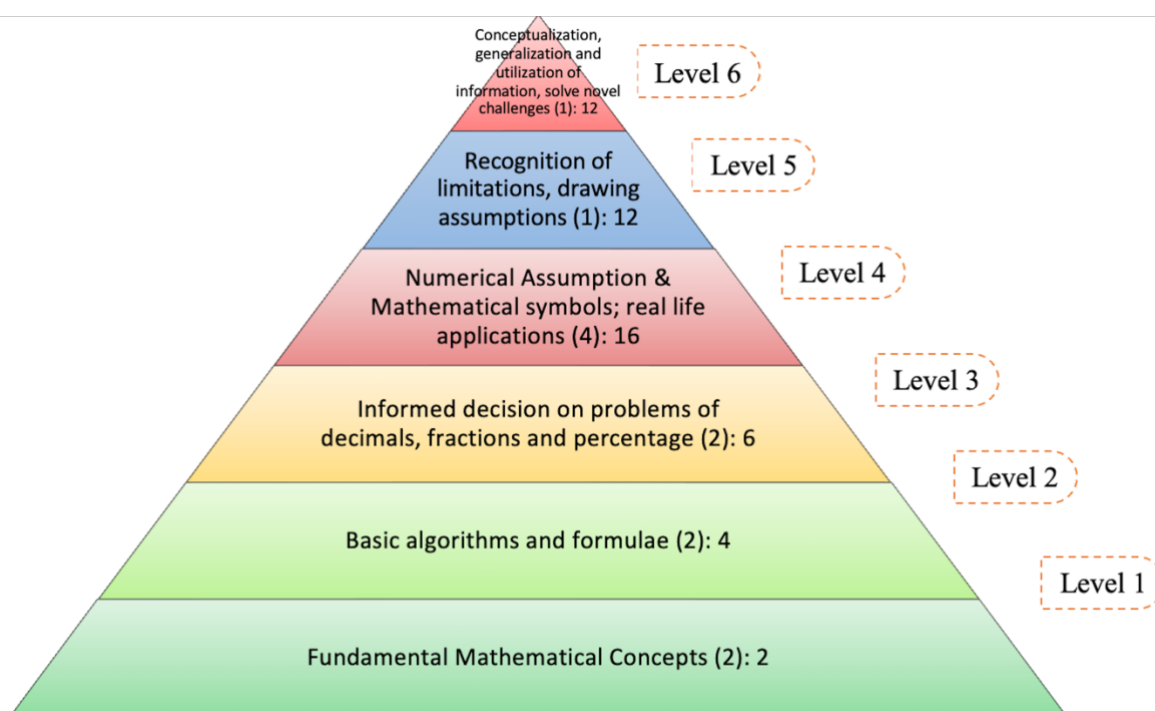
The Educational Attainment test utilised in the data collection was based on the PIAAC Framework of adult skills. It was constructed using questions derived from the PIAAC numeracy, literacy, and reading assessments. The examination was formulated with a stringent timeframe of 45 minutes. The study assessed six reading, comprehension, and problem-solving proficiencies stages by administering an Educational Attainment Test. Every stage comprised inquiries that assessed specific educational proficiencies of the students.

Section A: Numeracy Competency Test

The Numeracy Competency test consisted of an extensive number of problems that were categorised into six levels. The first level of the assessment focused on comprehending fundamental mathematical concepts. The second level involved assessing proficiency in fundamental algorithms and formulas. The third level evaluated

students' competency to formulate informed decisions regarding problems involving decimals, fractions, proportions, and percentages. The fourth level necessitated the application of numerical assumptions and manipulating mathematical symbols in practical circumstances.

Further, the fifth level measured students' competency to recognise limitations, draw assumptions, devise problem-solving approaches, incorporate various representations, and demonstrate existing associations. Lastly, level 6 encompassed the cognitive processes of conceptualisation, generalisation, and application of information to address intricate challenges within unfamiliar contexts. The level-wise allotment of scores for the Numeracy Competency Test is graphically represented in Picture 2.



Picture 2: Level wise representation in the Numeracy Competency Test(Bottom to Top)

Section B: Scientific Literacy Test

The Scientific Literacy test has six stages divided according to their difficulty levels to assess students' proficiency in scientific understanding. The first two stages of minimum difficulty evaluate the ability to differentiate between logically and non-logically presented data and identify simple causal connections. Stages three and four of moderate difficulty examine the competency to grasp scientific concepts and employ critical thinking competencies in familiar scenarios. At the maximum difficulty, stage five measures the competency to analyse sophisticated data, while stage six evaluates the

competency to comprehend extensive material and draw conclusions based on intricate, multi-step causal connections in novel situations. A pictorial figure of the difficulty levels is represented in Figure 13.

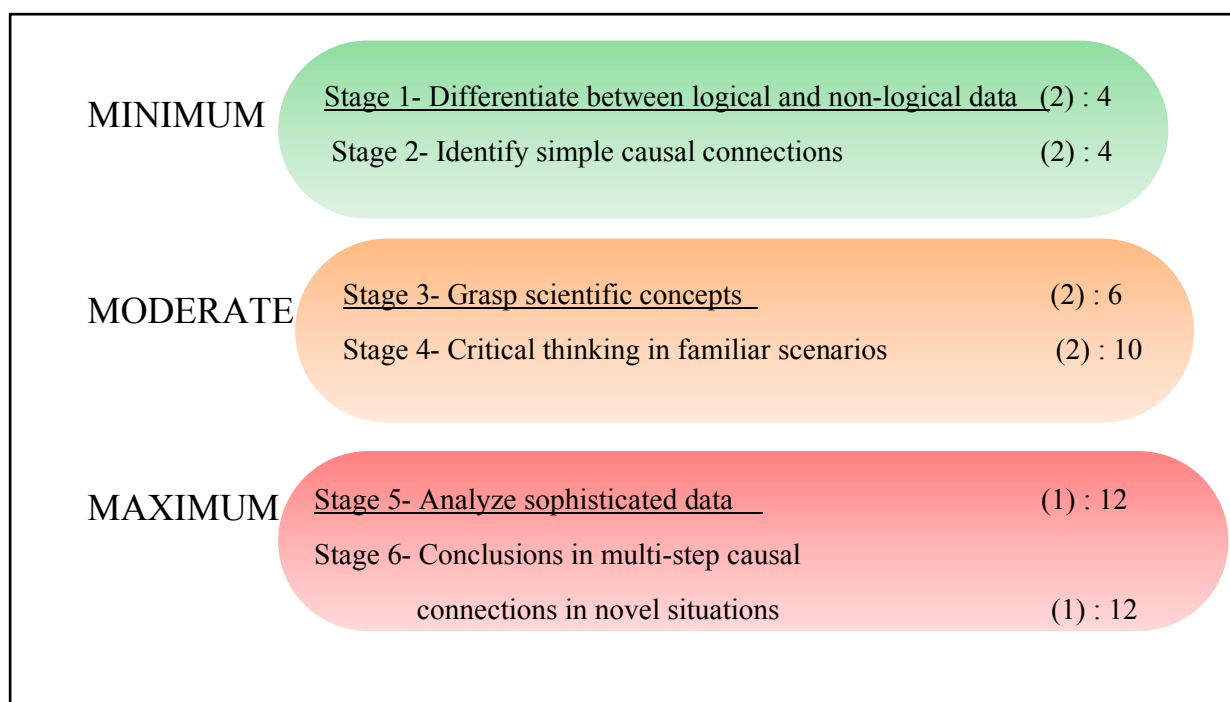


Figure 13: Difficulty Levels

The reliability and validity of the Educational Attainment Scale were assessed by utilising data obtained from the pilot research. The test demonstrated a reliability coefficient of 0.82, indicating a favourable level of reliability. Simultaneously, five educators from secondary schools were approached, and their examination evaluations were solicited. The educators proposed the incorporation of Hindi translations alongside English in the utilised educational attainment test, aiming to enhance comprehension among government school students. The proposed recommendation was successfully executed, resulting in the incorporation of tools accompanied by Hindi-translated content.

3.4.2 Socio-Emotional Competency Scale

The present study employed a Socio-Emotional Competency Scale to assess six distinct dimensions. The development of the Socio-Emotional Competency scale was shaped by a comprehensive study of existing literature about various assessment scales of student competencies, social and emotional learning, and the academic sustainability skills necessary in contemporary times. Each dimension consisted of four components

except the Proactive Leadership dimension, which comprised of 3 components. The items within each component were representative of the sub-dimensions derived from existing scales and questionnaires found in the research literature, which assess the diverse competencies necessary for pupils beyond their academic competencies.

Socio-emotional competencies are Innovative Expression, Academic Perseverance, Proactive Leadership, Sustainable Engagement, Academic Mastery, and Academic ICT Competence. The Innovative Expression encompasses a variety of components, including innovative ideation process, proactive exploration for innovative cues, and verification of the practicality of ideas. Academic perseverance entails the persistent pursuit of educational aims and the ability to surmount obstacles to attain competence in scholastic endeavours. Proactive leadership encompasses interpersonal aptitude in and outside the classroom and the capacity to initiate action in addressing societal concerns. Sustainability engagement is bifurcated into two sub-dimensions: environmental responsibility and a sustainable development mindset. The demonstration of academic proficiency is evident through the sub-dimensions, including the capacity to prioritise assignments based on their significance, employ appropriate time management strategies, and establish goal-oriented behaviours to evaluate self-efficacy. The assessment of Academic ICT Competence encompasses various aspects, such as evaluating one's skill in using computers for information-related educational purposes, recognising the significance of modern technology as a learning resource, and employing the Internet for activities that extend in addition to the scope of schoolwork. The items of these dimensions are evaluated using a Likert scale with 5= Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, and 1= Strongly Disagree. There were no reverse marks. The allocated time frame for this assessment was 20 minutes.

3.4.3 Higher Education Readiness Scale

The study used a self-constructed scale to measure Higher Education Readiness Scale, comprising of five separate dimensions. These dimensions were Professional Aspirations, Higher Education Buoyancy, Academic Transferability, Entrepreneurial Activities Learning (EABL) and Higher Academic Efficiency Practices (HAEP). The creation of the Higher Education Readiness scale was influenced by an extensive examination of relevant scholarly literature on a range of rating scales related to student readiness competencies, models of lifelong learning, and frameworks for ensuring

sustainable employment in modern society. Due to the lack of a standardised tool for measuring Higher Education Readiness at the secondary level, as well as the presence of tools that majorly assess the readiness of college-entering students and those with completion of the first year at the undergraduate level, this scale is constructed with the inspiration drawn from Student Readiness Survey of Augustana University to liaison between the transition period from secondary level to post-secondary level.

The Professional Aspirations encompass a variety of components, including academic interest, academic choice towards the specific subject, and career orientation towards the financial practicality of the selected profession. Higher Education Buoyancy entails a perceived sense of adaptability, academic hardiness and complex coping strategies to attain competence in scholastic endeavours. Academic Transferability encompasses knowledge transfer, learning process transfer, and skills transfer both in and outside the classroom. Entrepreneurship Activity Based Learning is bifurcated into three sub-dimensions: socio-transformative mindset, social entrepreneurial behaviour and superior service delivery. The demonstration of Higher Academic Efficiency Practices is evident through the sub-dimensions inclusive of the higher sustainable innovation, proportionate time optimisation and communicational and expressive efficacy.

The total HER Scale consisted of 34 questions, and the items of these dimensions are evaluated using a Likert scale with 5=Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, 1= Strongly Disagree. Reverse marking items were 5 that were distributed evenly under each dimension, scoring 1= Strongly Agree, 2= Agree, 3= Not Sure (Neutral), 4= Disagree, and 5= Strongly Disagree. The allocated time frame for this assessment was 20 minutes.

3.4.4 Interview Schedules

A semi-structured interview schedule was developed for qualitative data collection to enrich the obtained data by including the prevalent perspectives, attitudes and beliefs about higher education readiness in the transitioning students. The objective of these interviews was to facilitate a comprehensive examination of the students' perspectives on how the school contributes to their comprehension and development of socio-emotional competencies by conducting interviews with students at secondary schools. The interview also explores the student's perspectives on the factors that contribute to their

preparedness for higher learning and the demographic traits that either support or hinder the development of readiness for higher education during secondary schooling.

3.5 Operational Definitions

The operational definitions of the variables are provided below:

➤ **Educational Attainment (EA)** is the extent of proficiency in the numeracy and literacy competencies achieved by the students in terms of objective and measurable attributes applicable in real-world contexts beyond the confines of the formal learning environment.

Educational Attainment is inclusive of the attributes which are operationally defined below:

- **Numeracy Competency** pertains to effectively solving the problems of real-world situations by employing specific mathematical knowledge and mathematically represented ideas.

- **Scientific Literacy Competency** encompasses comprehending, assessing, and actively associating with textual content to cultivate scientific knowledge and employ logical reasoning to decipher real-world occurrences.

➤ **Socio-Emotional Competencies (SEC)** are vital set of skills that are effectively acquired through educational experiences during secondary-level learning towards developing professional engagements and interpersonal connections beyond academic institution engagements.

The operational definitions of the dimensions to create the items are provided below:

- **Innovative Expression (IE)** is the competency to conceptualise and analyse existing learning resources and actively assess and utilise knowledge to validate new ideas in real-life contexts.

- **Academic Perseverance (AP)** is the competency of students to persist, overcome challenges in their pursuit of educational goals, and exert diligent efforts in overcoming hurdles to attain academic pursuits.

- ***Proactive Leadership (PE)*** refers to the competency to motivate a relatively small unit of persons towards a common cause with simultaneous prompts toward transformative actions both within and beyond the educational setting.

- ***Sustainable Engagement (SE)*** is defined as the competency of individuals within a society to possess and exhibit awareness, skills, values, and practices that contribute to the preservation and longevity of a community, consequently mitigating the adverse impact of human activities on the ecosystem.

- ***Academic Mastery (AM)*** is the competency to effectively employ strategies that lead to academic success by prioritising performance duties related to acquiring the subject.

- ***Academic ICT Competence (AICTC)*** refers to the competency for understanding Information and Communication Technologies, acquisition, and application of technological competencies in the context of education, and encompassing the utilisation of technologically accessible devices, communication applications, and internet access to enhance the accessibility of educational content.

➤ **Higher Education Readiness (HER)** level of preparedness for acquiring essential qualities that students of grade 11 and 12 must poses towards advanced learning experiences both within and beyond the classroom settings.

The operational definitions of the dimensions to create the items are provided below:

- ***Professional Aspirations (PA)*** refer to the extent of a preparatory mindset to dispense selective attention to academic choice, career interest and career orientation-related activities to build awareness towards higher learning prospects.

- ***Higher Education Buoyancy (HEB)*** is the competency to effectively navigate and transcend obstacles and setbacks commonly encountered in the academic realm.

- ***Academic Transferability (AT)*** is the competency to transmit knowledge, learning processes, and abilities developed in lower academic levels like secondary education to advanced academic levels such as undergraduate studies and beyond.

- ***Entrepreneurship Activity Based Learning (EABL)*** is the inclination to promote beneficial outcomes by providing services and goods that address societal concerns.

- *Higher Academic Efficiency Practices (HAEP)* are the competencies that facilitate individuals in strategising and implementing the pursuit of goals by demonstrating a desire and intention to adapt to a relatively unfamiliar environment in higher education contexts.

➤ **The Transitional Phase** pertains to the change in their academic journey of a student from grade 11 to grade 12 towards post-secondary education in their career path marked by specific competencies required for learning in a particular time frame.

3.6 Pilot Study

The pilot study was conducted for the constructed scales of socio-emotional competency and higher education readiness. All the research studies embedded with quantitative data recommend using a qualitatively substantial assessment tool to ensure proper data collection (Fajaryati & Akhyar, 2021). Thus, reliability and validity were calculated for both the constructed scales, which is further discussed in the following sections.

To conduct a pilot study, a secondary school from an urban block of Kanpur and a senior secondary school from an urban block of Bahraich district were chosen at random, applying the random sampling technique. The number of students identified in the school of Kanpur district was approximately 63 (50%), with nearly 27 students from 11th and 36 students from 12th grade. Bahraich district had 62 (49.8%) students. Table below represents the characteristics of the student sample analysed in the pilot study.

Table 6: Demographic characteristics of the sample analysed

| District | Frequency | Percent |
|------------------|-----------|---------|
| Kanpur | 62 | 49.2 |
| Bahraich | 63 | 50 |
| Gender | Frequency | Percent |
| Male | 65 | 52 |
| Female | 60 | 48 |
| Class | Frequency | Percent |
| 11 th | 57 | 45.8 |
| 12 th | 68 | 54.7 |

3.6.1 Development of Socio-Emotional Competency (SEC) Scale

The socio-emotional competency scale was prepared through the literature survey of numerous competency models. The dimensions formed were: Innovative Expression, Academic Perseverance, Proactive Leadership, Sustainable Engagement, Academic Mastery, and Academic ICT Competence. The Innovative Expression encompasses a variety of components, including innovative ideation process, proactive exploration for innovative cues, and verification of the practicality of ideas (Item 1, 2, 15, 16). Academic perseverance entails the persistent pursuit of educational aims and the ability to surmount obstacles to attain competence in scholastic endeavours (Item 5, 9, 11, 12). Proactive leadership encompasses interpersonal aptitude in and outside the classroom and the capacity to initiate action in addressing societal concerns (Item 19, 22, 23). Sustainable engagement is bifurcated into two sub-dimensions: environmental responsibility and a sustainable development mindset (Item 4, 13, 14, 18). The demonstration of Academic Mastery is evident through the sub-dimensions, including the capacity to prioritise assignments based on their significance, employ appropriate time management strategies, and establish goal-oriented behaviours to evaluate self-efficacy (Items 3, 6, 7, 8). The assessment of Academic ICT Competence encompasses various aspects, such as evaluating one's skill in using computers for information-related educational purposes, recognising the significance of modern technology as a learning resource, and employing the Internet for activities that extend in addition to the scope of schoolwork (Items 10, 17, 20, 21). The questionnaire consisted of 35 items. Post expert evaluation, the questionnaire consisted of 26 items.

Factor Analysis: Socio-Emotional Competencies Scale

To ascertain the factor reduction of the Socio-Emotional Competency scale, an exploratory factor analysis (EFA) was conducted on the dataset comprising student responses. The statistical method was employed to ascertain the fundamental component framework elucidating the social and emotional development competencies of secondary-level students (Shrestha, 2021).

The Socio-Emotional Competency scale, initially comprising 26 items, underwent Exploratory Factor Analysis (EFA) utilising the Principal Component Analysis (PCA) technique, which was carried out through the application of the varimax (orthogonal) rotation method, which is arguably the most frequently utilised rotation technique

(Jackson, 2005). Table 9 demonstrates the communalities of the items within the SEC scale. The communalities indicate the proportion of variability in every explained component (Yong & Pearce, 2013). The examination focused on the assumptions behind Exploratory Factor Analysis (EFA). Based on the underlying principles of Exploratory Factor Analysis (EFA), determining the factors inside the variable examined in the study is influenced by their proximity to a value of 1 (Shrestha, 2021; Yong & Pearce, 2013). One practical approach for assessing factor analysis is establishing a minimum communality threshold of 0.40.

Table 7: Communalities

| Item No. | Item | Initial | Extraction |
|-----------------|-------------|----------------|-------------------|
| 1 | IE1 | 1.000 | .868 |
| 2 | IE2 | 1.000 | .859 |
| 3 | AM1 | 1.000 | .714 |
| 4 | SE3 | 1.000 | .586 |
| 5 | AP2 | 1.000 | .769 |
| 6 | AM2 | 1.000 | .682 |
| 7 | AM3 | 1.000 | .602 |
| 8 | AM4 | 1.000 | .567 |
| 9 | AP1 | 1.000 | .619 |
| 10 | AICTC1 | 1.000 | .759 |
| 11 | AP3 | 1.000 | .632 |
| 12 | AP4 | 1.000 | .645 |
| 13 | SE1 | 1.000 | .618 |
| 14 | SE2 | 1.000 | .622 |
| 15 | IE3 | 1.000 | .775 |
| 16 | IE4 | 1.000 | .707 |
| 17 | AICTC2 | 1.000 | .640 |
| 18 | SE4 | 1.000 | .683 |
| 19 | PL1 | 1.000 | .512 |
| 20 | AICTC3 | 1.000 | .878 |
| 21 | AICTC4 | 1.000 | .866 |
| 22 | PL2 | 1.000 | .653 |
| 23 | PL3 | 1.000 | .630 |

Table 8: KMO and Bartlett's Test

| | |
|---|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | 0.727 |
| Bartlett's Test of Sphericity Approx. Chi-Square | 1134.036 |
| df | 325 |
| Sig. | .000 |

The Kaiser-Meyer-Olkin (KMO) statistic serves as an additional statistical metric for assessing the appropriateness of data for factor analysis (Lloret et al., 2017). The assessment evaluates the sampling adequacy for each factor within the examined variable. The KMO rating is expected to be from 0 to 1, with a higher value indicating a more robust substantial (Williams et al., 2010). The KMO value for the SEC scale was observed to be 0.72. Also, Bartlett's Test of Sphericity was performed to assess the adequacy of the correlations in the dataset for application to dimension reduction methods such as Principal Component Analysis. The significance value for Bartlett's Test was observed to be 0, which is considered significant ($p < 0.05$) (Shrestha, 2021). The tabulated form of both the observations for the SEC scale is represented in Table 10.

Similarly, the scree plot plays a crucial role in the data reduction process as it ascertains the optimal number of factors to preserve during an exploratory factor analysis (Yong & Pearce, 2013). So, the eigenvalues for the component were observed to be above one during the factor extraction criteria. From the total 26 items, 23 components were thus retained. The scree plot for the Socio-emotional competency factors is shown in Figure 14.

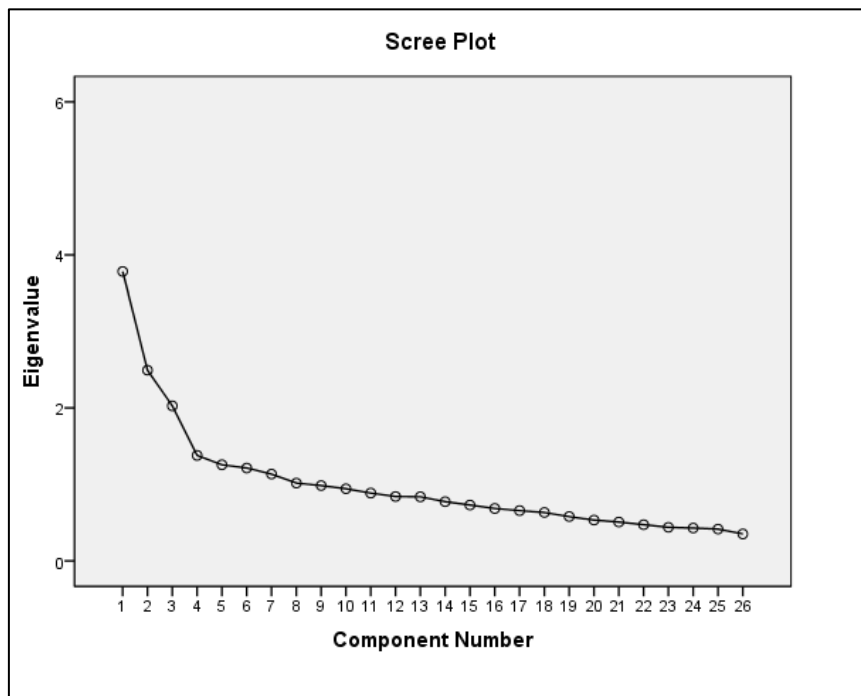


Figure 14: Scree plot for SEC factors

Finally, the components were rotated, and the values for the factors were achieved. The list of the items with their respective values in the rotated component matrix is shown below in Table 11.

Table 9: Factor loadings- Socio-Emotional Competencies

| Rotated Component Matrix | | | | | | |
|--------------------------|------|------|------|---|---|---|
| Component | | | | | | |
| Item | 1 | 2 | 3 | 4 | 5 | 6 |
| IE1 | .647 | | | | | |
| IE2 | .642 | | | | | |
| IE3 | .537 | | | | | |
| IE4 | .682 | | | | | |
| AM1 | | .546 | | | | |
| AM2 | | .521 | | | | |
| AM3 | | .586 | | | | |
| AM4 | | .612 | | | | |
| AP1 | | | .592 | | | |
| AP2 | | | .568 | | | |
| AP3 | | | .544 | | | |

| Rotated Component Matrix | | | | | | |
|--------------------------|---|---|------|------|------|------|
| Component | | | | | | |
| Item | 1 | 2 | 3 | 4 | 5 | 6 |
| AP4 | | | .512 | | | |
| SE1 | | | | .712 | | |
| SE2 | | | | .759 | | |
| SE3 | | | | .680 | | |
| SE4 | | | | .635 | | |
| PL1 | | | | | .511 | |
| PL2 | | | | | .734 | |
| PL3 | | | | | .724 | |
| AICTC1 | | | | | | .609 |
| AICTC2 | | | | | | .731 |
| AICTC3 | | | | | | .773 |
| AICTC4 | | | | | | .679 |

The rotating component matrix table displays the factor-wise loadings for each item. Correlation coefficients above 0.40 were retained. The factor loadings for each item are displayed in Table 11.

Reliability

The reliability of the questionnaire was calculated using employing a split-half reliability analysis. The test-retest reliability value for the scale was observed to be 0.92, which was found to be very high. Table 7 represents the socio-emotional competency scale's mean, standard deviation, minimum, maximum, and reliability scores.

Table 10: Descriptive Statistics- Socio-Emotional Competency

| Socio-Emotional Competency (SEC) Scale | |
|--|----------|
| Number of items | 23 items |
| Sample Size | 125 |
| Mean | 73.44 |
| SD | 18.38 |
| Minimum | 2.100 |

| Socio-Emotional Competency (SEC) Scale | |
|---|-------|
| Maximum | 3.916 |
| Test- Retest Reliability | .923 |
| Split- Half Reliability | .87 |

Validity

The content validity of a scale is indicative of the extent to which the items within the tool accurately represent the entirety of the dimension being assessed within a variable (Faryati & Akhyar, 2021). Furthermore, all items within the tool have been organised per predetermined principles of the purpose of measurement. To evaluate the content validity of the Socio-emotional Competency Scale, an expert evaluation was carried out. The selected experts possessed significant knowledge and experience in skills and competency development within teaching and research in academic attributes. The experts evaluated if the indicative dimension developed by the researcher effectively captures the intended content to be measured. Subsequently, the specialists evaluated the appropriateness and relevance of every item generated concerning the variable under consideration while ensuring they all satisfied additional stated criteria. One crucial aspect to be considered throughout the content validation procedure is the primary objective of validation, which involves obtaining information from validators regarding the modification of the tool and the related items from an empirical perspective (Yusoff, 2019).

The researcher made necessary revisions to the items requiring improvement and sought input from the experts. The process continued until validation experts approved the fourth round of enhancements, encompassing the incorporation of Hindi translations alongside the English content. With the content validation process, the six approved dimensions were Innovative Expression, Academic Perseverance, Proactive Leadership, Sustainable Engagement, Academic Mastery, and Academic ICT Competence. All the items were designed according to these dimensions and the improvements suggested by the experts to measure the socio-emotional competencies that are purported by the tool.

3.6.2 Development of Higher Education Readiness (HER) Scale

Due to the lack of a standardised tool for measuring Higher Education Readiness at the secondary level, as well as the presence of tools that majorly assess the readiness of college-entering students and those with completion of the first year at the undergraduate level, this scale is constructed with the inspiration drawn from Student Readiness Survey of Augustana University to liaison between the transition period from secondary level to post-secondary level.

The Higher Education Readiness Scale, comprising five separate components. These components were Professional Aspirations, Academic Buoyancy, Academic Transferability, Entrepreneurial Activities Learning (EABL) and Higher Academic Efficiency Practices (HAEP). The creation of the Higher Education Readiness scale was influenced by an extensive examination of relevant scholarly literature on a range of rating scales related to student readiness competencies, models of lifelong learning, and frameworks for ensuring sustainable employment in modern society.

The professional aspirations encompass a variety of components, including academic interest, academic choice towards the specific subject, and career orientation towards the financial practicality of the selected profession (Item 1, 2, 6, 9, 11, 12, 25). Higher Education Buoyancy entails a perceived sense of adaptability, academic hardiness and complex coping strategies to attain competence in scholastic endeavours (Item 3, 4, 10, 13 14, 15, 16). Academic Transferability encompasses knowledge transfer, learning process transfer, and skills transfer both in and outside the classroom (17, 18, 19, 23, 31, 32). Entrepreneurship Activity Based Learning is bifurcated into three sub-dimensions: socio-transformative mindset, social entrepreneurial behaviour and superior service delivery (Item 7, 8, 20, 21, 22, 24, 27, 28). The demonstration of Higher Academic Efficiency Practices is evident through the sub-dimensions inclusive of the higher sustainable innovation, proportionate time optimisation and communicational and expressive efficacy (5, 26, 29, 30).

The total HER Scale consisted of 34 questions after factor analysis, and the items of these dimensions are evaluated using a Likert scale with 5=Strongly Agree, 4= Agree, 3= Not Sure, 2= Disagree, 1= Strongly Disagree. Reverse marking items were 5 that were distributed evenly under each dimension, scoring 1= Strongly Agree, 2= Agree, 3= Not

Sure (Neutral), 4= Disagree, and 5= Strongly Disagree. The allocated time frame for this assessment was 20 minutes.

Reliability

The researcher calculated the reliability of the Higher Education Readiness Scale using Test-Retest Reliability. Furthermore, the researchers assessed the scale's reliability using a split-half analysis. The Test- Retest reliability coefficient for the scale was determined to be 0.87, which was considered acceptable. Table 8 includes deviation, minimum, maximum and reliability scores for the higher education readiness scale.

Table 11: Descriptive Statistics- Higher Education Readiness

| Higher Education Readiness (HER) Scale | |
|---|----------|
| Number of items | 34 items |
| Sample Size | 125 |
| Mean | 101.04 |
| SD | 15.73 |
| Minimum | 2.203 |
| Maximum | 3.873 |
| Test-Retest Reliability | 0.879 |
| Split- Half Reliability | 0.86 |

Validity

The expert evaluation was employed to assess the content validity of the Higher Education Readiness Scale. The experts chosen for this study possessed an extensive expertise and experience in higher education and the cultivation of college preparedness. Their knowledge spanned both the practical aspects of teaching and the theoretical aspects of research in academic qualities. The procedure persisted until validation specialists provided clearance for the third iteration of improvements, which included the integrated items and Hindi translations in addition to the English material.

The content validation process resulted in the approval of five dimensions: Professional Aspirations (PA), Higher Education Buoyancy (HEB), Academic Transferability (AT), Entrepreneurship Activity Based Learning (EABL) and Higher Academic Efficiency Practices (HAEP).

3.6.3 Factor Analysis of HER Scales

The data reduction procedure of the Higher Education Readiness Scale undergoes a similar procedure as the SEC scale. After the establishment of content validity, Exploratory Factor Analysis (EFA) was applied. The Higher Education Readiness measure, which consisted of 40 items, was subjected to Exploratory Factor Analysis (EFA) using the Principal Component Analysis (PCA) method. The varimax (orthogonal) method was used as a rotation technique. Table 12 shows the communalities of the items within the HER scale. Following the fundamental principles of Exploratory Factor Analysis (EFA), identifying factors within the variable under investigation in a study is impacted by their proximity to a value of 1. Out of the 40, 34 items above 0.40 were retained.

Table 12: Communalities

| Item no. | Item | Initial | Extraction |
|-----------------|-------------|----------------|-------------------|
| 1 | PA1 | 1.000 | .648 |
| 2 | PA2 | 1.000 | .573 |
| 3 | HEB2 | 1.000 | .564 |
| 4 | HEB3 | 1.000 | .512 |
| 5 | HAEP3 | 1.000 | .533 |
| 6 | PA3 | 1.000 | .634 |
| 7 | EABL5 | 1.000 | .538 |
| 8 | EABL6 | 1.000 | .565 |
| 9 | PA6 | 1.000 | .554 |
| 10 | HEB1 | 1.000 | .631 |
| 11 | PA4 | 1.000 | .522 |
| 12 | PA5 | 1.000 | .642 |
| 13 | HEB4 | 1.000 | .667 |
| 14 | HEB5 | 1.000 | .613 |
| 15 | HEB6 | 1.000 | .551 |
| 16 | HEB7 | 1.000 | .611 |
| 17 | AT1 | 1.000 | .614 |

| Item no. | Item | Initial | Extraction |
|-----------------|-------------|----------------|-------------------|
| 18 | AT2 | 1.000 | .568 |
| 19 | AT3 | 1.000 | .541 |
| 20 | EABL2 | 1.000 | .570 |
| 21 | EABL3 | 1.000 | .684 |
| 22 | AT6 | 1.000 | .720 |
| 23 | AT7 | 1.000 | .511 |
| 24 | EABL1 | 1.000 | .598 |
| 25 | PA7 | 1.000 | .658 |
| 26 | HAEP6 | 1.000 | .561 |
| 27 | EABL4 | 1.000 | .617 |
| 28 | EABL7 | 1.000 | .598 |
| 29 | HAEP1 | 1.000 | .649 |
| 30 | HAEP2 | 1.000 | .565 |
| 31 | AT4 | 1.000 | .751 |
| 32 | AT5 | 1.000 | .620 |
| 33 | HAEP4 | 1.000 | .634 |
| 34 | HAEP5 | 1.000 | .625 |

Further, the Kaiser-Meyer-Olkin (KMO) value was calculated as 0.827 on the HER scale, which is close to 1. The significance value of Bartlett's Test is found to be 0, meeting the required significance value of p less than 0.05. Both the observations for the HER scale are demonstrated below in Table 13.

Table 13: KMO and Bartlett's Test

| | |
|---|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | 0.827 |
| Bartlett's Test of Sphericity Approx. Chi-Square | 3052.037 |
| Df | 561 |
| Sig. | .000 |

The eigenvalues for each component were observed to be above one during the factor extraction criteria. The scree plot demonstrating the number of factors retained during the exploratory factor analysis is shown in Figure 15.

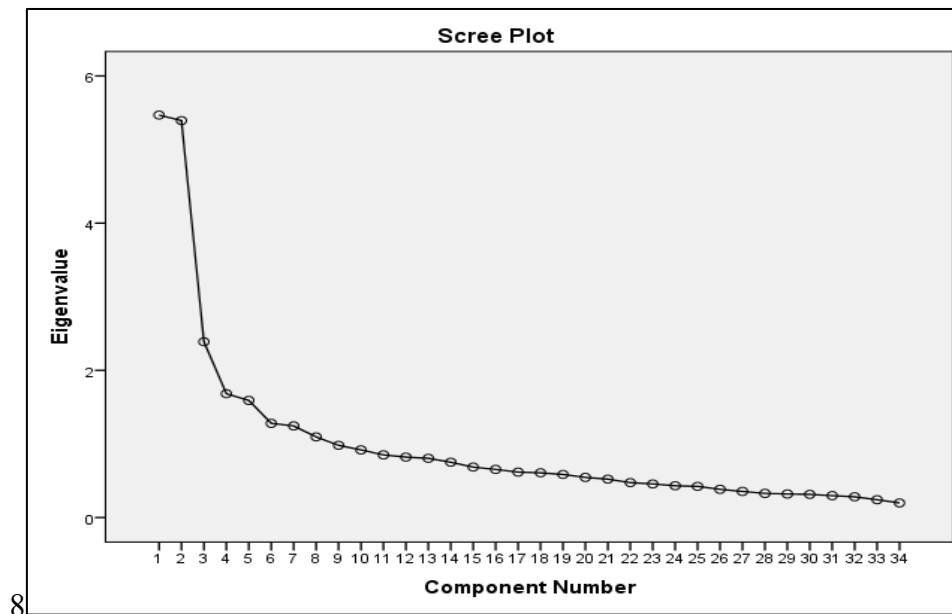


Figure 15: Scree plot for HER factors

Finally, utilising the rotated component matrix was beneficial in elucidating the interpretation of the components. Table 14 demonstrates the values of the obtained factors.

Table 14: Factor loadings- Higher Education Readiness

| Rotated Component Matrix | | | | | |
|--------------------------|------|------|---|---|---|
| Component | | | | | |
| Item | 1 | 2 | 3 | 4 | 5 |
| PA1 | .777 | | | | |
| PA2 | .636 | | | | |
| PA3 | .704 | | | | |
| PA4 | .612 | | | | |
| PA5 | .638 | | | | |
| PA6 | .735 | | | | |
| PA7 | .728 | | | | |
| HEB1 | | .638 | | | |

| Rotated Component Matrix | | | | | |
|---------------------------------|----------|----------|----------|----------|----------|
| Component | | | | | |
| Item | 1 | 2 | 3 | 4 | 5 |
| HEB2 | | .651 | | | |
| HEB3 | | .749 | | | |
| HEB4 | | .529 | | | |
| HEB5 | | .652 | | | |
| HEB6 | | .594 | | | |
| HEB7 | | .587 | | | |
| AT1 | | | .678 | | |
| AT2 | | | .579 | | |
| AT3 | | | .708 | | |
| AT4 | | | .709 | | |
| AT5 | | | .587 | | |
| AT6 | | | .599 | | |
| AT7 | | | .606 | | |
| EABL1 | | | | .773 | |
| EABL2 | | | | .775 | |
| EABL3 | | | | .725 | |
| EABL4 | | | | .669 | |
| EABL5 | | | | .742 | |
| EABL6 | | | | .623 | |
| EABL7 | | | | .654 | |
| HAEP1 | | | | | .563 |
| HAEP2 | | | | | .674 |
| HAEP3 | | | | | .750 |
| HAEP4 | | | | | .716 |
| HAEP5 | | | | | .662 |
| HAEP6 | | | | | .739 |

The varimax rotation technique was utilised to analyse the extracted elements and their corresponding loadings inside each construct. The first, second, third, and fourth factors were identified to be loaded with seven items each. The fifth factor had a total of six distinct items.

3.7 Data Collection

After preliminary examination of the tools the data was obtained from the respondents as per the researcher's instructions. Instructions were vividly written in the first page of the tests and after establishing proper rapport with the respondents the tool was provided to them. The Educational Attainment Test, Socio-Emotional Competency Scale, and Higher Education Readiness Scale were administered in the selected schools as mentioned in the sample. The principles of ethical research were adhered to by obtaining informed consent and safeguarding confidentiality, as the data was intended solely to explore the research problem. Multiple field visits were done to collect data to validate the results obtained from the quantitative data. The semi-structured interview schedule was administered to a randomly selected group of students. The collection of field notes was upheld through observational techniques to encourage a comprehensive range of replies, facilitating data quality by employing required approaches.

3.8 Data Analysis

The data obtained from the test and scales underwent a series of processes, including compilation, cleaning, editing, and coding, to facilitate subsequent analysis. A range of statistical approaches were employed to analyse the data to satisfy the stated objectives. The information was analysed using the Normal Probability Curve to calculate the skewness and kurtosis values. Subsequently, inferential statistical techniques were employed to examine the data.

The data was analysed using parametric statistics in alignment with its nature through SPSS Version 27 software. The t-test was employed to assess the statistical significance of differences between the two groups. Particularly in cases involving more than two groups, the analysis of variance (ANOVA) was employed to assess the statistical significance of the observed differences among the different categories. Multiple regression analysis was conducted on the dataset to ascertain a cause-and-effect relationship and identify the predictors. Qualitative analysis was employed and to

substantiate the results, content analysis was done to examine the interviews, while field notes and observations were utilised to support the acquisition of a comprehensive understanding of the field. The data obtained from semi-structured interviews was subjected to content analysis, explicitly focusing on applying the thematic analysis technique is used in the discussion chapter to substantiate the quantitative findings.

Chapter 4

RESULTS

The chapter consists of the findings of the research study as analysis of the data is the subsequential process after data collection phase. Thus, the chapter includes the classification and tabulation of the data, required statistical treatment, and inference of the obtained data to provide meaningfulness to it. The study used mixed method incorporating both qualitative and quantitative analysis towards holistic understanding of the data. The study fulfilled the assumptions of parametric statistics as discussed in the subsequent sections. This chapter is inclusive of the analysis of Kanpur and Bahraich districts, the study is objective-wise sequentially analysed through t-tests, Analysis of variance, and multiple regression analysis of both the districts.

4.1 Analysis of the Data

The analysis pertains to establishing research objectives thoroughly and objectively investigating the relationship of the chosen variables. The statistical analysis thus becomes a meaningful tool in getting a clearer understanding of the research objectives formed for the study. Based on the above concept, the analysis of the objectives for the Kanpur district was done. The chapter is primarily divided into two sections. Each section uses different statistical treatments according to the designed objectives. The first section demonstrates the quantitative analysis of the results along with the representation of the normality of the data, skewness, kurtosis, and the chart representations for normality of the obtained data. The first objective includes the use of tests for comparison of data of two groups, tests used for comparison of data of more than two groups, and tabulated data of the students. The second objective is further reduced into 2 specific research objectives including the use and explanation of Multiple Linear Regression and Simple Linear Regression Model and its various statistical components to describe the effect of the demographics on the variables undertaken in the study. Also, the cause-and-effect relationship of Educational Attainment and Socio-Emotional Competencies on Higher Education Readiness.

4.1.1.A Objective 1

To examine the differences in Educational Attainment (EA), Socio-Emotional Competencies (SEC) and Higher Education Readiness (HER) across various demographic characteristics like gender, class, age, SES, favourite subject, a spatial situation of the school, aspiration after 12th and pursual to higher education at the secondary level in Kanpur and Bahraich districts.

For quantitative analysis of the Kanpur dataset, the collected data was arranged under various demographical headings according to the research objectives formed. Before the collected data was run through SPSS for statistical analysis to test the research objectives of the study, it was checked for normality. It included the obtained values for skewness and kurtosis of the students' data for both the districts with their graphical representations. Consequently, the first research objective of differentially analyzing the data of students at the secondary level for educational attainment, socio-emotional competencies and higher education readiness scores entailed a detailed procedure of determining the status of every demographic factor. This was carried out by comparing the difference in means of the data of two groups based on the 't' value suggesting the significance of means of the chosen variables. The data with more than two groups were treated with Analysis of Variance (ANOVA). The data on students of secondary classes were treated with the same statistical procedures for both the districts for the fulfilment of the first research objective. Since the researched problems are focused on aspects of human behavior, the significance level for rejection or acceptance of the difference was observed at both 0.01 and 0.05 level. This indicated that the difference in obtained results was considered 'not significant' if the t-value was more than 0.05 level of significance. This also indicated the difference in the comparison of means of the factor was considered 'significant' if the t-value was less than 0.01 and 0.05 level of significance.

For the second research objective, the datasets of students in both the districts were analyzed for the causal- effect relationship between every demographic factors and the variables chosen- educational attainment, socio- emotional competencies and higher education readiness. This was achieved through the application of Multiple Regression Model for observing the effect of the student demographics and the variables. Further,

the effect of educational attainment and socio-emotional competencies on higher education readiness was analysed for both the districts.

Large data tends to spread itself in the form of a curve, and this data is due to a natural phenomenon, that can be both physical and psychological. Within the statistical realms, clarity of interpretation is encouraged by normally distributed data. In this regard, parametric analysis, within inferential statistics, is carried out by the data that fulfils the assumptions of normal distribution along with homogeneity, objectivity, and independent observation. Although, perfect normal distribution is practically difficult to achieve, any data is considered to be normally distributed if the skewness and kurtosis values lie within the acceptable range. The present study entails the analysis of normal distribution by checking the Normal Probability Curve (NPC) for students' performance on Educational Attainment Scale (EA), Socio-Emotional Competency Scale (SEC) and Higher Education Readiness Scale (HER). The datasets were analysed with the help of SPSS Version 22. The tables below represent the distribution of the data gathered from students at the secondary level from Kanpur and Bahraich.

Table 15: Descriptive Statistics of Educational Attainment Scores-Kanpur and Bahraich

| Item | Kanpur | Bahraich |
|---------------------------|---------------|-----------------|
| N | 250 | 250 |
| Mean | 31.46 | 11.73 |
| Standard Deviation | 14.888 | 11.668 |
| Variance | 221.647 | 136.151 |
| Skewness | -.074 | .944 |
| Std. Error | .154 | .154 |
| Kurtosis | -.689 | -.470 |
| Std. Error | -.307 | .307 |
| Minimum | 0 | 0 |
| Maximum | 71 | 48 |

Table 15 represents the distribution of the collected data from the students of Kanpur and Bahraich. The table demonstrates the mean, standard deviation, minimum, maximum, skewness and kurtosis values while measuring educational attainment, which

is further graphically represented below. The depicted sample ($n= 250$) for each district, presents ($M= 31.46$, $SD= 14.88$) for Kanpur district. Similarly, for Bahraich district ($M= 11.73$, $SD= 11.66$).

Figure 16 focuses on the normality of the student’s data along with skewness and kurtosis. Skewness is suggestive of assessment of the asymmetry in the data. It means that the measure checks the concentration of the observed data which can be created towards either side of the graph. The values for skewness and kurtosis are considered acceptable when they lie within the range of $+2$ to -2 (Field, 2017). Here, the values were observed to be in acceptable range for both the datasets analysing the scores for educational attainment.

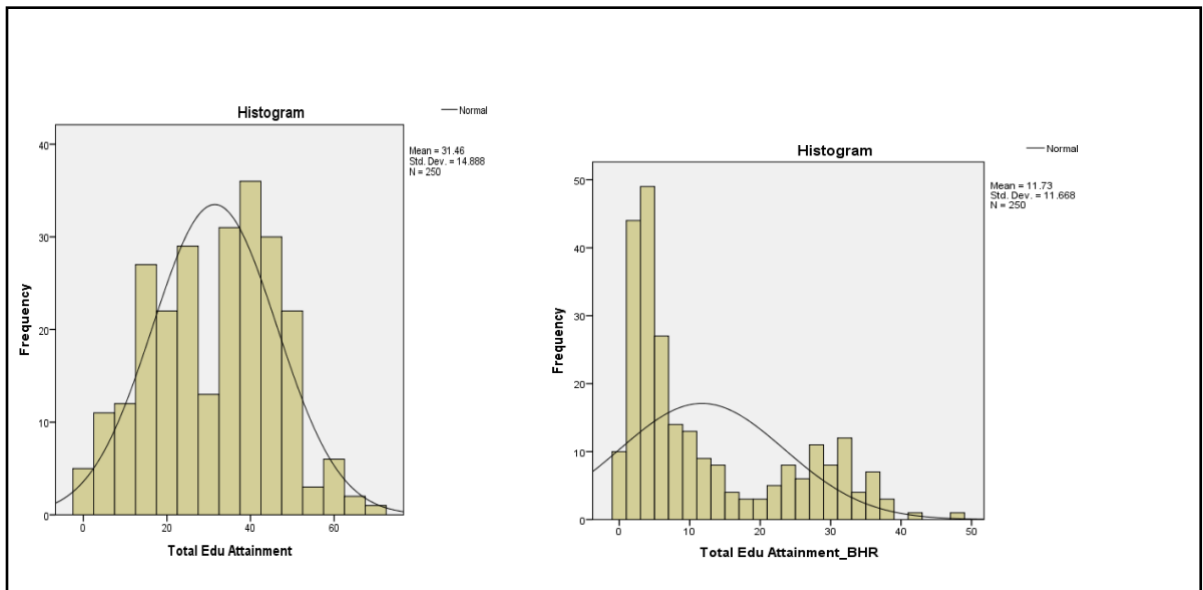


Figure 16: Normal Probability Curve- Educational Attainment- Kanpur, Bahraich & Combined data

Figure 16 show the normal distribution for Kanpur dataset and skewness towards the left side for Bahraich dataset. Also, the measure of kurtosis checks the presence of extreme values in normally distributed data. These extreme values are inclusive of outliers that are indicated through heavy tails or outliers, and light-tails or lack of outliers in the distributed data.

Table 16: Descriptive statistics of Socio- Emotional Competencies Scores- Kanpur and Bahraich

| Item | Kanpur | Bahraich |
|---------------------------|---------|----------|
| N | 250 | 250 |
| Mean | 80.71 | 77.44 |
| Standard Deviation | 11.639 | 18.387 |
| Variance | 135.467 | 338.078 |
| Skewness | .304 | .339 |
| Std. Error | .154 | .154 |
| Kurtosis | -.087 | -1.038 |
| Std. Error | .307 | .307 |
| Minimum | 51 | 48 |
| Maximum | 113 | 116 |

Table 16 above reflects the mean, standard deviation, minimum, maximum, skewness, and kurtosis values of the Socio- Emotional Competencies scores for Kanpur and Bahraich datasets. The mean and standard deviation scores of students from Kanpur (M= 80.71, SD= 11.63) and Bahraich (M= 77.44, SD= 18.38).

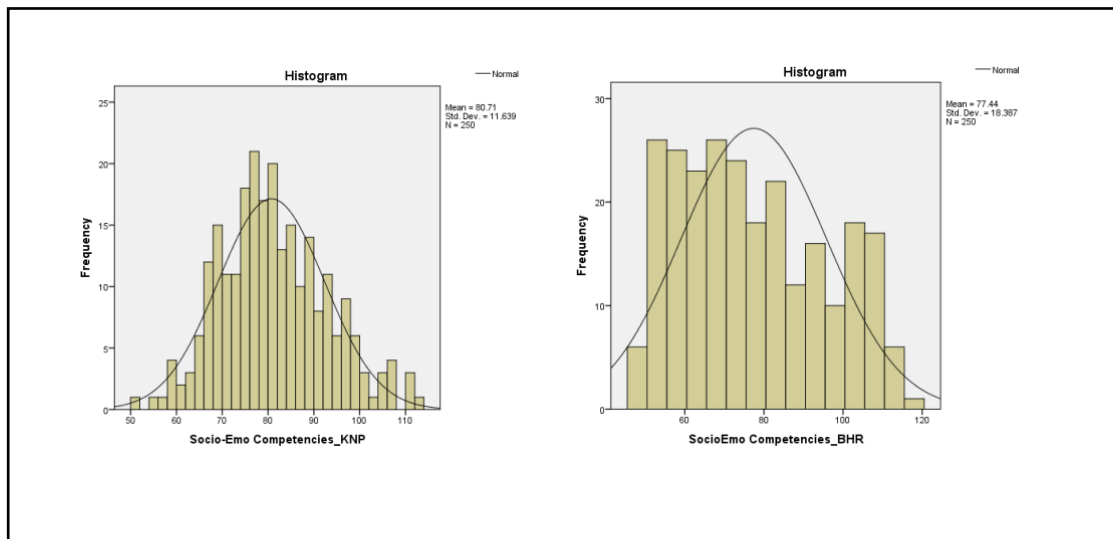


Figure 17: Normal Probability Curve- Socio-Emotional Competencies- Kanpur and Bahraich data

Figure 17 show the normal distribution for Kanpur and Bahraich datasets. Here, the values were observed to be in an acceptable range of +2 to -2 for both the datasets analysing the scores of Socio- Emotional Competencies.

Table 17: Descriptive statistics of Socio- Emotional Competencies Scores- Kanpur and Bahraich

| Item | Kanpur | Bahraich |
|---------------------------|---------|----------|
| N | 250 | 250 |
| Mean | 80.71 | 77.44 |
| Standard Deviation | 11.639 | 18.387 |
| Variance | 135.467 | 338.078 |
| Skewness | .304 | .339 |
| Std. Error | .154 | .154 |
| Kurtosis | -.087 | -1.038 |
| Std. Error | .307 | .307 |
| Minimum | 51 | 48 |
| Maximum | 113 | 116 |

Table 17 above reflects the mean, standard deviation, minimum, maximum, skewness and kurtosis values of the Socio- Emotional Competencies scores for Kanpur and Bahraich datasets. The mean and standard deviation scores of students from Kanpur (M= 80.71, SD= 11.63) and Bahraich (M= 77.44, SD= 18.38).

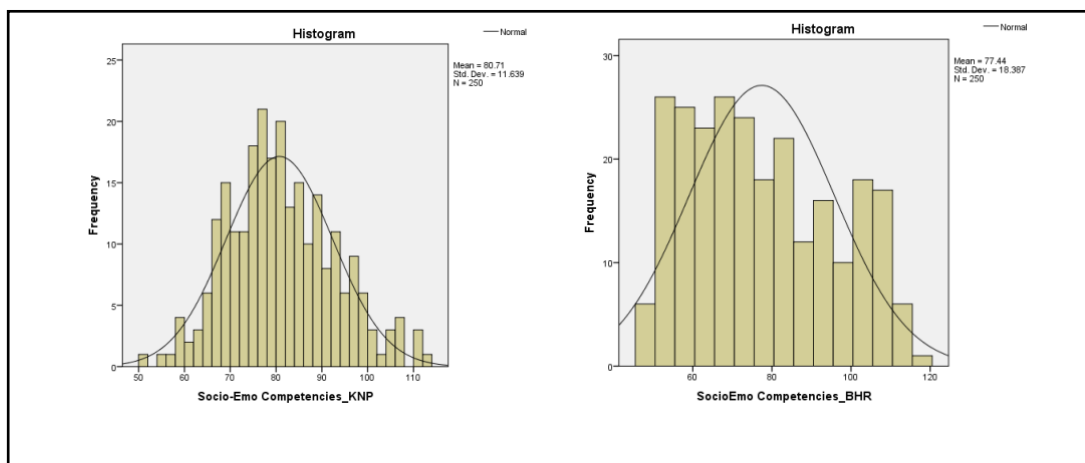


Figure 18: Normal Probability Curve- Socio-Emotional Competencies- Kanpur and Bahraich data

Figure 18 show the normal distribution for Kanpur and Bahraich datasets. Here, the values were observed to be in an acceptable range of +2 to -2 for both the datasets analysing the scores of Socio-Emotional Competencies.

Table 18: Descriptive statistics of Higher Education Readiness- Kanpur and Bahraich

| Items | Kanpur | Bahraich |
|---------------------------|---------------|-----------------|
| N | 250 | 250 |
| Mean | 103.18 | 93.57 |
| Standard Deviation | 15.526 | 12.588 |
| Variance | 241.069 | 158.463 |
| Skewness | .564 | .378 |
| Std. Error | .154 | .154 |
| Kurtosis | -.230 | -.949 |
| Std. Error | .307 | .307 |
| Minimum | 74 | 71 |
| Maximum | 144 | 129 |

Table 18 demonstrates the mean, standard deviation, minimum, maximum, skewness, and kurtosis values of the Higher Education Readiness for Kanpur and Bahraich datasets. The mean and standard deviation scores of students from Kanpur (M= 103.18, SD= 15.52) and Bahraich (M= 93.57, SD= 12.58). The values for skewness and kurtosis were observed to be in acceptable range for both the datasets analysing the scores for higher education readiness.

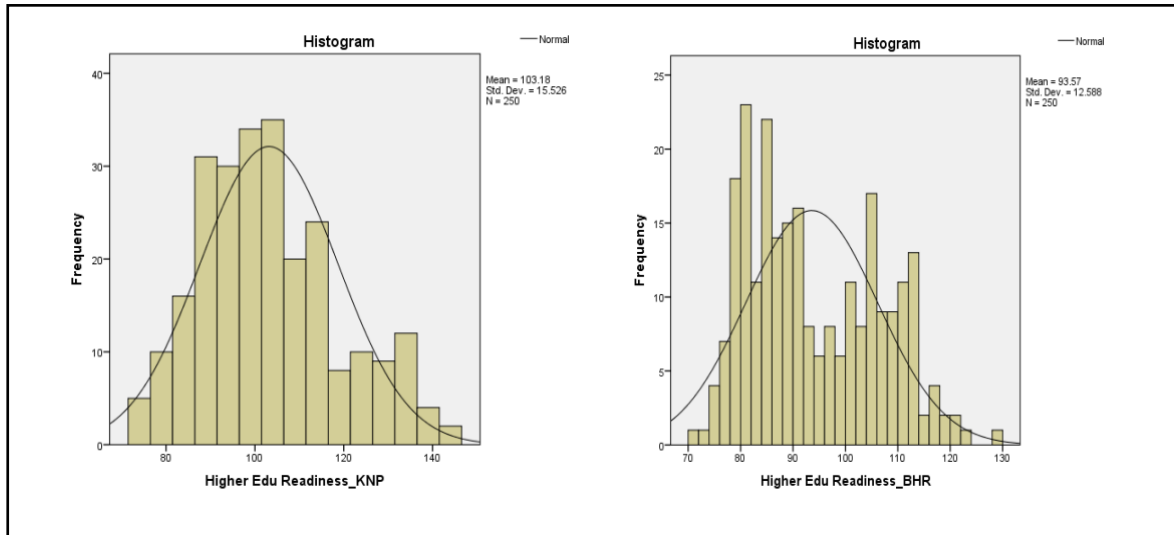


Figure 19: Normal Probability Curve- Higher Education Readiness- Kanpur and Bahraich data

Figure 19 show the normal distribution for Kanpur and Bahraich datasets. Here, the values were observed to be in acceptable range of +2 to -2 for both the datasets analysing the scores of Higher Education Readiness.

Results For Kanpur

Objective 1(a): To examine the differences in Educational Attainment (EA) across various demographic characteristics like gender, class, age, SES, favourite subject, spatial situation of school, aspiration after 12th and pursual to higher education at the secondary level.

The objective explored the difference in the scores of Educational Attainment, with the use of Independent Sample t-test for examining the difference in Educational Attainment of students in the context of class, gender, spatial reference and pursual towards higher education. These demographics are divided in two groups.

Table 19: Demographics wise Mean, S.D. and t-value/F-value for Educational Attainment scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|----------|-------------|-------------|------------------------|
| Class | 11 th | 60 | 32.55 | 15.301 | 0.986 |
| | 12 th | 190 | 30.36 | 14.868 | |
| Gender | Male | 128 | 32.23 | 14.586 | 1.460 |
| | Female | 122 | 29.48 | 15.298 | |
| Spatial Reference | Rural | 99 | 23.35 | 12.822 | 7.044* |
| | Urban | 151 | 35.83 | 14.236 | |
| HE Pursual | No | 67 | 22.90 | 14.852 | 5.387* |
| | Yes | 183 | 33.81 | 13.948 | |

**p< .001 level; *p<.05 level

Table 19 demonstrates the variables, categories, number of respondents, mean, SD and t-value of the demographics undertaken in the research study. According to the class demographic, the difference in the mean scores of educational attainments between students of class 11th and 12th are not significant at the 0.05 level. This implies that there exists no significant difference amongst both the classes on the performance of educational attainment. Similarly, the gender demographic shows that the mean scores of educational attainments between male and female students are not significant at the 0.05 level. It is indicative that there exists no significant difference in gender on the performance of educational attainment. Contrastingly, the spatial reference demonstrates that the difference in the mean scores of educational attainments between students of rural area and urban area ($t= 7.044, p<.05$) are significant. This implies that there exists significant difference in context of the spatial reference on the performance of educational attainment. According to the pursual towards Higher Education demographic, the difference in the mean scores of educational attainments between students with negative response and students with positive response ($t=5.387, p<.05$) are significant. This implies that there exists significant difference in pursual towards higher education readiness.

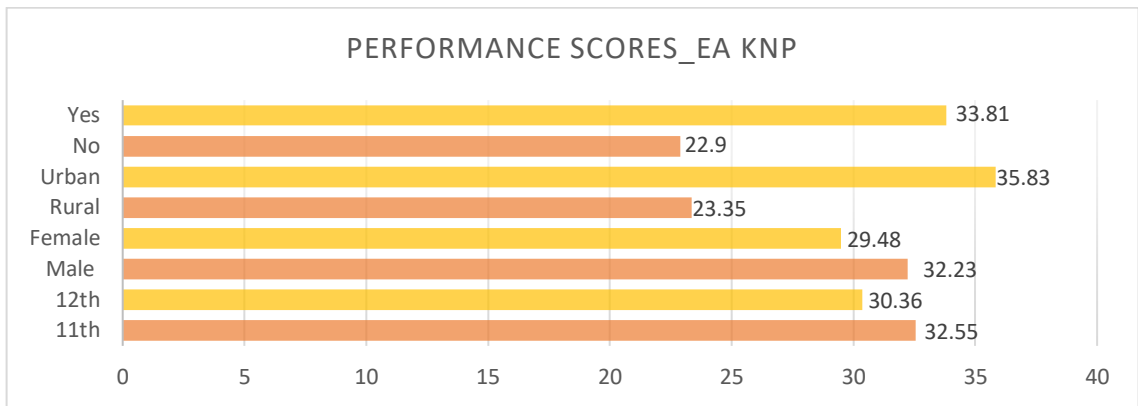


Figure 20: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in EA- Kanpur district.

The category wise differences in the mean scores of students on educational attainment in the Kanpur district are depicted in Figure 20. Subsequently, the table below includes the demographic variables of the research objective with more than two categories. The educational attainment of the students was analysed through Analysis of Variance (ANOVA). The demographic variables in the table consist of the age of the students, place wise differences, socioeconomic status, preferred discipline, and aspiration after 12th grade.

Table 20: Demographic-wise Mean, S.D., and F-value of Educational Attainment scores (ANOVA)

| Demographics | Category | N | M | S.D. | F-value |
|------------------------------|-------------|-----|-------|--------|----------------|
| Age | 16 years | 95 | 38.51 | 13.013 | 19.944* |
| | 17 years | 153 | 27.23 | 14.216 | |
| | 18 years | 2 | 21.00 | 29.698 | |
| School Location | Baikunthpur | 84 | 38.20 | 13.327 | 23.123* |
| | Bhauti | 67 | 35.00 | 14.128 | |
| | Khersa | 44 | 26.86 | 13.428 | |
| | Hajipur | 55 | 20.55 | 11.692 | |
| Socio-Economic Status | Middle | 29 | 36.93 | 16.814 | 3.943* |
| | Lower | 102 | 32.71 | 13.911 | |
| | BPL | 119 | 29.07 | 14.850 | |
| Preferred Discipline | English | 7 | 35.29 | 25.883 | 16.638* |
| | Hindi | 95 | 22.02 | 12.945 | |
| | Maths | 43 | 39.35 | 11.454 | |

| Demographics | Category | N | M | S.D. | F-value |
|---|-----------------|-----|-------|--------|----------------|
| | Science | 41 | 41.98 | 9.671 | |
| | Home Sci. | 27 | 34.74 | 13.614 | |
| | Social Sci. | 23 | 31.78 | 12.270 | |
| | Economics | 14 | 31.79 | 12.299 | |
| Aspiration After 12th | NA | 14 | 19.21 | 12.963 | 31.333* |
| | Informal Sector | 92 | 24.49 | 14.093 | |
| | Formal Sector | 144 | 37.11 | 12.891 | |

**p< .001 level; *p<.05 level

Table 20 shows the demographics, various categories, number of respondents, mean value, SD, and f-value. The demographic age includes three groups. The analysis reflected that there exists a difference between the mean scores of educational attainments ($F=19.944, p<.05$). This shows that the scores of educational attainments in the students across various age groups are significant, implying that the difference in educational attainment is based on the age of the students. In the context of the place demographic, the research study comprehends it as the place where students enrol in the study process. Accordingly, four school locations in the Kanpur district were grouped: Baikunthpur, Bhauti, Khersa and Hajipur. The table demonstrates that there exists a difference between the scores of educational attainments in the students at various school locations, which is significant ($F=23.123, p<.05$). This is indicative of the difference in the scores of educational attainments being significant across various school locations in the Kanpur district. Similarly, in the context of the socio-economic status, the research study refers to the household income in the family of the individual. Based on the research, three categories were formed. The table shows that there exists a significant difference between the scores of educational attainments in the students belonging to various socio-economic backgrounds, which is significant at 0.05 level. This indicates that the scores of educational attainments in the students across various socio-economic backgrounds are significant, implying that the difference in educational attainment is based on the socio-economic status of the students. The table shows that there exists a significant difference between the scores of educational attainments in the students pursuing the preferred discipline of their choice, which is significant at 0.05 level. This indicates that the scores of educational attainments in the students across various

favourite subjects are significant, implying that the difference in educational attainment is based on the favourite subjects chosen by the students. The table shows that there exists a significant difference between the scores of educational attainments in the student's pursuing aspirations after 12th grade which is significant at 0.05 level. This indicates that the scores of educational attainments in the students across various aspirations are significant implying that the difference in educational attainment is based on the aspirations selected by the students after completion of their secondary years.

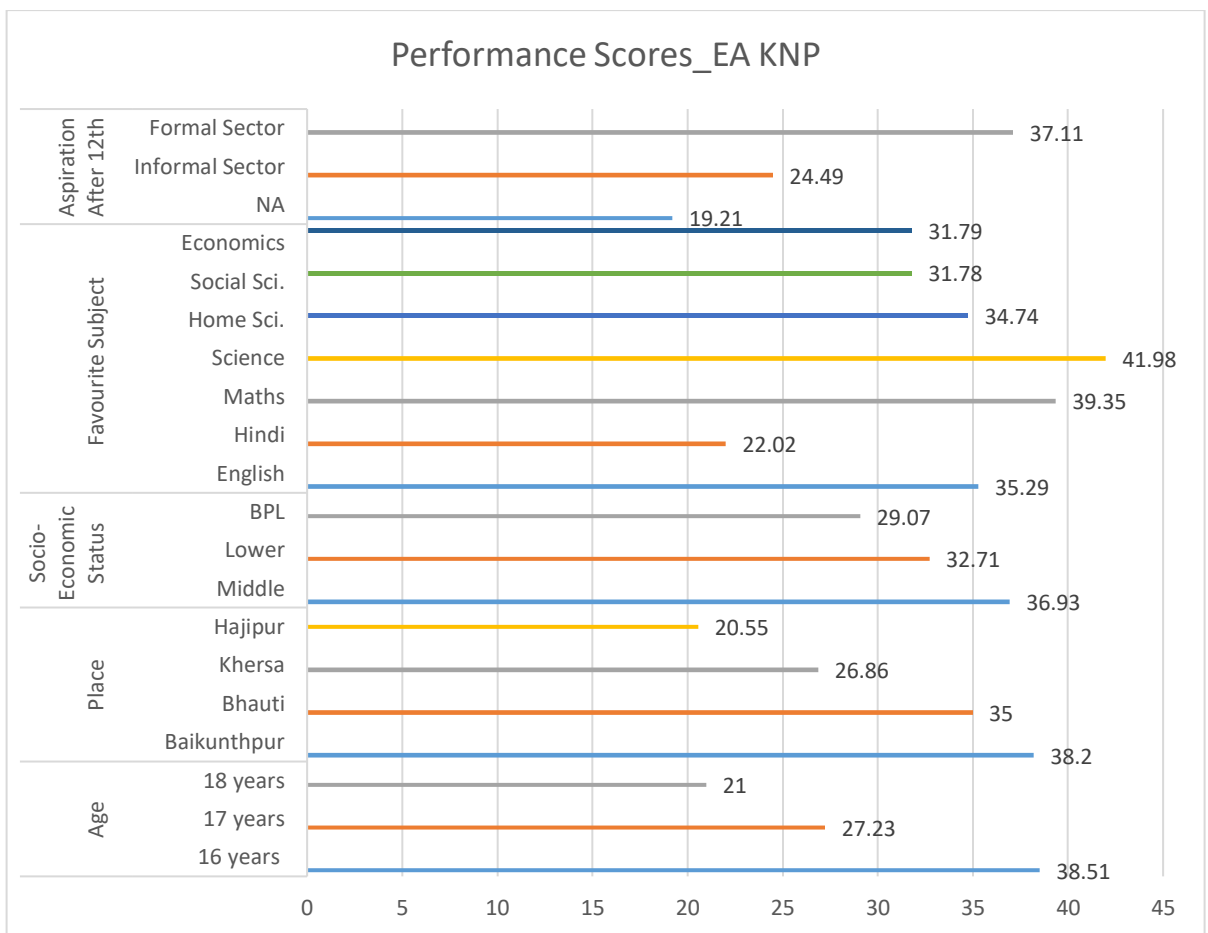


Figure 21: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in Kanpur district.

The category wise differences in the mean scores of students on educational attainment in the Kanpur district are depicted in Figure 21. It can be observed that the various factors suggest the variance in terms of means obtained for the demographics undertaken in the study.

Objective 1(b): To examine the differences in Socio-Emotional Competencies (SEC) across various demographic characteristics like gender, class, age, SES, favourite subject, spatial situation of school, aspiration after 12th and pursual to higher education at the secondary level.

The objective explored the difference in the scores of Socio-Emotional Competencies, by using Independent Sample t-test for examining the students in the context of class, gender, spatial reference and pursual towards higher education.

Table 21: Demographics wise Mean, S.D. and t-value/F-value for Socio-Emotional Competencies scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|-----|-------|--------|-----------------|
| Class | 11 th | 60 | 75.67 | 11.019 | 2.982* |
| | 12 th | 190 | 82.48 | 16.566 | |
| Gender | Male | 128 | 79.80 | 15.064 | 1.074 |
| | Female | 122 | 81.93 | 16.274 | |
| Spatial Reference | Rural | 99 | 74.88 | 9.720 | 6.997* |
| | Urban | 151 | 84.50 | 11.183 | |
| HE Pursual | No | 67 | 80.24 | 11.233 | 0.329 |
| | Yes | 183 | 80.79 | 11.765 | |

**p< .001 level; *p<.05 level

Table 21 demonstrates the variables, categories, number of respondents, mean, SD and t-value of the demographics undertaken in the research study. In context of the class demographic, the variance in the mean scores of socio-emotional competencies between students of class 11th and 12th are significant ($t= 2.982, p<.05$). This implies that there exists significant difference amongst both the classes on the performance of socio-emotional competencies. According to the gender, the mean scores of socio-emotional competencies between male and female students are not significant at the 0.05 level. This implies that there exists no significant difference in gender on the performance of socio-emotional competencies. According to the spatial reference, the difference in the mean scores of socio-emotional competencies between students of rural area and urban area are significant ($t= 6.997, p<.05$). This implies that there exists significant difference in context of the spatial reference. According to the pursual towards Higher Education, the mean scores of socio- emotional competencies between students with negative response

and students with positive response are not significant at the 0.05 level. This implies that there exists no significant difference in pursual towards higher education readiness.

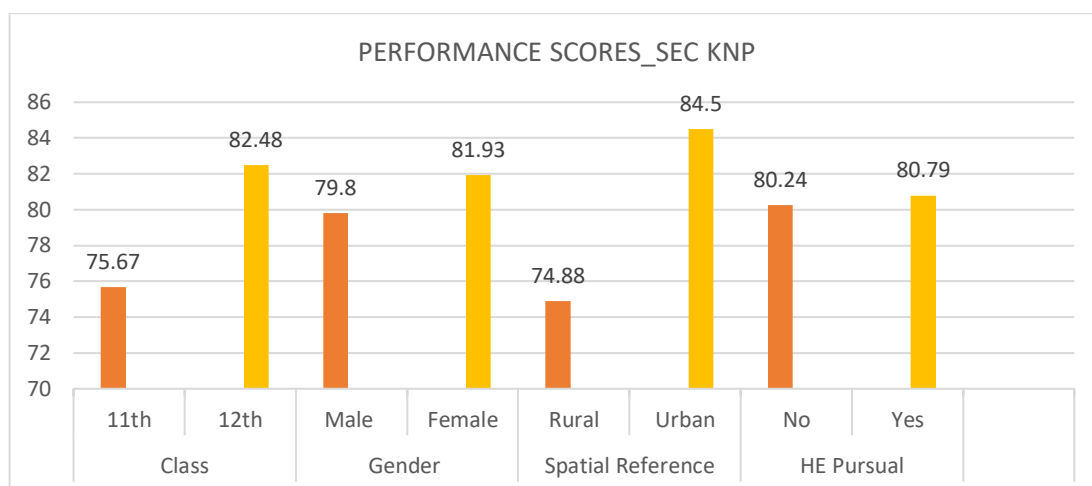


Figure 22: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in SEC-Kanpur district.

The category wise differences in the mean scores of students on socio- emotional competencies in the Kanpur district are depicted in Figure 13. The table below shows the socio-emotional competencies of the students that were analysed through Analysis of Variance (ANOVA). The demographic variables in the table below consist of the age of the students, place wise differences, socio-economic status, favourite subject, and aspiration after 12th grade.

Table 22: Demographic category wise Mean, S.D., and F-value of Socio-Emotional Competencies scores

| Demographics | Category | N | M | S.D. | F-value |
|------------------------------|-------------|-----|-------|--------|----------------|
| Age | 16 years | 95 | 85.22 | 11.326 | 13.138* |
| | 17 years | 153 | 78.05 | 10.996 | |
| | 18 years | 2 | 70.00 | 7.071 | |
| School Location | Baikunthpur | 84 | 87.50 | 10.184 | 22.593* |
| | Bhauti | 67 | 80.82 | 11.431 | |
| | Khersa | 44 | 74.11 | 12.350 | |
| | Hajipur | 55 | 75.49 | 7.010 | |
| Socio-Economic Status | Middle | 29 | 81.72 | 10.053 | 1.726 |
| | Lower | 102 | 82.09 | 12.328 | |
| | BPL | 119 | 79.29 | 11.307 | |

| | | | | | |
|---|-----------------|-----|-------|--------|---------------|
| Preferred Discipline | English | 7 | 83.14 | 13.397 | 1.781 |
| | Hindi | 95 | 81.19 | 11.861 | |
| | Maths | 43 | 81.58 | 12.389 | |
| | Science | 41 | 81.41 | 10.899 | |
| | Home Sci. | 27 | 78.74 | 8.160 | |
| | Social Sci. | 23 | 82.83 | 12.452 | |
| | Economics | 14 | 71.86 | 11.326 | |
| Aspiration After 12th | NA | 14 | 73.36 | 7.531 | 4.358* |
| | Informal Sector | 92 | 79.63 | 13.162 | |
| | Formal Sector | 144 | 82.12 | 10.604 | |

**p< .001 level; *p<.05 level

Table 22 shows the demographics, various categories, number of respondents, mean value, SD, and f-value. The demographic age includes three groups. The analysis reflected that there exists difference between the mean scores of socio-emotional competencies ($F= 13.138$, $p<.05$). This shows that the scores of socio-emotional competencies in the students across various age groups are significant indicating that the difference in socio- emotional competencies is based on the age of the students.

In context of the place demographic, the research study comprehends it as the place where students enrol in the study process. Accordingly, four school locations in Kanpur district were grouped: Baikunthpur, Bhauti, Khersa and Hajipur. It is observed that there exists difference between the scores of socio-emotional competencies in the students of various school locations which is significant ($F= 22.593$, $p<.05$). This is indicative of difference in the scores of socio-emotional competencies being significant across various school locations in the Kanpur district. Similarly, in context of the socio-economic status, the research study refers to the household income in family of the individual. Based on the research, three categories were formed: Middle, Lower and Below Poverty Line (BPL).

The table shows that there exists no significant difference between the scores of socio-emotional competencies in the students belonging to various socio- economic backgrounds. This indicates that the scores of socio-emotional competencies in the students across various socio-economic backgrounds are not significant, meaning that the difference in socio-emotional competencies are not based on the socio-economic

status of the students. The table shows that there exists no significant difference between the scores of socio- emotional competencies in the students pursuing favourite subjects of their choice. This indicates that the scores of socio-emotional competencies in the students across various favourite subjects are not significant, implying that the difference in socio-emotional competencies are not based on the favourite subjects chosen by the students. The table shows that there exists a significant difference between the scores of socio-emotional competencies in the students' pursuing aspirations after 12th grade which is significant ($F= 4.358, p<.05$). This indicates that the difference in the scores of socio-emotional competencies in the students across various aspirations are significant. It further suggests that the difference in socio-emotional competencies is based on the aspirations selected by the students after completion of their secondary years.

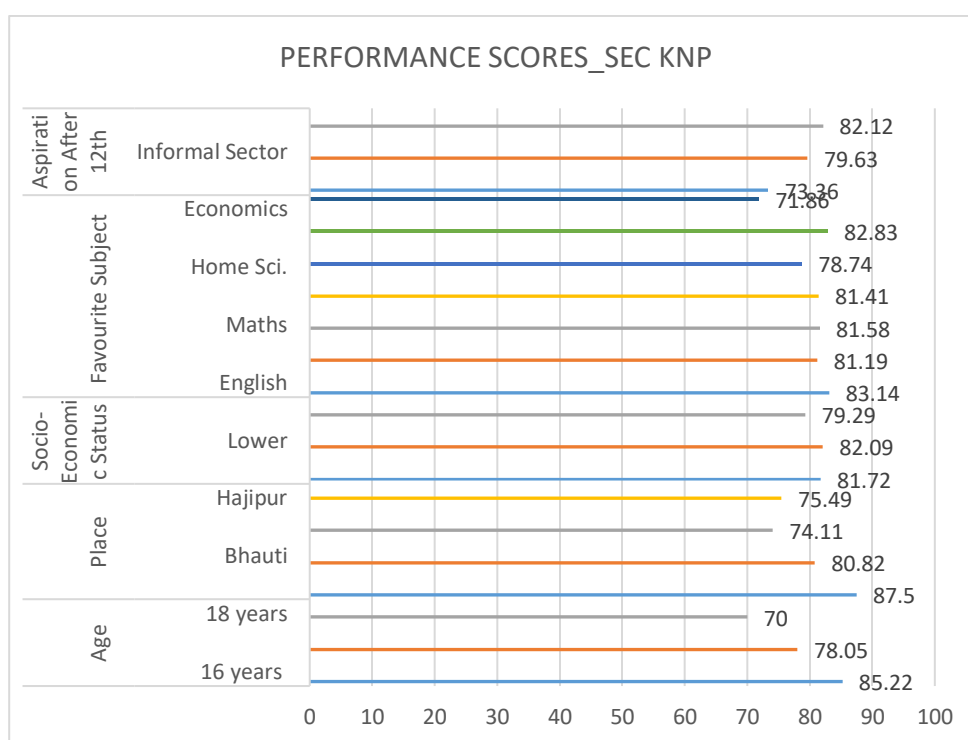


Figure 23: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12 category-wise mean scores of students in SEC- Kanpur district

The category-wise differences in the mean scores of students on socio-emotional competencies in the Kanpur district are depicted in Figure 23. It can be observed that the various factors suggest the variance in terms of means obtained for the demographics.

Objective 1(c): To examine the differences in Higher Education Readiness (HER) across various demographic characteristics like gender, class, age, SES, preferred discipline, spatial situation of school, aspiration after 12th and pursual to higher education at the secondary level.

The differential analysis in the scores of Higher Education Readiness, was done by using Independent Sample t-test for examining the students in the context of class, gender, spatial reference and pursual towards higher education.

Table 23: Demographics wise Mean, S.D., and t-value/F-value for Higher Education Readiness scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|-----|--------|--------|-----------------|
| Class | 11 th | 60 | 80.37 | 11.036 | 0.830 |
| | 12 th | 190 | 81.80 | 13.416 | |
| Gender | Male | 128 | 104.85 | 16.770 | 1.637 |
| | Female | 122 | 108.19 | 15.398 | |
| Spatial Reference | Rural | 99 | 94.88 | 11.397 | 7.577* |
| | Urban | 151 | 108.62 | 15.495 | |
| HE Pursual | No | 67 | 103.55 | 13.997 | 0.231 |
| | Yes | 183 | 103.04 | 16.084 | |

**p<.001 level; *p<.05 level

Table 23 shows the differential analysis of the variable Higher Education Readiness (HER) through the categories, number of respondents, mean, SD and t-value of the demographics undertaken in the research study. In the table 23, classes 11th and 12th were compared on the mean scores of higher education readiness and found to be not significant. This implies that there exists no significant difference amongst both the classes on the performance of higher education readiness. According to the gender demographic, the difference in mean scores of higher education readiness between male and female students are not significant at the 0.05 level. It reflects that there exists no significant difference in gender on the performance of higher education readiness. According to the spatial reference, the difference in the mean scores of higher education readiness between students of rural area and urban area are significant ($t= 7.577, p<.05$). This implies that there exists significant difference in context of the spatial reference. Contrastingly, in the pursual towards Higher Education demographic, the difference in

the mean scores of higher education readiness between students with negative response and students with positive response are not significant at the 0.05 level. This implies that there exists no significant difference in pursual towards higher education readiness.

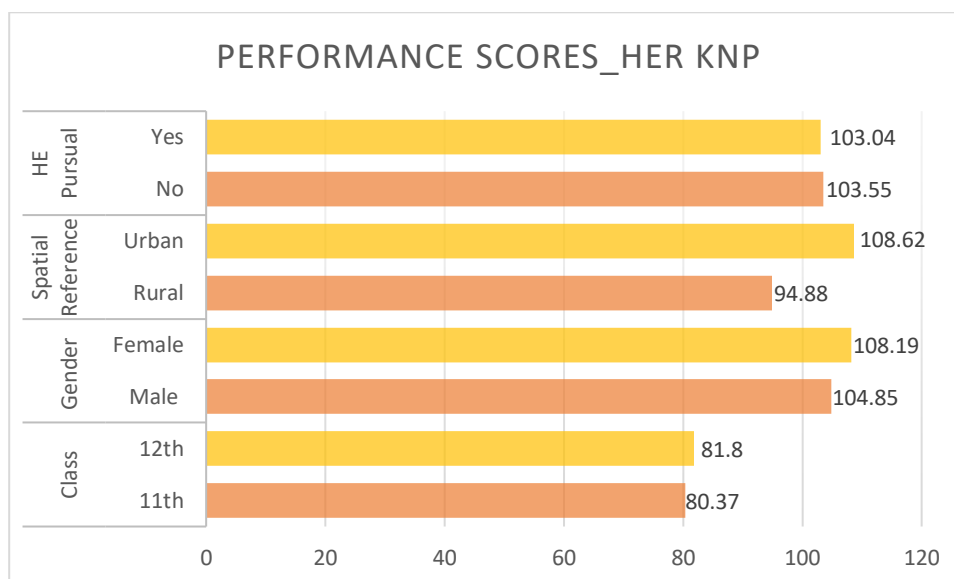


Figure 24: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in HER-Kanpur district.

The category wise differences in the mean scores of students on higher education readiness in the Kanpur district are depicted in Figure 24. Further below, is shown the variance in Higher Education Readiness scores of the students, that were analysed through Analysis of Variance (ANOVA). The demographic variables in the table below consist of the age of the students, place wise differences, socio-economic status, favourite subject and aspiration after 12th grade in table 24.

Table 24: Demographic category wise Mean, S.D., and F-value of Higher Education Readiness scores (ANOVA)

| Demographics | Category | N | M | S.D. | F-value |
|------------------------|-------------|-----|--------|--------|----------------|
| Age | 16 years | 95 | 105.98 | 15.618 | 4.121* |
| | 17 years | 153 | 101.21 | 15.105 | |
| | 18 years | 2 | 120.50 | 21.920 | |
| School Location | Baikunthpur | 84 | 105.76 | 16.601 | 23.200* |
| | Bhauti | 67 | 112.19 | 13.256 | |
| | Khersa | 44 | 97.16 | 13.198 | |
| | Hajipur | 55 | 93.05 | 9.454 | |

| | | | | | |
|---|-----------------|-----|--------|--------|---------------|
| Socio-Economic Status | Middle | 29 | 102.03 | 14.939 | 0.794 |
| | Lower | 102 | 104.67 | 16.330 | |
| | BPL | 119 | 102.18 | 14.974 | |
| Preferred Discipline | English | 7 | 105.14 | 6.694 | 1.844 |
| | Hindi | 95 | 104.60 | 14.746 | |
| | Maths | 43 | 104.33 | 14.947 | |
| | Science | 41 | 102.34 | 17.386 | |
| | Home Sci. | 27 | 103.22 | 19.250 | |
| | Social Sci. | 23 | 102.78 | 14.715 | |
| | Economics | 14 | 90.36 | 7.996 | |
| Aspiration After 12th | NA | 14 | 94.93 | 12.168 | 3.031* |
| | Informal Sector | 92 | 101.98 | 14.932 | |
| | Formal Sector | 144 | 104.74 | 16.262 | |

**p< .001 level; *p<.05 level

Table 24 shows the demographics, various categories, number of respondents, mean value, SD and f-value. The age demographic is inclusive of three groups. The differential analysis reflected that there exists difference in the mean scores of students of 16, 17 and 18 years on higher education readiness ($F= 4.121, p<.05$). This shows that the scores of higher education readiness in the students across various age groups are significant. In context of the place demographic, four school locations of Kanpur district were grouped: Baikunthpur, Bhauti, Khersa and Hajipur. The table shows that there exists a significant difference between the scores of higher education readiness in the students of various school locations which is significant ($F= 23.200, p<.05$). This is indicative of difference in the scores of higher education readiness being significant across various school locations in the Kanpur district. Similarly, in context of the socio-economic status, three categories were formed: Middle, Lower and Below Poverty Line (BPL). The table shows that there exists no significant difference between the scores of higher education readiness in the students belonging to various socio- economic backgrounds which is significant at 0.05 level.

This indicates that the scores of higher education readiness in the students across various socio-economic backgrounds are not significant implying that the difference in

higher education readiness are not based on the socio-economic status of the students. Also, the table shows that there exists no significant difference between the scores of higher education readiness in the students pursuing favourite subjects of their choice which is significant at 0.05 level. This indicates that the scores of higher education readiness in the students across various favourite subjects are not significant implying that the difference in higher education readiness are not based on the favourite subjects chosen by the students. In the Pursual to Higher Education demographic, it is observed that there exists difference between the scores of higher education readiness in the students' pursuing aspirations after 12th grade which is significant ($F= 3.031, p<.05$). This indicates that the difference in the mean scores of higher education readiness in the students across various aspirations are significant implying that the difference in higher education readiness is based on the aspirations selected by the students after completion of their secondary years.

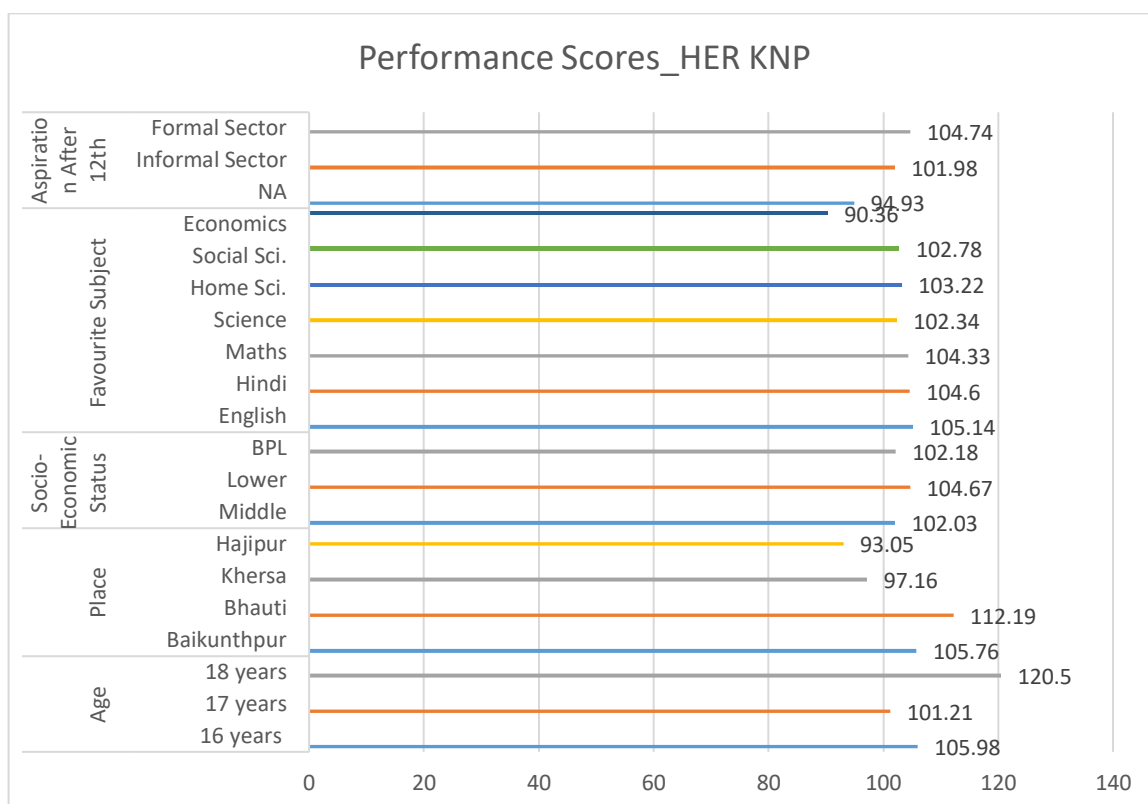


Figure 25: Graph representing age, school location, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in HER- Kanpur district.

The category wise differences in the mean scores of students on higher education readiness in the Kanpur district are depicted in Figure 25. It can be observed that the

various factors suggest the variance in terms of means obtained for the demographics consisting of more than two categories.

Results for Bahraich

The Bahraich dataset was analysed using the same statistical procedures as in the Kanpur dataset.

4.1.1.B Objective 1

To examine the differences in Educational Attainment (EA), Socio- Emotional Competencies (SEC) and Higher Education Readiness (HER) across various demographic characteristics like gender, class, age, SES, favourite subject, spatial situation of school, aspiration after 12th and pursual to higher education at the secondary level in Bahraich district.

Objective 1(d): To examine the differences in Educational Attainment (EA) across various demographic characteristics like gender, class, age, SES, favourite subject, spatial situation of school, aspiration after 12th and pursual to higher education at the secondary level.

The objective explored the difference in the scores of Educational Attainment in Bahraich district, by using the Independent Sample t-test for examination of the difference in Educational Attainment of students in the context of class, gender, spatial reference and pursual towards higher education. These demographics are divided in two groups.

Table 25: Demographics wise Mean, S.D., and t-value/F-value for Educational Attainment scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|-----|-------|--------|-----------------|
| Class | 11 th | 68 | 11.81 | 11.887 | 0.066 |
| | 12 th | 182 | 11.70 | 11.619 | |
| Gender | Male | 131 | 14.58 | 11.748 | 2.208* |
| | Female | 119 | 10.89 | 11.631 | |
| Spatial Reference | Rural | 144 | 7.31 | 9.396 | 7.759* |
| | Urban | 106 | 17.73 | 11.814 | |
| HE Pursual | No | 123 | 4.42 | 5.273 | 12.359* |
| | Yes | 127 | 18.80 | 11.815 | |

**p< .001 level; *p<.05 level

Table 25 shows the class, gender, spatial reference, and higher education pursual demographics undertaken in the research study regarding Bahraich district. According to the class, the mean scores of educational attainments between students of class 11th and 12th are not significant at the 0.05 level, indicating that no significant difference exist amongst both the classes on the performance of educational attainment. Male and female students were compared to analyse their scores on educational achievement. According

to the gender demographic, the difference in the mean scores of educational attainments between male and female students are significant at the 0.05 level. This implies that there exists significant difference in gender on the performance of educational attainment. Significant differences are revealed among the students of rural and urban spaces from Bahraich district, ($t= 7.759, p<.05$). This indicates that there exists significant difference in context of the spatial reference on the performance of educational attainment. Also, the table shows significant differences in the students towards pursual of higher education, ($t= 12.359, p<0.05$). It reflects those students with negative response towards pursual of higher education differed significantly with students of positive response on educational attainment scores.

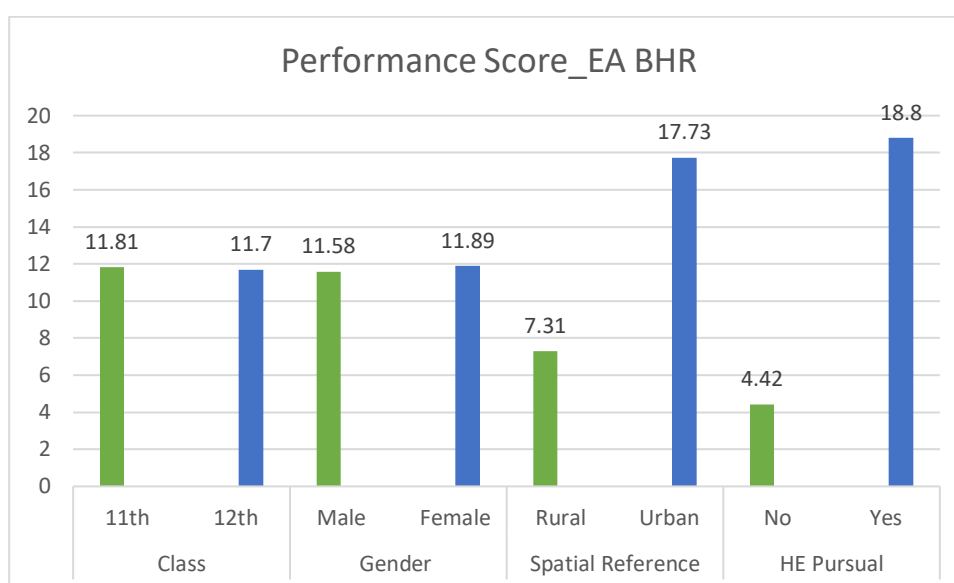


Figure 26: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in EA- Bahraich district.

The category wise differences in the mean scores of students on educational attainment in the Bahraich district are depicted in Figure 26. Subsequently, the table below includes the demographic variables of the research objective with more than two categories for Bahraich district. The educational attainment of the students was analysed through Analysis of Variance (ANOVA). The demographic variables in the table below consist of the age of the students, place wise differences, socio-economic status, favourite subject, and aspiration after 12th grade.

Table 26: Demographic category wise Mean, S.D., and F-value of Educational Attainment scores (ANOVA)

| Demographics | Category | N | M | S.D. | F-value |
|------------------------------|-----------------|-----|-------|--------|----------------|
| Age | 15 years | 4 | 21.00 | 14.283 | 0.027* |
| | 16 years | 106 | 9.78 | 10.656 | |
| | 17 years | 136 | 13.18 | 12.201 | |
| | 18 years | 4 | 4.50 | 3.109 | |
| School Location | Kaiserganj | 101 | 7.67 | 9.560 | 0.010** |
| | Mihinpurwa | 43 | 6.47 | 9.051 | |
| | Nagar Area | 106 | 17.73 | 11.814 | |
| Socio-Economic Status | Middle | 22 | 18.86 | 10.938 | 0.009** |
| | Lower | 86 | 11.49 | 10.727 | |
| | BPL | 142 | 10.77 | 12.014 | |
| Preferred Discipline | English | 2 | 17.00 | 4.243 | 0.000** |
| | Hindi | 133 | 4.22 | 3.405 | |
| | Maths | 31 | 30.65 | 5.908 | |
| | Science | 39 | 26.92 | 6.102 | |
| | Home Sci. | 17 | 6.94 | 3.750 | |
| | Social Sci. | 21 | 4.71 | 3.635 | |
| | Economics | 7 | 17.14 | 4.451 | |
| Aspiration After 12th | NA | 102 | 4.78 | 7.355 | 0.000** |
| | Informal Sector | 85 | 9.06 | 7.271 | |
| | Formal Sector | 63 | 26.57 | 8.607 | |

**p< .001 level; *p<.05 level

Table 26 shows the demographics, various categories, number of respondents, mean value, SD and f-value. The age demographic is inclusive of three groups, which were analysed through ANOVA. The results reflected that there exists significant difference between the mean scores of educational attainments ($F=0.027, p<.05$). This shows that the scores of educational attainments in the students across various age groups are significant, implying that the difference in educational attainment is based on the age of the students.

In context of the place demographic, the research study comprehends it as the place where students enrol in the study process. Accordingly, three school locations of Bahraich district were grouped: Kaiserganj, Mihinpurwa, and Bahraich Nagar Area. The

table shows that there exists difference between the mean scores of educational attainment in the students at various school locations which is significant ($F= 0.000$, $p<.01$). This is indicative of difference in the scores of educational attainment being significant across various school locations in the Bahraich district. Similarly, socio-economic status is referred to as the household income in family of the individual. Based on the research, three categories were formed. The table shows that there exists a significant difference between the scores of educational attainment in the students belonging to various socio- economic backgrounds ($F= 0.009$, $p<.01$). It is suggestive of the scores of educational attainment to be significant, in the students across various socio-economic backgrounds meaning that the difference in educational attainment is based on the socio-economic status of the students. The table shows that there exists difference between the mean scores of educational attainment in the students pursuing favourite subjects of their choice which is significant ($F= 0.000$, $p<.01$). This indicates that the scores of educational attainment in the students across various favourite subjects are significant implying that the difference in performance on educational attainment is based on the favourite subjects chosen by the students. The table also demonstrates that there exists difference between the scores of educational attainment in the students pursuing aspirations after 12th grade which is significant ($F= 0.000$, $p<.01$). This indicates that the scores of educational attainment in the students across various aspirations are significant implying that the difference in educational attainment is based on the aspirations selected by the students after completion of their secondary years.

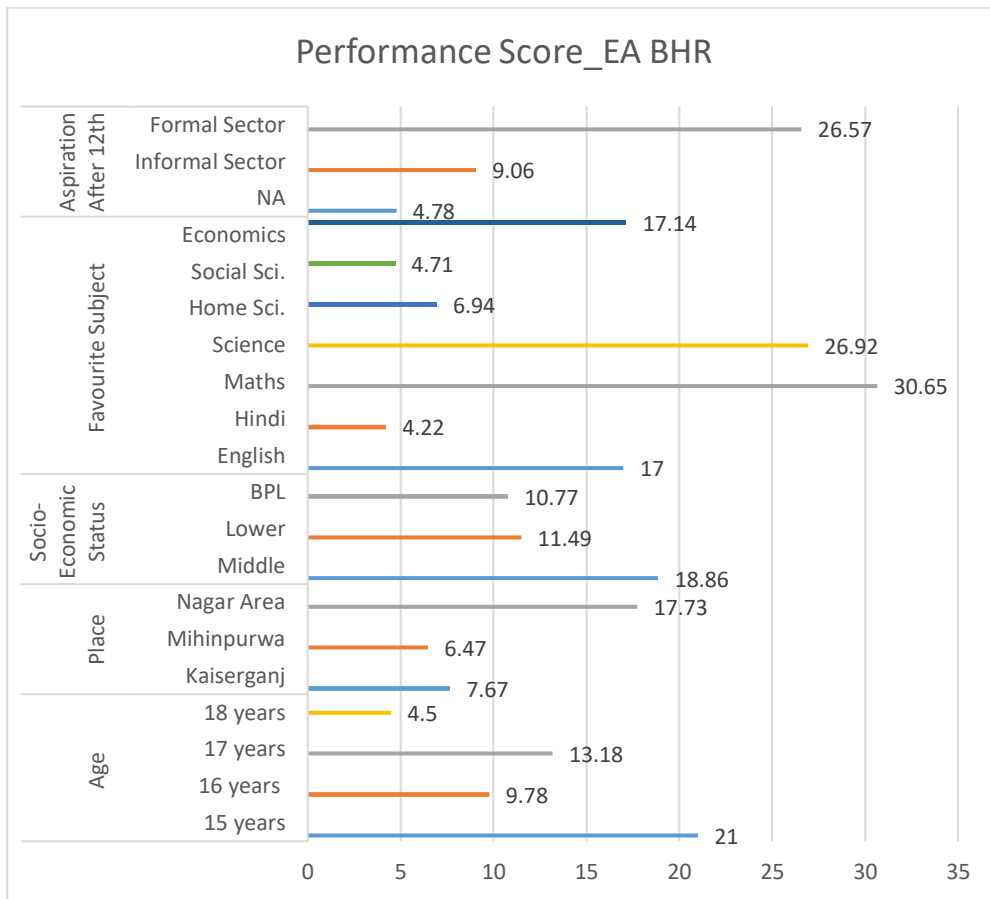


Figure 27: Graph representing age, school location, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students on EA- Bahraich district.

The category wise differences in the mean scores of students on educational attainment in the Kanpur district are depicted in Figure 27. It can be observed that the various factors suggest the significant variance in terms of means obtained for the demographics undertaken in the study.

Objective 1(e): To examine the differences in Socio-Emotional Competencies (SEC) across various demographic characteristics like gender, class, age, SES, preferred discipline, school location, aspiration after 12th and pursual to higher education at the secondary level.

The differential analysis for this objective was carried out by using Independent Sample t-test for examining the students in the context of class, gender, spatial reference and pursual towards higher education on the scores of Socio-Emotional Competencies.

Table 27: Demographics wise Mean, S.D. and t-value/F-value for Socio-Emotional Competencies scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|-----|-------|--------|-----------------|
| Class | 11 th | 68 | 73.97 | 16.673 | 1.858 |
| | 12 th | 182 | 78.84 | 19.001 | |
| Gender | Male | 128 | 73.38 | 16.389 | 3.722* |
| | Female | 122 | 81.92 | 19.625 | |
| Spatial Reference | Rural | 144 | 64.30 | 9.671 | 22.872* |
| | Urban | 106 | 95.06 | 11.430 | |
| HE Pursual | No | 123 | 64.95 | 12.219 | 13.794* |
| | Yes | 127 | 89.35 | 15.313 | |

**p<.001 level; *p<.05 level

Table 27 demonstrates the variables, categories, number of respondents, mean, SD and t-value of the demographics undertaken in the research study. In the class demographic, the f-value obtained for socio-emotional competencies between students of class 11th and 12th is not significant. It shows that there exists no significant difference amongst both the classes on the performance of socio-emotional competencies. The gender demographic shows that the difference in the mean scores of socio-emotional competencies between male and female students are found significant ($t= 3.722, p<.05$). This implies that there exists significant difference in gender on the performance of socio-emotional competencies. In case of the spatial reference, the difference in the mean scores of socio-emotional competencies between students of rural area and urban area are found to be significant ($t= 22.872, p<.05$). It suggests that there exists significant difference in context of the spatial reference. According to the pursual towards Higher Education demographic, the difference in the mean scores of socio- emotional competencies

between students with negative response and students with positive response are significant ($t= 13.794, p<.05$), implying that there exists significant difference in the responses achieved for pursual towards higher education demographic.

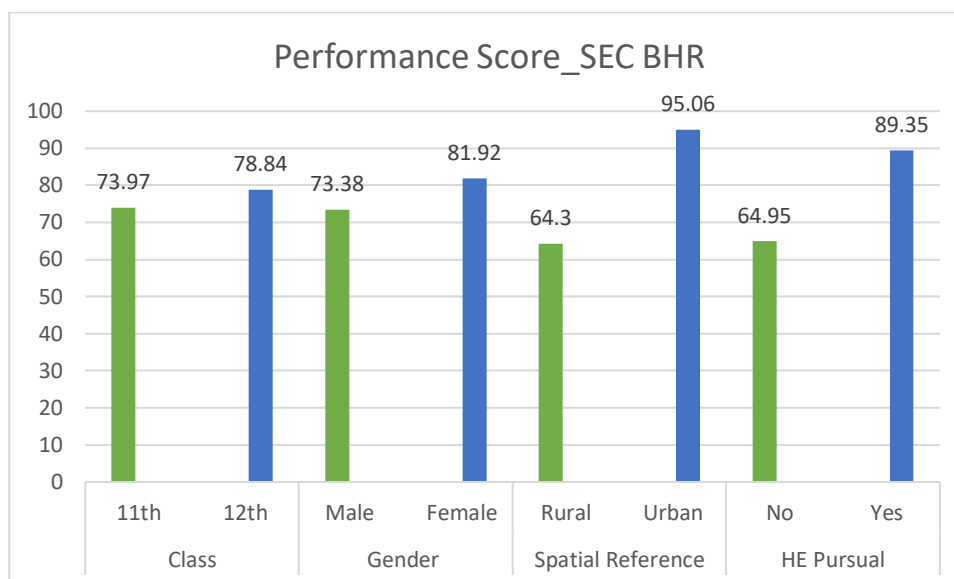


Figure 28: Graph representing class, gender, spatial reference and pursual to HE category wise mean scores of students in SEC-Bahraich district.

The category wise differences in the mean scores of students on socio-emotional competencies in the Bahraich district are depicted in Figure 28. The table below shows the socio-emotional competencies of the students that were analysed through Analysis of Variance (ANOVA). The demographic variables in the table below consist of the age of the students, place wise differences, socioeconomic status, favourite subject and aspiration after 12th grade.

Table 28: Demographic category wise Mean, S.D., and F-value of Socio-Emotional Competencies scores

| Demographics | Category | N | M | S.D. | F-value |
|------------------------|------------|-----|-------|--------|----------------|
| Age | 15 years | 4 | 67.25 | 10.210 | 0.003** |
| | 16 years | 106 | 73.01 | 18.153 | |
| | 17 years | 136 | 81.43 | 18.299 | |
| | 18 years | 4 | 73.75 | 9.535 | |
| School Location | Kaiserganj | 101 | 65.63 | 9.280 | 0.027** |
| | Mihinpurwa | 43 | 61.05 | 9.947 | |
| | Nagar Area | 106 | 95.06 | 11.430 | |

| Demographics | Category | N | M | S.D. | F-value |
|--|-----------------|-----|--------|--------|----------------|
| Socio-Economic Status | Middle | 22 | 90.36 | 15.518 | 0.000** |
| | Lower | 86 | 80.23 | 18.249 | |
| | BPL | 142 | 73.87 | 17.975 | |
| Preferred Discipline Preferred Discipline | English | 2 | 94.50 | 0.707 | 0.000** |
| | Hindi | 133 | 70.32 | 14.082 | |
| | Maths | 31 | 90.87 | 17.138 | |
| | Science | 39 | 93.49 | 16.090 | |
| | Home Sci. | 17 | 83.18 | 15.485 | |
| | Social Sci. | 21 | 58.38 | 6.674 | |
| | Economics | 7 | 101.14 | 5.490 | |
| Aspiration After 12th | NA | 102 | 63.52 | 8.965 | 0.000** |
| | Informal Sector | 85 | 79.84 | 16.243 | |
| | Formal Sector | 63 | 96.32 | 13.847 | |

**p< .001 level; *p<.05 level

Table 28 shows the demographics, various categories, number of respondents, mean value, SD and f-value. The demographic age includes four groups. The analysis reflected that there exists significant difference between the mean scores of socio-emotional competencies at 0.01 level. This shows that the scores of socio-emotional competencies in the students across various age groups are significant implying that the difference in socio-emotional competencies is based on the age of the students.

In context of the place demographic, four school locations of Bahraich district were grouped: Kaiserganj, Mihinpurwa and Nagar Area. The table shows that there exists a significant difference between the scores of socio-emotional competencies in the students of various school locations which is significant ($f= 0.000$, $p<.01$). This is indicative of difference in the scores of socio-emotional competencies being significant across various school locations in the Bahraich district. Similarly, in context of the socio-economic status, three categories were formed: Middle, Lower and Below Poverty Line (BPL). The table shows that there exists a difference between the scores of socio-emotional competencies in the students belonging to various socio-economic backgrounds ($f= .000$, $p<.01$). This indicates that the scores of socio-emotional competencies in the students

across various socio-economic backgrounds are significant implying that the difference in socio-emotional competencies is based on the socio-economic status of the students. The table shows that there exists a difference between the scores of socio-emotional competencies in the students pursuing favourite subjects of their choice ($f= .000, p<.01$). This shows that the scores of socio-emotional competencies in the students across various favourite subjects are significant implying that the difference in socio-emotional competencies are based on the favourite subjects chosen by the students. The table shows that there exists a significant difference between the scores of socio-emotional competencies in the students pursuing aspirations after 12th grade which is significant at 0.01 level. This indicates that the scores of socio-emotional competencies in the students across various aspirations are significant implying that the difference in socio-emotional competencies are based on the aspirations selected by the students after completion of their secondary years.

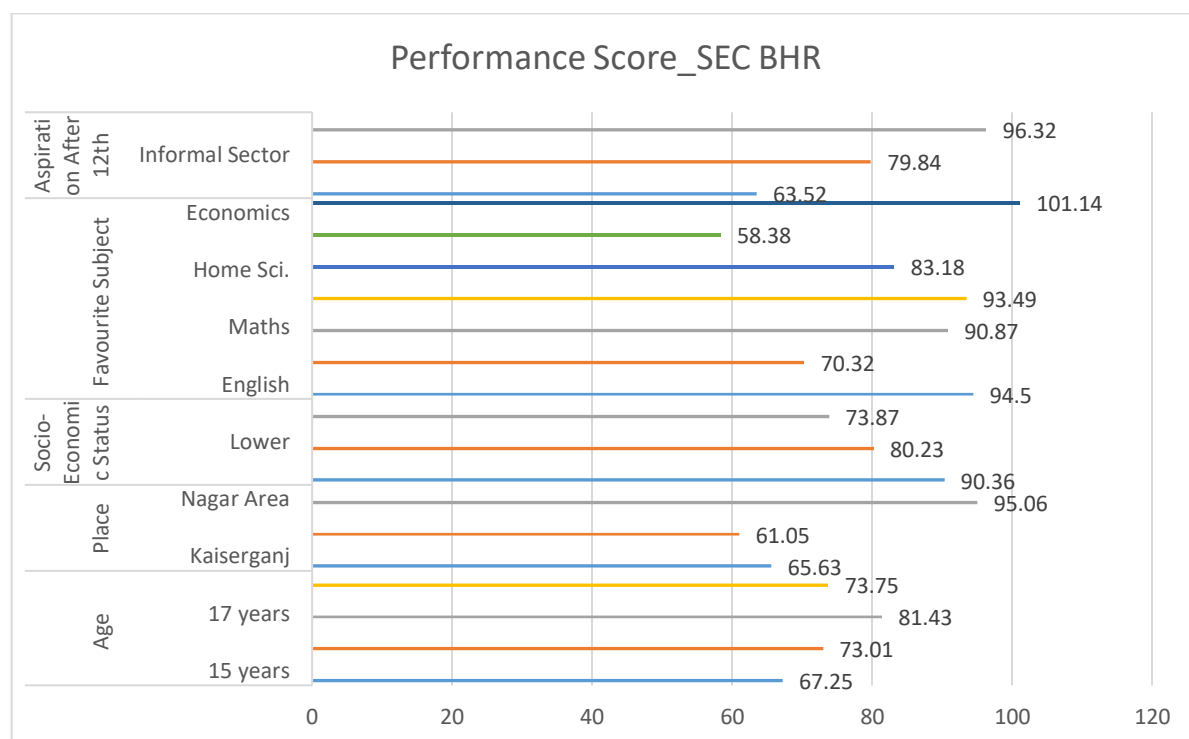


Figure 29: Graph representing age, place, Socio-Economic Status, preferred discipline and aspiration after 12th category wise mean scores of students in SEC- Bahraich district.

The category-wise differences in the mean scores of students on socio-emotional competencies in the Bahraich district are depicted in Figure 29.

Objective 1(f): To examine the differences in Higher Education Readiness (HER) across various demographic characteristics like gender, class, age, SES, preferred discipline, school location, aspiration after 12th and pursual to higher education at the secondary level.

The differential analysis in the scores of Higher Education Readiness, was done by using Independent Sample t-test for examining the students in the context of class, gender, spatial reference and pursual towards higher education.

Table 29: Demographics wise Mean, S.D. and t-value/F-value for Higher Education Readiness scores

| Demographics | Category | N | Mean | S.D. | t-value/F-value |
|--------------------------|------------------|-----|--------|--------|-----------------|
| Class | 11 th | 68 | 91.41 | 10.915 | 1.664 |
| | 12 th | 182 | 94.38 | 13.095 | |
| Gender | Male | 128 | 91.24 | 12.945 | 3.047** |
| | Female | 122 | 96.02 | 11.766 | |
| Spatial Reference | Rural | 144 | 84.49 | 6.199 | 24.610** |
| | Urban | 106 | 105.91 | 7.539 | |
| HE Pursual | No | 123 | 85.70 | 7.708 | 12.338** |
| | Yes | 127 | 101.20 | 11.684 | |

**p< .01 level; *p<.05 level

Table 29 shows the differential analysis of the variable Higher Education Readiness (HER) through the categories, number of respondents, mean, SD and t-value of the demographics undertaken in the research study. In the table 14, classes 11th and 12th were compared on the mean scores of higher education readiness and the differences were found to be not significant. This implies that there exists no significant difference amongst both the classes on the performance of higher education readiness. According to the gender, the difference in mean scores of higher education readiness between male and female students are significant ($t=3.047, p<.01$). This implies that there exists significant difference in gender on the performance of higher education readiness. According to the spatial reference, the mean scores of higher education readiness between students of rural area and urban area are significant at the 0.01 level. This implies that there exists significant difference in context of the spatial reference. According to the pursual towards Higher Education, the mean scores of higher education readiness

between students with negative response and students with positive response are significant at the 0.01 level. This implies that there exists significant difference in pursual towards higher education readiness.

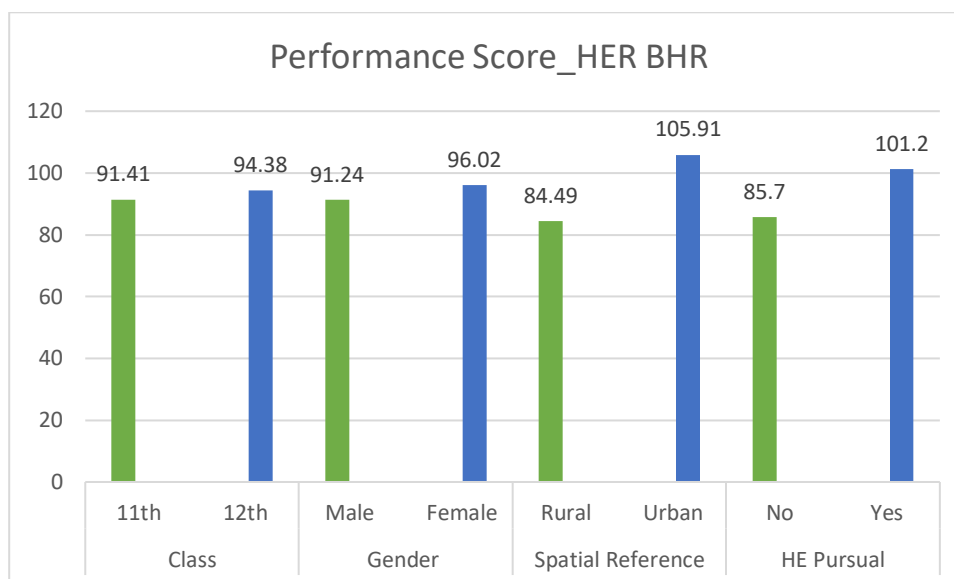


Figure 30: Graph representing class, gender, spatial reference and pursual to HE category-wise mean scores of students in HER-Bahraich district.

The category wise differences in the mean scores of students on higher education readiness in the Bahraich district are depicted in Figure 30. Further, the table below shows the differential analysis of the scores of higher education readiness of the students of Bahraich, which were analysed through Analysis of Variance (ANOVA). The demographic variables in the table below consist of the age of the students, place wise differences, socio-economic status, favourite subject and aspiration after 12th grade.

Table 30: Demographic category wise Mean, S.D., and F-value of Higher Education Readiness scores (ANOVA)

| Demographics | Category | N | M | S.D. | F-value |
|--------------|------------|-----|--------|--------|----------------|
| Age | 15 years | 4 | 88.50 | 9.950 | 0.021* |
| | 16 years | 106 | 91.32 | 11.863 | |
| | 17 years | 136 | 95.71 | 12.984 | |
| | 18 years | 4 | 85.50 | 5.802 | |
| Place | Kaiserganj | 101 | 82.86 | 5.190 | 0.000** |
| | Mihinpurwa | 43 | 88.33 | 6.728 | |
| | Nagar Area | 106 | 105.91 | 7.539 | |

| Demographics | Category | N | M | S.D. | F-value |
|---|-----------------|-----|--------|--------|----------------|
| Socio-Economic Status | Middle | 22 | 100.68 | 8.482 | 0.000** |
| | Lower | 86 | 95.87 | 12.407 | |
| | BPL | 142 | 91.08 | 12.608 | |
| Favourite Subject | English | 2 | 96.50 | 4.950 | 0.000** |
| | Hindi | 133 | 91.04 | 11.252 | |
| | Maths | 31 | 100.13 | 12.369 | |
| | Science | 39 | 98.85 | 13.164 | |
| | Home Sci. | 17 | 93.18 | 11.512 | |
| | Social Sci. | 21 | 83.48 | 5.645 | |
| | Economics | 7 | 113.71 | 9.268 | |
| Aspiration After 12th | NA | 102 | 84.75 | 6.391 | 0.000** |
| | Informal Sector | 85 | 96.99 | 11.741 | |
| | Formal Sector | 63 | 103.24 | 12.012 | |

**p< .001 level; *p<.05 level

Table 30 shows the demographics, various categories, number of respondents, mean value, SD and f-value. The demographic age includes three groups. The analysis reflected that there exists significant difference between the mean scores of higher education readiness at 0.05 level. This shows that the scores of higher education readiness in the students across various age groups are significant implying that the difference in higher education readiness is based on the age of the students.

In context of the place demographic, four school locations of Bahraich district were grouped: Kaiserganj, Mihinpurwa and Nagar Area. The table shows that there exists a significant difference between the scores of higher education readiness in the students of various school locations which is significant at 0.05 level. This is indicative of difference in the scores of higher education readiness being significant across various school locations in the Bahraich district. Similarly, in context of the socio-economic status, three categories were formed: Middle, Lower and Below Poverty Line (BPL). The table shows that there exists no significant difference between the scores of higher education readiness in the students belonging to various socio- economic backgrounds which is significant at 0.05 level. This indicates that the scores of higher education readiness in the students across various socio-economic backgrounds are significant, implying that

the differences in higher education readiness are not based on the socio-economic status of the students.

The table shows that there exists a significant difference between the scores of higher education readiness in the students pursuing favourite subjects of their choice, which is significant at 0.05 level. This indicates that the scores of higher education readiness in the students across various favourite subjects are not significant, implying that the differences in higher education readiness are based on the favourite subjects chosen by the students. The table shows that there exists a significant difference between the scores of higher education readiness in the students' pursuing aspirations after 12th grade, which is significant at 0.05 level. This indicates that the scores of higher education readiness in the students across various aspirations are significant, implying that the difference in higher education readiness are based on the aspirations selected by the students after completion of their secondary years.

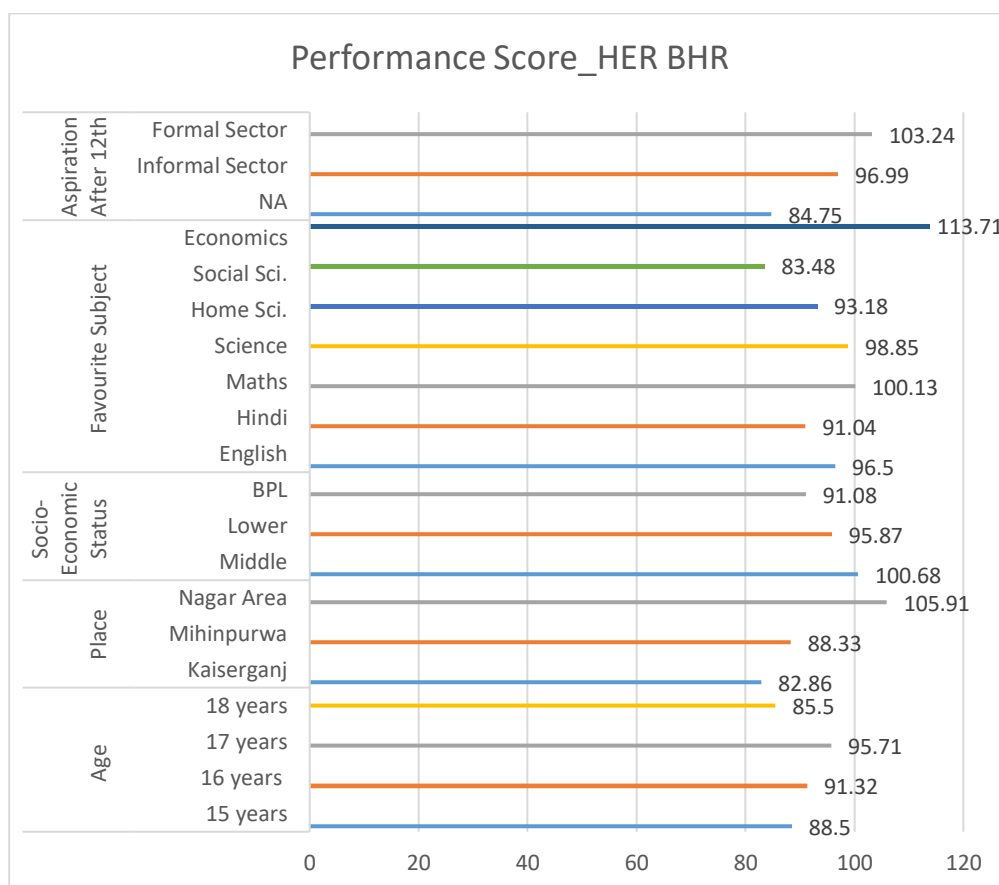


Figure 31: Graph representing age, place, Socio-Economic Status, favourite subject, and aspiration after 12th category wise mean scores of students in HER- Bagraich district.

The category wise differences in the mean scores of students on higher education readiness in the Bahraich district are depicted in Figure 31. It can be observed that the various factors suggest the variance in terms of means obtained for the demographics consisting of more than two categories, in the research study.

4.1.2.A Objective 2

To assess the impact of Student demographics on Higher Education Readiness (HER) of students at the secondary level in Kanpur and Bahraich districts. Separate regression models were created for the sample schools of both districts to examine how differently the same demographics predict the effect on educational attainment, socio-emotional competencies and higher education readiness. Before computing the correlation and regression, the demographic profile of students who participated in the study, in terms of percentage was calculated. It is represented in table 31.

Table 31: Demographic profile of students who participated in the study – Kanpur

| Demographics | Category | N | M | S.D. | F-value |
|---|-----------------|----------|----------|-------------|----------------|
| Age | 15 years | 4 | 88.50 | 9.950 | 0.021* |
| | 16 years | 106 | 91.32 | 11.863 | |
| | 17 years | 136 | 95.71 | 12.984 | |
| | 18 years | 4 | 85.50 | 5.802 | |
| Place | Kaiserganj | 101 | 82.86 | 5.190 | 0.000** |
| | Mihinpurwa | 43 | 88.33 | 6.728 | |
| | Nagar Area | 106 | 105.91 | 7.539 | |
| Socio-Economic Status | Middle | 22 | 100.68 | 8.482 | 0.000** |
| | Lower | 86 | 95.87 | 12.407 | |
| | BPL | 142 | 91.08 | 12.608 | |
| Favourite Subject | English | 2 | 96.50 | 4.950 | 0.000** |
| | Hindi | 133 | 91.04 | 11.252 | |
| | Maths | 31 | 100.13 | 12.369 | |
| | Science | 39 | 98.85 | 13.164 | |
| | Home Sci. | 17 | 93.18 | 11.512 | |
| | Social Sci. | 21 | 83.48 | 5.645 | |
| | Economics | 7 | 113.71 | 9.268 | |
| Aspiration After 12th | NA | 102 | 84.75 | 6.391 | 0.000** |
| | Informal Sector | 85 | 96.99 | 11.741 | |

| Demographics | Category | N | M | S.D. | F-value |
|---|-----------------|---|-----|------|---------|
| Class | 11th | | 60 | | 24% |
| | 12th | | 190 | | 76% |
| Age | 16 years | | 95 | | 38% |
| | 17 years | | 153 | | 61.2% |
| | 18 years | | 2 | | 0.8% |
| Gender | Male | | 128 | | 51.2% |
| | Female | | 122 | | 48.8% |
| School Name | Baikunthpur | | 84 | | 33.6% |
| | Bhauti | | 67 | | 26.8% |
| | Khersa | | 44 | | 17.6% |
| | Hajipur | | 55 | | 22% |
| Spatial Reference | Rural | | 99 | | 39.6% |
| | Urban | | 151 | | 60.4% |
| Household Income | Middle | | 29 | | 11.6% |
| | Lower | | 102 | | 40.8% |
| | BPL | | 119 | | 47.6% |
| Favourite Subject | English | | 7 | | 2.8% |
| | Hindi | | 95 | | 38% |
| | Maths | | 43 | | 17.2% |
| | Science | | 41 | | 16.4% |
| | Home Sci. | | 27 | | 10.8% |
| | Social Sci. | | 23 | | 9.2% |
| | Economics | | 14 | | 5.6% |
| Aspiration after 12th grade | NA | | 14 | | 5.6% |
| | Informal Sector | | 92 | | 36.8% |
| | Formal Sector | | 144 | | 57.6% |
| HE Pursual | No | | 67 | | 26.8% |
| | Yes | | 182 | | 72.8% |

Regression Results for Kanpur

Objective 2 (a): To identify the way the demographic indicators predict Educational Achievement (EA) in the secondary level students of Kanpur district.

The second objective is to identify the effects of the student demographic indicators on educational attainment in the students of secondary classes in Kanpur district. Before calculating the regression analysis among the predictors and dependent variables in the schools of Kanpur districts, the correlation was checked. The results are shown in the table below.

Table 32: Correlation between student demographic characteristics and educational attainment-Kanpur

| Item | Class | Age | Gender | School Name | Spatial Ref. | Household income | Fav. Subject | Aspiration after 12th | HE Pursual | EA |
|-----------------------|---------|---------|---------|-------------|--------------|------------------|--------------|-----------------------|------------|----|
| Class | 1 | | | | | | | | | |
| Age | .200** | 1 | | | | | | | | |
| Gender | .118 | -.058 | 1 | | | | | | | |
| School Name | .252** | .322** | .285** | 1 | | | | | | |
| Spatial Ref. | -.206** | -.275** | -.208** | -.901** | 1 | | | | | |
| Household income | .146* | .112 | .001 | .245** | .221** | 1 | | | | |
| Fav. Subject | -.008 | -.063 | -.016 | -.043 | .030 | .026 | 1 | | | |
| Aspiration after 12th | .065 | -.062 | -.192** | -.287** | -.347** | -.125* | -.273* | 1 | | |
| HE Pursual | -.002 | -.053 | -.060 | -.144* | .083 | -.211** | .423* | .358** | 1 | |
| EA | -.089 | -.372** | -.099 | -.463** | .442** | -.176** | .248** | .441** | .312** | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results in table 32 for secondary students in Kanpur reflect that all the predictors were observed to correlate with the dependent variable (Educational

Attainment). Predictors that do not correlate to the dependent variable cannot generate coefficients later in the regression computation and are thus removed from the analysis procedure. The student indicators age, school name, spatial reference, socio-economic status, aspiration after 12th grade and pursual towards higher education were found to be significantly related to the variable Educational Attainment. The table 18 represents the effect of students' demographic characteristics- class, age, gender, school name, spatial reference, socio-economic status, favourite subject, aspiration after 12th grade and pursual towards higher education towards Educational Attainment in Kanpur district. The assumptions of multiple regression analysis were analysed before computing the results. The analysis completed the criteria of normal distribution and absence of outliers.

Table 33: Multiple Regression results of student demographic characteristics on EA Score- Kanpur

| Predictors | Coef. (B) | Std. Err. | B | T | p> t | Tolerance | VIF |
|------------------------------|-----------------|-----------|-------|--------|-------|-----------|-------|
| Class | .576 | 1.839 | .017 | .313 | .754 | .882 | 1.133 |
| Age | -7.426 | 1.602 | -.250 | -4.636 | .000 | .850 | 1.176 |
| Gender | .727 | 1.606 | .024 | .453 | .651 | .845 | 1.184 |
| School Location | -3.137 | 1.612 | -.242 | -1.946 | .053 | .159 | 3.272 |
| Spatial Ref. | 1.594 | 3.682 | .052 | .433 | .666 | .168 | 3.957 |
| Socio-Eco Status | -.503 | 1.159 | -.023 | -.433 | .665 | .876 | 1.142 |
| Prof. Disc. | .899 | .516 | .098 | 1.744 | .083 | .782 | 1.278 |
| Aspiration after 12th | 6.654 | 1.462 | .269 | 4.551 | .000 | .704 | 1.420 |
| HE Pursual | 3.991 | 1.994 | .119 | 2.001 | .046 | .698 | 1.434 |
| R2 | .408 | | | | | | |
| C | 38.839 | | | | | | |
| F | 18.400** | | | | | | |

Table 33 represents multiple regression results where the student demographics contribute to 40.8% proportion of variance towards Educational Attainment scores for students from Kanpur district ($R^2 = .408$, adjusted $R^2 = .386$). The model was found to be significant, $F(9, 240) = 18.400$, $p < .01$. The predictors found to be significant in the model were age ($B = 7.426$, $p < .05$) school location ($B = 3.137$, $p < .05$), aspiration after 12th grade ($B = 6.654$, $p < .05$) and HE Pursual ($B = 3.991$, $p < .05$). The multicollinearity check is conducted by the researcher for each independent variable through Tolerance Index and Variance Inflation Factor (VIF). Multicollinearity implies that if the correlation among the independent variables exceeds 0.9 then it is referred as collinearity issue. It signifies the high correlation among the independent variables. The tolerance index facilitates the examination of high correlation in the independent variables, consequential enlargement in error terms and impact on the predictability of the model. Similar role is played by the Variance Inflation Factor (VIF) to assess multicollinearity. Its value should be observed less than 4. The collinearity statistic values (tolerance and VIF) in table 18 were observed to fall in the acceptable range which is indicative of no exaggeration of coefficients due to collinearity in any predictor variables. The Durbin-Watson Test assesses the autocorrelation of errors. It should be within the range of 0-4. The Durbin- Watson Test value was found to be 1.627, which indicates positive autocorrelation suggesting that increase in significant predictors discussed above, lead to a proportionate increase in the educational attainment scores. Figure 32 presents the histogram and scatterplot that indicate the absence of heteroscedasticity in the data.

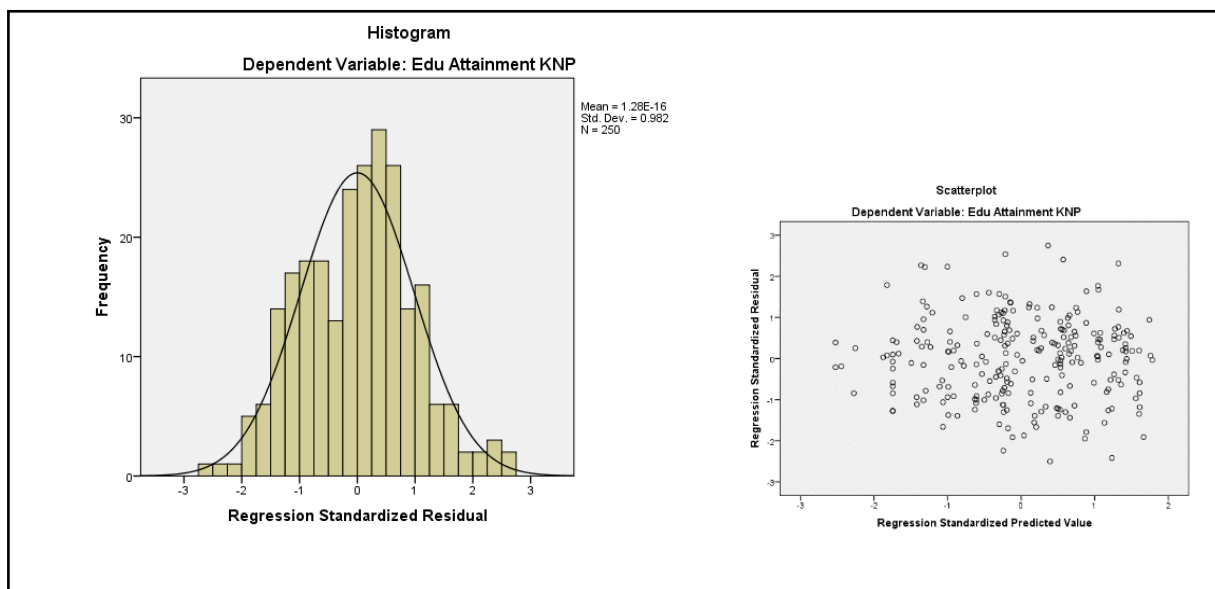


Figure 32: Graph representing histogram and scatterplot for student demographics- EA Kanpur

Objective 2(b): To analyse the effect of class, age, gender, school location, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE on the Socio-Emotional Competencies (SEC) of students at the secondary level.

Correlation was checked for student demographics in terms of Socio- Emotional Competencies (SEC). The table 34 represents the correlation values for the same.

Table 34: Correlation between student demographic characteristics and SEC scores- Kanpur

| Item | Class | Age | Gender | School Loc. | Spatial Ref. | Household income | Pref. Disc. | Aspiration after 12th | HE Pursual | SEC |
|-----------------------|---------|---------|---------|-------------|--------------|------------------|-------------|-----------------------|------------|-----|
| Class | 1 | | | | | | | | | |
| Age | .200** | 1 | | | | | | | | |
| Gender | .118 | -.058 | 1 | | | | | | | |
| School Loc. | .252** | .322** | .285** | 1 | | | | | | |
| Spatial Ref. | -.206** | -.275** | -.208** | -.901** | 1 | | | | | |
| Household income | .146* | .112 | .001 | .245** | -.221** | 1 | | | | |
| Pref. Disc. | -.008 | -.063 | -.016 | -.043 | .030 | .026 | 1 | | | |
| Aspiration after 12th | .065 | -.062 | -.192** | -.287** | .347** | -.125* | .273** | 1 | | |
| HE Pursual | -.002 | -.053 | -.060 | -.144* | .083 | -.211** | .423** | .358* | 1 | |
| SEC | -.053 | -.310** | -.115 | -.431** | .407** | -.101 | -.108 | .175* | .025 | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results for secondary students in Kanpur reflect that all the predictors were observed to correlate with the dependent variable (Socio-Emotional Competencies). The predictors age, school name, spatial reference, socio-economic

status, aspiration after 12th grade and pursual towards higher education were found to be significantly correlated to Socio- Emotional Competencies (SEC).

Subsequently, the effect of students' demographic characteristics- class, age, gender, school name, spatial reference, socio-economic status, favourite subject, aspiration after 12th grade and pursual towards higher education was observed towards Socio- Emotional Competencies in Kanpur district. The assumptions of multiple regression analysis were analysed before computing the results.

Table 35: Multiple Regression results of student demographic characteristics on SEC Score- Kanpur

| Predictors | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|---|---------------|-----------|-------|--------|-------|-----------|-------|
| Class | 1.982 | 1.615 | .073 | 1.227 | .221 | .882 | 1.133 |
| Age | -5.070 | 1.406 | -.218 | -3.605 | .000 | .850 | 1.176 |
| Gender | -.518 | 1.410 | -.022 | -.368 | .713 | .845 | 1.184 |
| School Loc. | -3.060 | 1.416 | -.302 | -2.162 | .032 | .159 | 6.272 |
| Spatial Ref. | 1.476 | 3.233 | .062 | .457 | .648 | .168 | 5.957 |
| Socio-Eco Status | .288 | 1.018 | .017 | .283 | .777 | .876 | 1.142 |
| Pref. Disc. | -1.170 | .453 | -.163 | -2.583 | .010 | .782 | 1.278 |
| Aspiration after 12th | 1.727 | 1.284 | .089 | 1.345 | .180 | .704 | 1.420 |
| HE Pursual | .100 | 1.751 | .004 | .057 | .954 | .698 | 1.434 |
| R2 | .253 | | | | | | |
| C | 97.959 | | | | | | |
| F | 9.051* | | | | | | |

Table 35 represents multiple regression results where the student demographics contribute to 25.3% proportion of variance towards Socio- Emotional Competencies

(SEC) scores for students from Kanpur district ($R^2 = .253$, adjusted $R^2 = .225$). The model was found to be significant, $F(9, 240) = 9.051$, $p < .01$. The predictors found to be significant in the model were age ($B = 5.070$, $p < .05$) school location ($B = 3.060$, $p < .05$) and preferred discipline ($B = 1.170$, $p < .05$).

The collinearity statistic values (tolerance and VIF) were observed to fall in the acceptable range which is indicative of absence of collinearity in any predictor variables in terms of socio-emotional competencies. The Durbin-Watson Test value was found to be 1.428 which indicates positive autocorrelation suggesting that increase in significant predictors found above, lead to a proportionate increase in the socio-emotional competencies scores. Figure 33 presents the histogram and scatterplot that indicate that indicates the presence of homoscedasticity in the data.

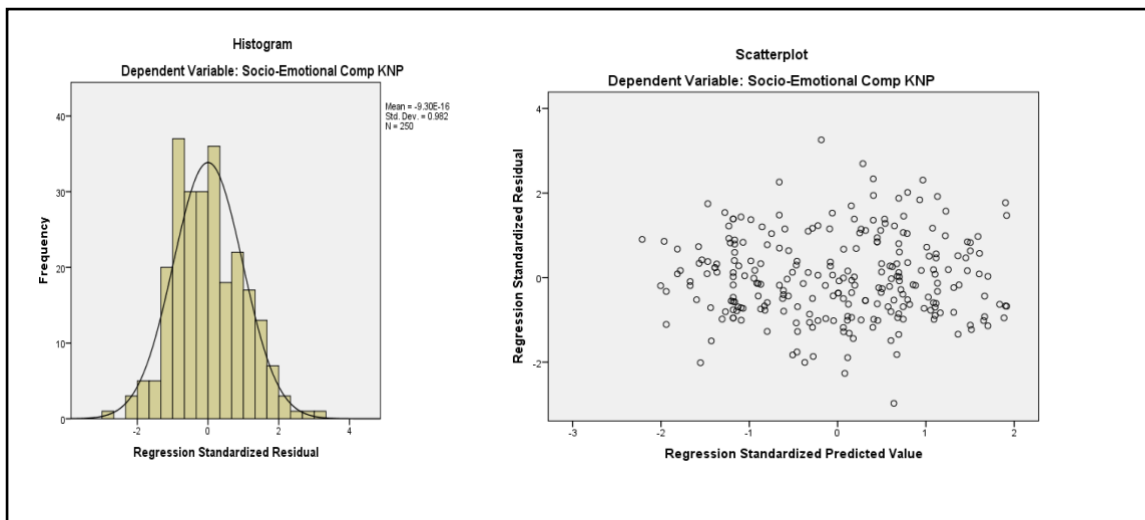


Figure 33: Graph representing histogram and scatterplot for student demographics- SEC Kanpur

Objective 2(c): To analyse the effect of class, age, gender, school name, spatial reference, Socio-Economic Status, favourite subject, aspiration after 12th and pursual to HE on the Higher Education Readiness (HER) of students at the secondary level.

Correlation was checked for student demographics in terms of Higher Education Readiness (HER) like the prior two variables. The table 36 represents the correlation values below.

Table 36: Correlation between student demographic characteristics and HER scores- Kanpur

| | Class | Age | Gender | School Name | Spatial Ref. | Household income | Fav. Sub. | Aspiration after 12th | HE Pursual | HER |
|------------------------------|---------|---------|---------|-------------|--------------|------------------|-----------|-----------------------|------------|-----|
| Class | 1 | | | | | | | | | |
| Age | .200** | 1 | | | | | | | | |
| Gender | .118 | -.058 | 1 | | | | | | | |
| School Name | .252** | .322** | .285** | 1 | | | | | | |
| Spatial Ref. | -.206** | -.275** | -.208** | -.901** | 1 | | | | | |
| Household income | .146* | .112 | .001 | .245** | -.221** | 1 | | | | |
| Fav. Subject | -.008 | -.063 | -.016 | -.043 | .030 | .026 | 1 | | | |
| Aspiration after 12th | .065 | -.062 | -.192** | -.287** | .347** | -.125* | .273** | 1 | | |
| HE Pursual | -.002 | -.053 | -.060 | -.144* | .083 | -.211** | .423** | .358** | 1 | |
| HER | -.089 | -.120 | -.031 | -.359** | .434** | -.033 | -.139* | .146* | -.015 | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results in table 36 for secondary students in Kanpur portray that all the predictors were observed to correlate with the dependent variable (Higher Education

Readiness). The predictor variables age, school name, spatial reference, socio-economic status, aspiration after 12th grade and pursual towards higher education were observed to be significantly correlated to Higher Education Readiness (HER).

Subsequently, the effect of students' demographic characteristics was observed towards Higher Education Readiness in Kanpur district. The assumptions of multiple regression analysis were analysed before computing the results.

Table 37: Multiple Regression results of student demographic characteristics on HER Score-Kanpur

| Predictors | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|------------------------------|---------------|-----------|-------|--------|-------|-----------|-------|
| Class | -.971 | 2.193 | -.027 | -.443 | .658 | .882 | 1.133 |
| Age | -.443 | 1.910 | -.014 | -.232 | .817 | .850 | 1.176 |
| Gender | 1.840 | 1.915 | .059 | .960 | .338 | .845 | 1.184 |
| School Loc. | 1.646 | 1.923 | .122 | .856 | .393 | .159 | 6.272 |
| Spatial Ref. | 17.413 | 4.391 | .550 | 3.965 | .000 | .168 | 5.957 |
| Socio-Eco Status | 1.892 | 1.383 | .083 | 1.368 | .173 | .876 | 1.142 |
| Prof. Disc. | -1.741 | .615 | -.182 | -2.830 | .005 | .782 | 1.278 |
| Aspiration after 12th | 1.287 | 1.744 | .050 | .738 | .461 | .704 | 1.420 |
| HE Pursual | 1.284 | 2.379 | .037 | .540 | .590 | .698 | 1.434 |
| R² | .226 | | | | | | |
| C | 83.633 | | | | | | |
| F | 7.791* | | | | | | |

Table 37 represents multiple regression results where the student demographics contribute to 22.6% proportion of variance towards Higher Education Readiness (HER) scores for students from Kanpur district ($R^2 = .226$, adjusted $R^2 = .225$). The model was found to be significant, $F(9, 240) = 7.791$, $p < .01$. The predictors found to be significant

in the model were spatial reference ($B = 17.413$, $p < .05$) and favourite subject ($B = 1.741$, $p < .05$).

The collinearity statistic values (tolerance and VIF) were observed to fall in the acceptable range which is indicative of no exaggeration of coefficients due to collinearity in any predictor variables. The Durbin- Watson Test value was found to be 0.759 which indicates acceptable autocorrelation in the regression model suggesting that increase in significant predictors found above, lead to a proportionate increase in the higher education readiness scores. Figure 34 presents the histogram and scatterplot also indicates the presence of homoscedasticity in the data.

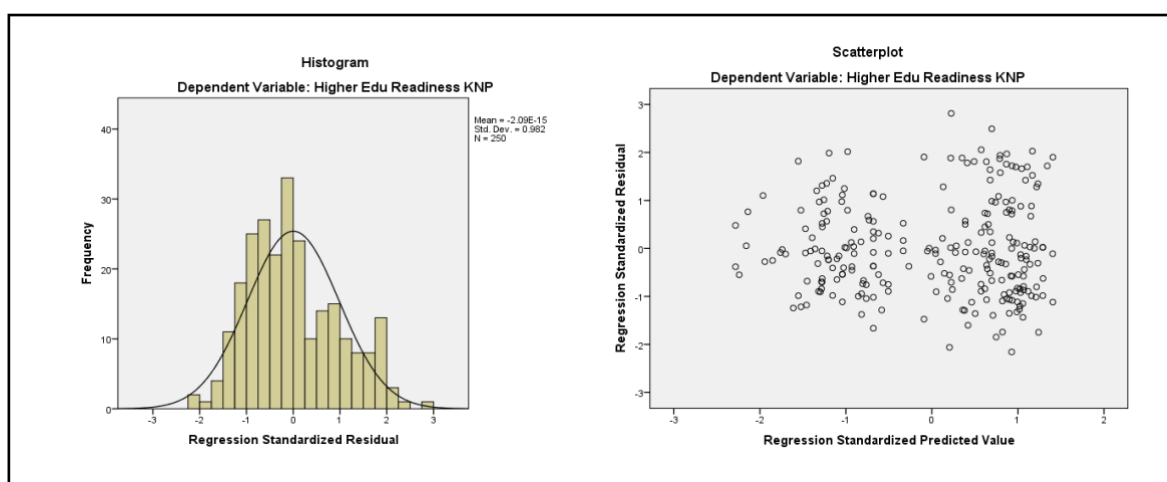


Figure 34: Graph representing histogram and scatterplot for student demographics- HER Kanpur

Regression Results for Bahraich

Before computing the correlation and regression, the demographic profile of students who participated in the study, in terms of percentage was calculated. It is represented in the table 38.

Table 38: Demographic profile of students who participated in the study – Bahraich

| Demographics | Category | N | Percentage |
|--------------|------------------|-----|------------|
| Class | 11 th | 68 | 27.2% |
| | 12 th | 182 | 72.8% |
| Age | 15 years | 4 | 1.6% |
| | 16 years | 106 | 42.4% |
| | 17 years | 136 | 54.4% |
| | 18 years | 4 | 1.6% |

| Demographics | Category | N | Percentage |
|---|-----------------|----------|-------------------|
| Gender | Male | 128 | 51.2% |
| | Female | 122 | 48.8% |
| School Name | Kaiserganj | 101 | 40.4% |
| | Mihinpurwa | 43 | 17.2% |
| | Nagar Area | 106 | 42.4% |
| Spatial Reference | Rural | 144 | 57.6% |
| | Urban | 106 | 42.4% |
| Household Income | Middle | 22 | 8.8% |
| | Lower | 86 | 34.4% |
| | BPL | 142 | 56.8% |
| Favourite Subject | English | 2 | 0.8% |
| | Hindi | 133 | 53.2% |
| | Maths | 31 | 12.4% |
| | Science | 39 | 15.6% |
| | Home Sci. | 17 | 6.8% |
| | Social Sci. | 21 | 8.4% |
| | Economics | 7 | 2.8% |
| Aspiration after 12th grade | NA | 102 | 40.8% |
| | Informal Sector | 85 | 34% |
| | Formal Sector | 63 | 25.2% |
| HE Pursual | No | 123 | 49.2% |
| | Yes | 127 | 50.8% |

Objective 2 (d): To analyse the effect of class, age, gender, school location, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE on the Educational Attainment (EA) of students at the secondary level of Bahraich district.

As a part of the second objective, this objective identifies the effects of the student demographic indicators on educational attainment in the students of secondary classes in Bahraich district. Before calculating the regression analysis among the predictors and dependent variables in the schools of Bahraich districts, the correlation was checked. The results are shown in the table 39.

Table 39: Correlation between student demographic characteristics and educational attainment- Bahraich

| Item | Class | Age | Gender | School Loc. | Spatial Ref. | Household income | Pref. Disc. | Aspiration after 12th | HE Pursual | EA |
|-----------------------|--------|--------|--------|-------------|--------------|------------------|-------------|-----------------------|------------|----|
| Class | 1 | | | | | | | | | |
| Age | .308** | 1 | | | | | | | | |
| Gender | .129* | .196** | 1 | | | | | | | |
| School Loc. | .132* | .096 | .225** | 1 | | | | | | |
| Spatial Ref. | .161* | .126* | .215** | .924** | 1 | | | | | |
| Socio-Economic Status | .202** | .053 | -.068 | -.239** | -.209** | 1 | | | | |
| Pref. Disc. | .026 | -.049 | -.039 | -.061 | .003 | -.021 | 1 | | | |
| Aspiration after 12th | .106 | .107 | .071 | .611** | .675** | -.279** | .252* | 1 | | |
| HE Pursual | .010 | .013 | .064 | .628** | .699** | -.257** | .029 | .701** | 1 | |
| EA | -.004 | .064 | .013 | .395** | .442** | -.154* | .260* | .708** | .617** | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results in table 39 for secondary students in Bahraich reflect that all the predictors were observed to correlate with the dependent variable (Educational Attainment). The student indicators school name, spatial reference, socio-economic

status, aspiration after 12th grade and pursual towards higher education were found to be significantly related to the variable Educational Attainment.

Further, the table 40 represents the effect of students' demographic characteristics-class, age, gender, school name, spatial reference, socio-economic status, favourite subject, aspiration after 12th grade and pursual towards higher education towards Educational Attainment in Bahraich district. The assumptions of multiple regression analysis were analysed before computing the results. The analysis completed the criteria of normal distribution and absence of outliers.

Table 40: Multiple Regression results for effect of student demographic characteristics on EA Score-Bahraich

| Predictors | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|---|----------------|-----------|-------|--------|-------|-----------|-------|
| Class | -1.889 | 1.220 | -.072 | -1.548 | .123 | .828 | 1.208 |
| Age | .955 | .957 | .046 | .998 | .319 | .859 | 1.164 |
| Gender | -.134 | 1.043 | -.006 | -.128 | .898 | .898 | 1.113 |
| School Loc. | .946 | 1.465 | .074 | .646 | .519 | .137 | 7.280 |
| Spatial Ref. | -5.528 | 2.975 | -.235 | -1.858 | .064 | .113 | 8.859 |
| Socio-Eco Status | 1.389 | .824 | .078 | 1.686 | .093 | .844 | 1.185 |
| Prof. Disc. | .921 | .365 | .117 | 2.521 | .012 | .837 | 1.194 |
| Aspiration after 12th | 8.318 | 1.022 | .569 | 8.139 | .000 | .368 | 2.721 |
| HE Pursual | 8.223 | 1.583 | .353 | 5.195 | .000 | .390 | 2.566 |
| R2 | .568 | | | | | | |
| C | -15.040 | | | | | | |
| F | 35.076* | | | | | | |

Table 40 represents multiple regression results where the student demographics contribute to 56.8% proportion of variance towards Educational Attainment scores for students from Bahraich district ($R^2=0.568$, adjusted $R^2= 0.552$). The model was found to

be significant, $F(9, 240) = 35.076, p < 0.01$. The predictors found to be significant in the model were preferred discipline ($B = 0.921, p < 0.05$), aspiration after 12th grade ($B = 8.318, p < 0.05$) and HE Pursual ($B = 8.223, p < 0.05$).

The collinearity statistic values (tolerance and VIF) in table 25 were observed to fall in the acceptable range which is indicative of no exaggeration of coefficients due to collinearity in any predictor variables. The Durbin-Watson Test assesses the autocorrelation of errors. It should be within the range of 0-4. The Durbin-Watson Test value was found to be 1.601 which indicates positive autocorrelation suggesting that increase in significant predictors discussed above, lead to a proportionate increase in the educational attainment scores. Figure 35 presents the histogram and scatterplot that indicate the absence of heteroscedasticity in the data.

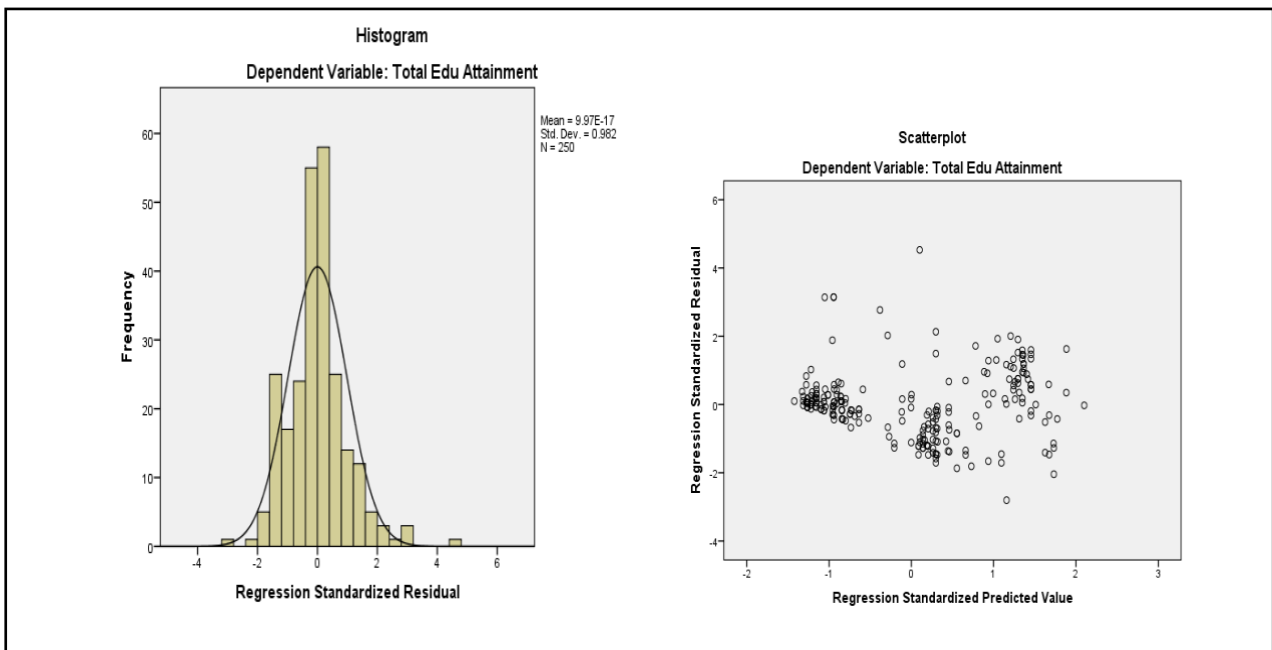


Figure 35: Multiple Regression results for effect of student demographic characteristics on EA Score- Bahraich

Objective 2(e): To analyse the effect of class, age, gender, school location, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursuit to HE on the Socio-Emotional Competencies (SEC) of students at the secondary level.

This objective identifies the effect of the student demographic indicators on socio-emotional competencies in the students of secondary classes in Bahraich district. The correlation results are shown in table 41.

Table 41: Correlation between student demographic characteristics and SEC scores- Bahraich

| Item | Class | Age | Gender | School Loc. | Spatial Ref. | Socio-Economic Status | Pref. Disc. | Aspiration after 12 th | HE Pursual | SEC |
|-----------------------------------|--------|--------|--------|-------------|--------------|-----------------------|-------------|-----------------------------------|------------|-----|
| Class | 1 | | | | | | | | | |
| Age | .308** | 1 | | | | | | | | |
| Gender | .129* | .196** | 1 | | | | | | | |
| School Loc. | .132* | .096 | .225** | 1 | | | | | | |
| Spatial Ref. | .161* | .126* | .215** | .924** | 1 | | | | | |
| Socio-Economic Status | .202** | .053 | -.068 | -.239** | -.209** | 1 | | | | |
| Pref. Disc. | .026 | -.049 | -.039 | -.061 | .003 | -.021 | 1 | | | |
| Aspiration after 12 th | .106 | .107 | .071 | .611** | .675** | -.279** | .252** | 1 | | |
| HE Pursual | .010 | .013 | .064 | .628** | .699** | -.257** | .029 | .701** | 1 | |
| SEC | .115 | .209** | .226** | .731** | .824** | -.264** | .171** | .706** | .660** | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results in table 41 for secondary students in Bahraich reflect that all the predictors were observed to correlate with the dependent variable (Socio-Emotional Competencies). The student indicators age, gender, school name, spatial

reference, socio-economic status, aspiration after 12th grade and pursual towards higher education were found to be significantly related to the variable socio-emotional competencies. Table 42 represents the effect of students' demographic characteristics-class, age, gender, school name, spatial reference, socio-economic status, favourite subject, aspiration after 12th grade and pursual towards higher education towards Socio-Emotional Competencies in Bahraich district. Multiple regression analysis was conducted with checking the assumptions, in which normal distribution and absence of outliers were observed.

Table 42: Multiple Regression results of student demographic characteristics on SEC Score-Bahraich

| Predictors | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|------------------------------|----------------|-----------|-------|--------|-------|-----------|-------|
| Class | -1.621 | 1.438 | -.039 | -1.127 | .261 | .828 | 1.208 |
| Age | 3.923 | 1.128 | .119 | 3.478 | .001 | .859 | 1.164 |
| Gender | 2.298 | 1.129 | .063 | 1.869 | .063 | .898 | 1.113 |
| School Loc. | -3.012 | 1.727 | -.149 | -1.744 | .082 | .137 | 7.280 |
| Spatial Ref. | 27.989 | 3.507 | .754 | 7.981 | .000 | .113 | 8.859 |
| Socio-Eco Status | -1.829 | .972 | -.065 | -1.883 | .061 | .844 | 1.185 |
| Pref. Disc. | 1.523 | .431 | .123 | 3.538 | .000 | .837 | 1.194 |
| Aspiration after 12th | 3.836 | 1.205 | .167 | 3.184 | .002 | .368 | 2.721 |
| HE Pursual | 3.121 | 1.866 | .085 | 1.673 | .096 | .390 | 2.566 |
| R2 | .758 | | | | | | |
| C | 56.880 | | | | | | |
| F | 83.664* | | | | | | |

Table 42 represents multiple regression results where the student demographics contribute to 75.8% proportion of variance towards Socio-Emotional Competencies scores for students from Bahraich district ($R^2 = .758$, adjusted $R^2 = .749$). It is observed that the model is found to be significant, $F(9, 240) = 83.664$, $p < .01$. The predictors found to be significant in the model were age ($B = 3.923$, $p < .05$), spatial reference ($B = 27.989$,

$p < .05$), preferred discipline ($B = 0.921$, $p < .05$) and aspiration after 12th grade ($B = 8.318$, $p < .05$). The results of multiple linear regression analysis demonstrate that the above discussed demographics contribute significant percentage of variance towards the socio-emotional competencies of students from the Bahraich district.

The collinearity statistic values (tolerance and VIF) in table 42 were observed to fall in the acceptable range which is indicative of no exaggeration of coefficients due to collinearity in any predictor variables. The Durbin- Watson Test value was found to be .876 which is observed to be below 2, further indicating positive autocorrelation that means increase in significant predictors discussed above, lead to a proportionate increase in the socio- emotional competencies scores. Fig. 37 presents the histogram and scatterplot that indicate the absence of heteroscedasticity in the data.

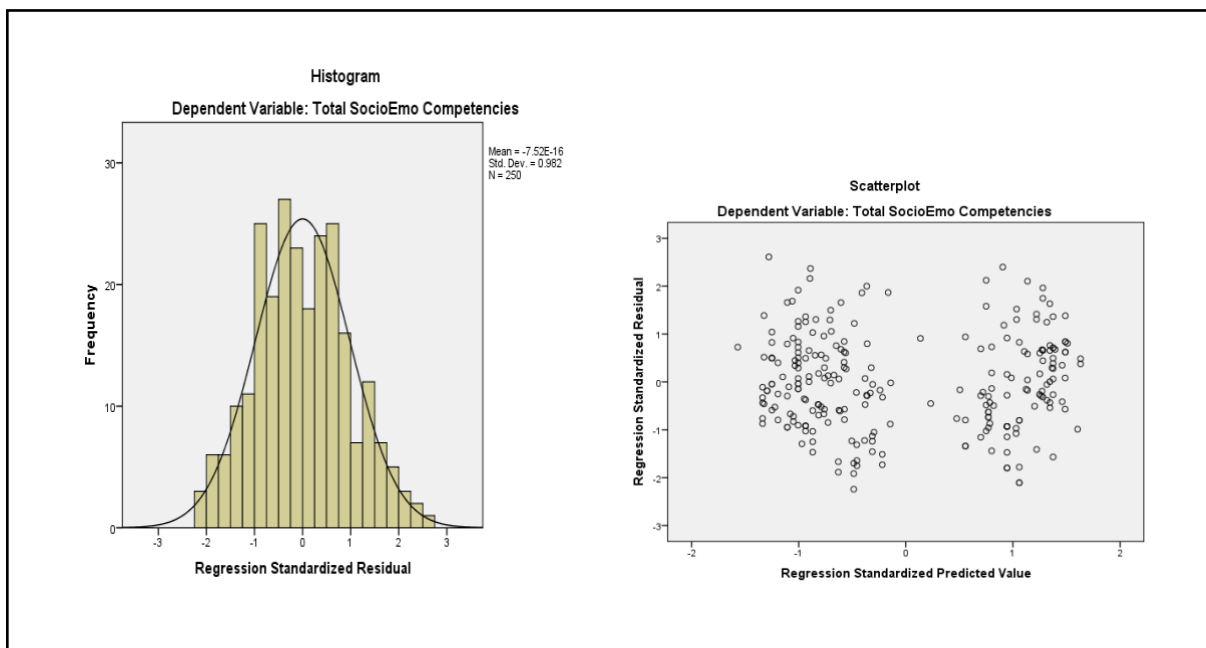


Figure 36:Graphs representing histogram and scatterplot for students- SEC Bahraich

Objective 2(f): To analyse the effect of class, age, gender, school location, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursuit to HE on the Higher Education Readiness (HER) of students at the secondary level.

Correlation was checked for student demographics in terms of Higher Education Readiness (HER) like the prior two variables. The table 43 represents the correlation values below.

Table 43: Correlation between student demographic characteristics and HER scores- Bahraich

| Item | Class | Age | Gender | School Location | Spatial Ref. | Socio-Economic Status | Pref. Disc. | Aspiration after 12 th | HE Pursual | HER |
|-----------------------------------|--------|--------|--------|-----------------|--------------|-----------------------|-------------|-----------------------------------|------------|-----|
| Class | 1 | | | | | | | | | |
| Age | .308** | 1 | | | | | | | | |
| Gender | .129* | .196** | 1 | | | | | | | |
| School Location | .132* | .096 | .225** | 1 | | | | | | |
| Spatial Ref. | .161* | .126* | .215** | .924** | 1 | | | | | |
| Socio-Economic Status | .202* | .053 | -.068 | -.239** | -.209** | 1 | | | | |
| Pref. Disc. | .026 | -.049 | -.039 | -.061 | .003 | -.021 | 1 | | | |
| Aspiration after 12 th | .106 | .107 | .071 | .611** | .675** | -.279** | .252** | 1 | | |
| HE Pursual | .010 | .013 | .064 | .628** | .699** | -.257** | .029 | .701** | 1 | |
| HER | .105 | .141* | .190** | .836** | .842** | -.249** | .096 | .602** | .617* | 1 |

**Correlation is significant at the 0.01 level

*Correlation is significant at 0.05 level

The correlation results in table 43 for secondary students in Bahraich show that all the predictors were observed to correlate with the dependent variable (Higher Education Readiness). The predictor variables age, school location, spatial reference, socio-economic status, aspiration after 12th grade and pursual towards higher education were observed to be significantly correlated to Higher Education Readiness (HER).

Subsequently, the effect of students' demographic characteristics were observed towards Higher Education Readiness in Bahraich district. The assumptions of multiple regression analysis were analysed before computing the results.

Table 44: Multiple Regression results of student demographic characteristics on HER Score-Bahraich

| Predictors | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|------------------------------|----------------|-----------|-------|--------|-------|-----------|-------|
| Class | -.799 | .990 | -.028 | -.807 | .421 | .828 | 1.208 |
| Age | 1.598 | .776 | .071 | 2.058 | .041 | .859 | 1.164 |
| Gender | -.118 | .846 | -.005 | -.139 | .890 | .898 | 1.113 |
| School Location | 6.235 | 1.189 | .451 | 5.243 | .000 | .137 | 7.280 |
| Spatial Ref. | 9.758 | 2.415 | .384 | 4.041 | .000 | .113 | 8.859 |
| Socio-Eco Status | -.918 | .669 | -.048 | -1.373 | .171 | .844 | 1.185 |
| Prof. Disc. | 1.123 | .296 | .132 | 3.787 | .000 | .837 | 1.194 |
| Aspiration after 12th | -.542 | .829 | -.034 | -.653 | .514 | .368 | 2.721 |
| HE Pursual | 1.823 | 1.285 | .073 | 1.419 | .157 | .390 | 2.566 |
| R2 | .756 | | | | | | |
| C | 71.928 | | | | | | |
| F | 82.425* | | | | | | |

The table 44 represents multiple regression results where the student demographics contribute to 75.6% proportion of variance towards Higher Education Readiness (HER) scores in the model for students from Bahraich district ($R^2=0.756$, adjusted $R^2= 0.746$). The model was found to be significant, $F(9, 240) = 82.425$, $p < .01$. The predictors found to be significant in the model were age ($B= 1.598$, $p < .05$), school location ($B= 6.235$,

$p < 0.05$), spatial reference ($B = 9.758$, $p < 0.05$) and preferred discipline ($B = 1.123$, $p < 0.05$).

The collinearity statistic values (tolerance and VIF) were observed to fall in the acceptable range which is indicative of no exaggeration of coefficients due to collinearity in any predictor variables. The Durbin- Watson Test value was found to be 1.201 which indicates acceptable autocorrelation in the regression model suggesting that increase in significant predictors found above, lead to a proportionate increase in the higher education readiness scores. Figure 38 presents the histogram and scatterplot also indicates the presence of homoscedasticity in the data.

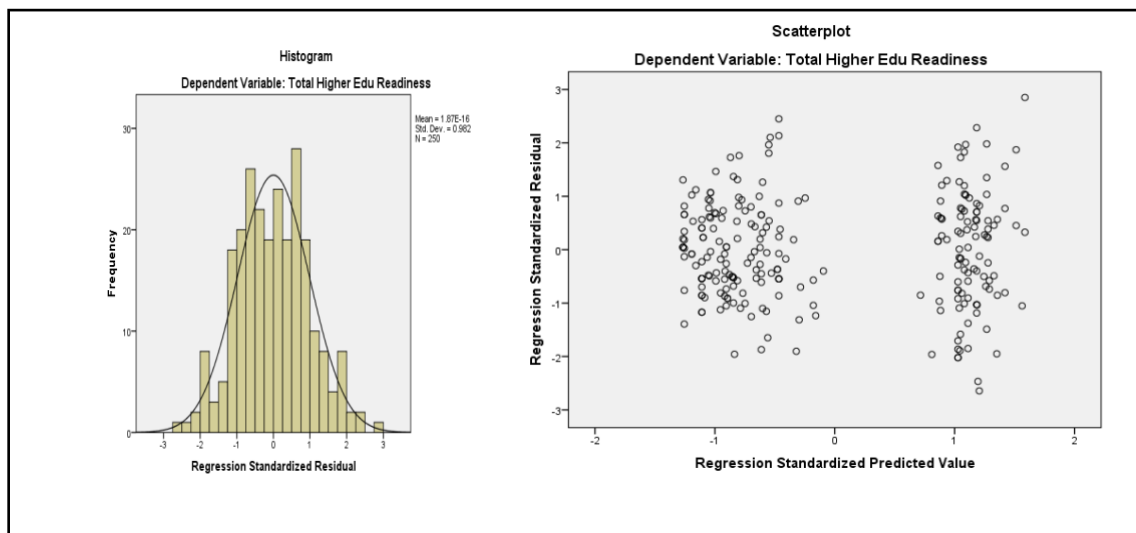


Figure 37: Graphs representing histogram and scatterplot for students- HER Bahraich

The three variables undertaken in the study consist of educational attainment, socio- emotional competencies and higher education readiness. Of these variables, educational attainment is quantitative in nature, therefore it was excluded from the regression analysis of the two perception-based variables- socio- emotional competencies and higher education readiness. The subsequent objective was formed to analyse the impact of one perception-based variable (SEC) on another (HER).

4.1.2.B Objective 2

To assess the impact of Socio-Emotional Competencies (SEC) on Higher Education Readiness (HER) of students at the secondary level in Kanpur and Bahraich districts.

Regression tables were computed for observing how the educational attainment and socio-emotional competencies predict the effect on higher educational readiness in both the districts.

Objective 2(g): To analyse the effect of Socio-Emotional Competencies (SEC) on the Higher Education Readiness (HER) of students at the secondary level in Kanpur district.

Table 45: Correlation between SEC and HER scores- Kanpur

| Variables | Socio-Emotional Competencies | Higher Educational Readiness |
|-------------------------------------|-------------------------------------|-------------------------------------|
| Socio-Emotional Competencies | 1 | |
| Higher Educational Readiness | .169** | 1 |

**Correlation is significant at the 0.01 level

Table 45 portrays the use of Pearson Correlation to find the correlation of Socio-Emotional Competencies with Higher Educational Readiness of students within the research study. The results depict that there exists a significant correlation between the two variables undertaken in the study. It also reflects that socio-emotional competencies is significantly correlated to higher education readiness. Consequently, the Linear regression analysis model was used for predicting and generalizing the impact of Socio-Emotional Competencies on Higher Educational Readiness in table 46.

Table 46: Regression results between SEC and HER scores- Kanpur

| Independent Variable | Coef. (B) | Std. Err. | Beta | t | p> t | Tolerance | VIF |
|------------------------------|-----------|-----------|------|-------|-------|-----------|-------|
| Socio-Emotional Competencies | .226 | .083 | .169 | 2.707 | .007 | .849 | 1.000 |
| R ² | .029 | | | | | | |
| C | 84.937 | | | | | | |
| F | 7.327* | | | | | | |

DV: HER KNP

Table 46 represents linear regression results where socio- emotional competencies (IV) explain 2.9% proportion of total variance towards Higher Education Readiness (DV) for secondary level students from Kanpur district. The $R^2 = 0.29$ and adjusted $R^2 = .025$, have value less than 0.5 indicating the inefficiency of the model to determine the relationship between the variables. The model was found to be significant, $F(1, 248) = 7.327$, $p < .01$. The multicollinearity check is conducted by the researcher for independent variable, socio- emotional competencies through Tolerance Index and Variance Inflation Factor (VIF). The tolerance index shows the examination of high correlation in the independent variable, consequential enlargement in error terms and impact on the predictability of the model. In the collinearity statistics, the Tolerance Index values for the independent variable was observed to be .849 which is less than 0.9, indicating the absence of collinearity between the variables. The VIF values were observed to be 1.000 that statistically fall within the acceptable range. The Durbin- Watson Test generated the value of .646 that is within the range 0-1. It indicates positive autocorrelation suggesting that increase in independent variable discussed above, lead to a proportionate increase in the dependent variable, in this case higher educational readiness scores. Figure 39 presents the p-p plot and scatterplot that indicate the best fit line for the model.

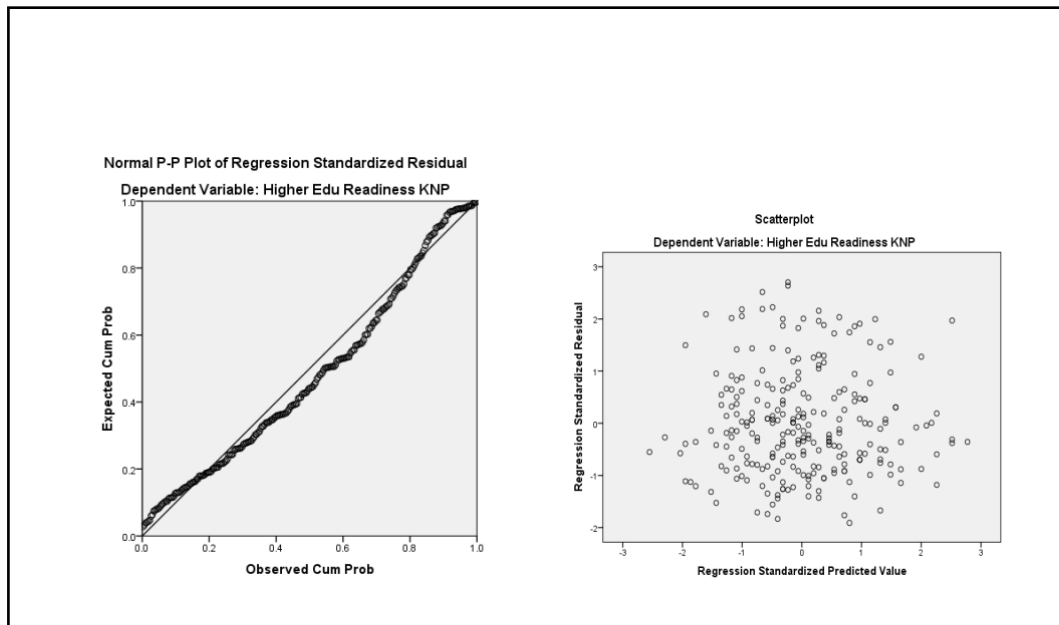


Figure 38: Graphs representing P-P Plot and scatterplot for SEC on HER Kanpur

Similarly, the Linear regression analysis was conducted for the Bahraich district to obtain the predictability and generalizability results of the collected data.

Objective 2 (h): To analyse the effect of Socio-Emotional Competencies (SEC) on the Higher Education Readiness (HER) of students at the secondary level in Bahraich district.

Table 47: Correlation between SEC and HER scores- Bahraich

| Variables | Socio- Emotional Competencies | Higher Educational Readiness |
|-------------------------------|-------------------------------|------------------------------|
| Socio- Emotional Competencies | 1 | |
| Higher Educational Readiness | .787** | 1 |

**Correlation is significant at the 0.01 level

Table 47 reflects the Pearson Correlation values to find the correlation between Socio- Emotional Competencies with Higher Educational Readiness of students in the Bahraich district. The results show that there exists significant relationship between the two variables. Consequently, the Linear regression analysis model demonstrates the impact of Socio- Emotional Competencies on Higher Educational Readiness in table 48.

Table 48: Regression results between SEC and HER scores- Bahraich

| Independent Variables | Coef. (B) | Std. Err. | Beta | T | p> t | Tolerance | VIF |
|------------------------------|-----------|-----------|------|--------|-------|-----------|-------|
| Socio-Emotional Competencies | .539 | .027 | .787 | 20.064 | .000 | .874 | 1.145 |
| R2 | .619 | | | | | | |
| C | 51.869 | | | | | | |
| F | 402.545* | | | | | | |

Table 48 represents linear regression results where the independent variable, socio-emotional competencies contribute to 61.9% proportion of total variance towards the dependent variable, Higher Education scores for secondary level students in the Bahraich district. The $R^2 = .619$ and adjusted $R^2 = .617$ values were observed to be greater than 0.5 indicating the effectiveness of the model for the determination of the relationship. The model was found to be significant, $F(1, 248) = 402.545, p < .05$, where the value is greater than 1 indicating the efficiency in the predictability of the variable. The multicollinearity check was conducted through Tolerance Index and Variance Inflation Factor (VIF). In the collinearity statistics, the Tolerance Index values for the IV was observed to be 0.874 which is less than 0.9, indicating the absence of collinearity between the variables. The VIF values were observed to be 1.145 that statistically fall within the acceptable range. The Durbin- Watson Test generated the value of 0.949 that is within the range 0-1. It indicates positive autocorrelation suggesting that increase in independent variables discussed above, lead to a proportionate increase in the dependent variable for Bahraich district. Figure 40 presents the p-p plot and scatterplot that indicates the best fit line of the model.

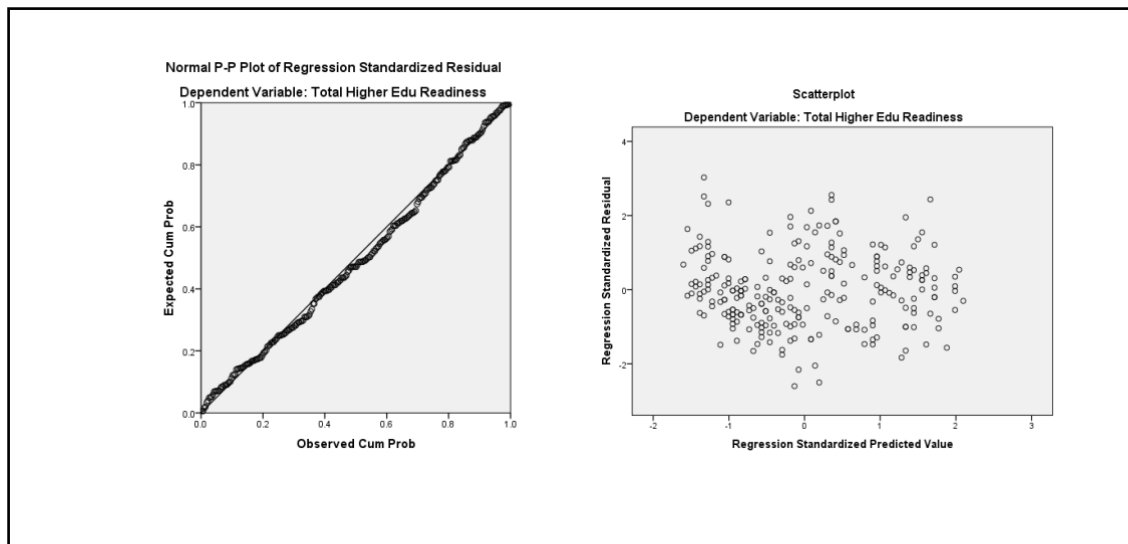


Figure 39: Graphs representing P-P Plot and scatterplot for SEC on HER Bahraich

Qualitative Analysis

The qualitative analysis involved the utilisation of Qualitative Content Analysis (QCA) to analyse the acquired material. The process of transcribing the audio recordings involved the execution of verbatim transcriptions. The adoption of this fundamental approach to transcribing conversations was motivated by the difficulty posed using local and regional languages during the interview sessions, as well as the convenience of excluding non-verbal cues and additional nuances to focus solely on the spoken information. In addition to documenting observations using field notes, we compiled notes from audio recordings of the interview to effectively organise the data in alignment with the aims of our research. Certain researchers have expressed a preference for Qualitative Content Analysis (QCA) due to its focus on categorising data into higher-order themes (Castleberry & Nolen, 2018; Rourke & Anderson, 2004). These themes are refined through multiple revisions and collaborations, considering the diverse and extensive content of conversations between investigator and students. To enhance comprehension, the study employed a categorization framework to analyse and apply various themes to three distinct entities: Teachers, Students and Parents.

The primary objective of the theme analysis was to investigate the various elements related to competency development and higher education readiness in the students at the transitioning phase including motivation, emotion, and behaviour, and to examine how these characteristics influence the preparedness of pupils for continued learning. The inclusion criteria comprise of the sub-dimensions included within the themes. This

thematic framework consequently leads to the formation of the crucial themes from the data like spatial complexity, accountability for teaching- learning resources, cultivation of competencies, gender parity in Higher Education.

The role of *spatial complexity in educational access* emerged out to be important for the entire discourse. The developmental process of preparedness underscores the significance of both geographical location and organisational structure in its advancement. The facilitation of the organisational structure is primarily influenced by the characteristics of the workplace, which in turn plays a crucial role in shaping the capacity for advanced learning. This concept provides insight into the unilateral nature of how geographical location influences the development of competency. Although there is some inconclusive research regarding the influence of spatial ease on competency development, it remains a significant topic due to the strong correlation between curiosity about spaces and locations and the understanding of competencies influenced by one's place of residence. The key concept pertained to the question of whether physical attributes significantly influenced the value ascriptions made by students in educational settings.

The probes were needed to comprehend how students perceive living situations as a contributing factor to the development of competency. The question's subjectivity was contingent upon individuals' perceptions of living conditions. The responses were categorised into broad themes, including administrative support, school accessibility, and transit accessibility, among others. Administration support in this context refers to the assistance and cooperation provided by the government administrative body to facilitate the efficient provision of equitable services in schools, hence enhancing possibilities for competency development inside the educational institutions. In relation to this matter, it has been noted that a significant number of parents and instructors regard inadequate support as a barrier to the cultivation of abilities within educational institutions. The individuals had a negative viewpoint regarding the assumption of responsibility for enhancing school settings due to the absence of collaboration among administrative personnel, conflicts among teaching staff, and a lack of hierarchical coordination in the implementation of administrative initiatives inside schools. However, certain students have expressed the viewpoint that inadequate administrative support does not significantly impede the cultivation of skills and preparedness in the educational journey.

The key factor for the development of competency among students was found to be school safety. Many students from the district who had low competency scores believed that inadequate safety measures, such as the absence of accessible toilets, insufficient security technology, the nature of the school's location, and the absence of committees to address peer and authority harassment, significantly influenced the development of competencies during the transitional phase. In contrast, pupils who were educated in environments where school safety was prioritised demonstrated a greater development of socio-emotional competencies, as evidenced by the substantial findings in the quantitative data. The term "accessibility of transportation" pertains to the use of two-wheeled vehicles or other means of transport to enable commuting between local residences and schools, and vice versa. Several students expressed consensus regarding the positive correlation between the proximity of schools to transportation accessibility and the enhanced development of socio-emotional competencies, particularly in terms of innovative expression, at the transition stage.

Several students who exhibit low levels of socio-emotional competencies in innovative expression have ascribed their disengagement in the learning process to inadequate access to transport services or the absence of dedicated transport services offered by the school institution. *Accountability for teaching-learning resource* is another aspect that emerged as a crucial theme for the discussion. Accountability for the allocation of resources plays a significant role in shaping the development of socio-emotional competencies. Numerous scholars in the field of social science have repeatedly prioritised accountability as a critical motivator for assuming responsibility for the equitable resources in the context of the learning process.

The teaching and learning processes exhibit no discernible differences. In the present context, the concept of accountability can be comprehended via the lens of self-determination theory. The theory posits that behaviour is influenced by an inherent motivation to develop and achieve mastery over the challenges inherent in the development of socio-emotional competencies. Competencies are influenced by values, attitudes, and beliefs, and therefore play a significant role in influencing the subsequent behaviours of pupils. The main idea revolves around the premise that accountable behaviour is influenced by the individual's sense of self within their socio-cultural environment. Therefore, the theory integrates the constructs of relatedness, autonomy,

and competence with the notion of self-determined behaviour within the social milieu. Frequently, it is noted that the inclination to achieve an objective is contingent upon the underlying motivation behind it. Both organisational and professional organisations are not exempted from this phenomenon.

The construct of accountability encompasses the internal inclination, proactive exertion of additional efforts, and emotional drive towards engaging in competency development in teaching process within the classroom and school context. Additionally, it was noted that a significant proportion of school administrators held the belief that the connection to the prevailing competitive environment functioned as a significant intrinsic motivator for accountability in the development of pertinent educational resources for the teaching and learning process. The individuals expressed their viewpoint that their feeling of connectedness was associated with their perception of the school's ranking with capable learners, which they considered a personal interest. This personal interest motivated them to actively contribute to the creation of learning environments that regularly provide sufficient resources, demonstrating a higher level of commitment. In a similar vein, it was noted that a significant number of teachers had varying levels of connection to their schools and courses, which influenced their level of dedication to their teaching practises.

The focus in the *development of socio-emotional competencies* is on the concepts of relatedness and autonomy, which are considered key factors in promoting accountability for enhancing and updating educational materials that are relevant to students. The perception of competency development in school administration and teachers was consequently framed in terms of self-motivation.

The fundamental inquiry arises regarding the factors that motivate teachers to assume responsibility for imparting resources that support the development of socio-emotional competencies. The popular viewpoint that the level of self-motivation exhibited by teachers directly influences the extent of their responsible and diligent approach to instructional methodologies. The teachers were expected to stress on the internal motivation of pupils as the basis for fostering increased effort throughout classroom instruction. It was discovered that certain educators exhibit a preference for intrinsic motivation within specified parameters. The individuals expressed their belief

that their responsibility as educators extended beyond the confines of the classroom environment.

Gender Parity is vital parameter to comprehend the entire analysis on the variables. The domains of social psychology are based on the recognition of multiple factors that influence the acquisition of skills and abilities. This implies that the acquisition of skills and socio-emotional competencies is primarily influenced by the behavioural attributes of the individuals involved in the process as a collective entity. Within this particular context, the examination of ready skill development reveals the presence of behavioural disparities between genders. These disparities can be explained by the traits exhibited by individuals, which are influenced by socio-cultural factors during the developing phase. This inquiry examines the extent to which gender influences the development of competency throughout the transition phase of the learning process. Hence, a pertinent inquiry emerges regarding the extent to which male and female students are inclined to universally engage in competency development inside the school and classroom setting.

The *cultivation of competency development and readiness skills* necessitates effective communication between students and their teachers in the educational setting, as well as between students and their parents in the home environment, throughout the learning process. Significantly, it was noted that female students exhibited a preference for maintaining a certain level of distance in their connection with male teachers. Additionally, they expressed agreement with the idea of limiting their communication efforts beyond school hours in relation to topics such as inventive expression and sustainable involvement. In contrast, it was noticed that male students exhibited a high level of openness in their communication with teachers and expressed agreement with the notion of being able to approach teachers outside of regular school and class hours. The individuals expressed their viewpoint that learning is an ongoing process, not limited to formal educational institutions, but also taking place in other contexts.

Chapter 5

DISCUSSION

The study examined the various determinants of educational attainment, socio-emotional competencies, and higher education readiness of the students at the secondary level. For this, the dimensions of educational attainment, socio-emotional competencies and higher education readiness were found through an extensive literature review with the parallel development of the conceptual framework. Furthermore, the measurement scales were constructed for the three variables, and the psychometric properties were established for the scales accordingly.

The study explored the variance of different demographic characteristics on educational attainment, socio-emotional competencies, and higher education readiness of the students from Kanpur and Bahraich districts of Uttar Pradesh. The study emphasises a comparative analysis of high-performance and low-performance districts in the literacy context in Uttar Pradesh. The study used the mixed method approach, amalgamating quantitative and qualitative data. The chapter reflects the findings of the formed research objectives with the possible reasons inclusive of theoretical understandings.

5.1 Objective 1

To examine the differences in Educational Attainment and its dimensions based on the demographic characteristics (class, age, gender, spatial reference, school location, Socio-Economic Status, preferred discipline, aspiration after 12th, pursual of Higher Education) of students in the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

Educational Attainment and Gender

Education is an essential prerequisite for the individuals comprising the human capital of a nation. The acquisition of fundamental education holds significance, as it not only influences the economic conditions but also enhances the abilities of an individual. Gender dynamics in education are ubiquitous. Research studies in the student-related domain show gender to be a prime factor in the acquisition of scientific learning, value-laden experiences, classroom dynamics, and learning context (Evans et al., 2020).

According to Gustafsson and Yang Hansen (2009), in several countries, the gender gap in academic achievement favours girls, and this trend seems to be increasing rather

than decreasing (Klapp, 2015). Even when boys and girls perform equally on cognitive ability tests, girls tend to obtain better grades (Klapp, 2015 change ref position). Further, studies have found gender to emerge as a crucial element in the attitudes, perceptions, and behaviour of both the learners and the stakeholders responsible for the learning process of the student (Dossi et al., 2021). This section centres around the difference in the mean educational attainment scores between male and female students, wherein the argument exists that male students perform better than female students in scientific learning. Specifically, in this section, the focus is on the research question- whether the gender of the student demonstrates any variance in the educational attainment at the secondary level in both districts.

Kanpur Data

Educational attainment is the knowledge students should acquire by the end of a particular assignment, class, course or program, and help students understand ‘why’ that knowledge and those skills will be helpful (Sullivan, 2001). The current study considers a collection of factors that construct the educational attainment work. Constituting numeracy and scientific literacy competencies. The result portrays no significant difference in the educational attainment between the boys and girls of the Kanpur district. However, many findings of the global and Indian context studies demonstrate considerable gaps in learning inconsistency (Alam, 2022; Muralidharan & Sheth, 2016). Contrary to these studies, our results show the overachievement of girls in terms of equality in the acquisition and learning output of the students at the secondary level.

Similarly the findings of the study, many studies in recent times conducted with an Asian perspective have equally demonstrated the increase of males and females in school achievements that were previously low (Bertochhi & Bozzano, 2020). Studies have consistently demonstrated the outperformance of girls over boys, along with reduced dropouts, higher attainment scores and better enrollments in this secondary level (Spaull & Makaluza, 2019; Lam et al., 2012; Farooq et al., 2011).

Various approaches can explain the reduction in the gender gap in terms of educational attainment scores. These approaches consider the contextual factors that seem to facilitate the theorisation of the ‘reduction in gender gaps’ analysed in the study through the individual differences in the self-perception of abilities and the role of parents, amongst others. The first approach is the socio-psychological approach. In this

approach, *Theory of Reference Groups* discusses a sociological perspective that states the aspiration of the individual is shaped by the comparison of self-capacities with reference groups of people who occupy social achievements or positions of leadership (Hyman, 1942; Merton, 1957; Labianca et al., 2001). Drawing from this theory, an answer to this not-significant difference of girls in educational attainment is possibly found in the availability of these referential groups that facilitate the evaluation of the girls with the ‘standard’ set by the educated girls in terms of ease of pursuing higher education and employability. In this regard, the referential viewpoint elevates the rational ideology of pursuing education as the ‘ladder’ of ensuring professional security by comparing oneself with a similar educational pursuit (Singer, 2017).

Recent Indian studies have shown women in higher positions to be highly educated, preferably post- graduates which directly involves the completion of secondary education with higher educational attainment (Nanda, Das & Datta, 2022; Kumar et al., 2021; Mehrotra & Sinha, 2019). As per the census data (2011), the Kanpur district of Uttar Pradesh reports the literacy of women to be 74.7%, which is higher than the other districts of Uttar Pradesh. Studies with deeper research on employability have recently stated that girls with completed schooling tend to think and behave more objectively towards social pressure than their peers with incomplete education or random drop-out (UNICEF, 2020; Vantieghem & Houtte, 2015; Dutt, 2010). Considering the empirical strength of these studies, it can be comprehended that higher literacy fosters a better level of perceptions on the comprehension of gender equality to secondary-level students. The observations during field investigations found the girls to maintain a highly competitive attitude toward the boys in the secondary classes. Regarding the questions related to ‘whether the female students believe themselves to be able to attain educational performances similar to the boys’ the females were found to hold positive attitudes. A female student in 12th grade responded: “...girls are equally able in comparison with the boys, be it in academics or any school work... the newspapers, TV channels, and people around talk about the three girls who topped in the previous year who are now doing well in higher studies... I have known about the contemporary girls of our age who completed their schooling and became quite popular inspirations by becoming teachers and corporate leaders for other students pursuing school learning... I believe if I continue to perform in my secondary years, I can be an academic inspiration, too..”.



Picture 3: Females with jobs serve as reference points for students at the secondary level

The excerpt portrays the reference drawn from available social media methods, community discussions and career choices pursued by the women after getting educated, which creates the benchmark of self-perception in terms of abilities for the girls in secondary years to perform better.

The *role of parents* in terms of expectations becomes another crucial factor in determining the gender dynamics of educational attainment in the secondary years. The significance of these expectations can be understood through the *Theory of Social Expectancy* propounded by Victor Vroom, which centralises on the fact that behaviour is motivated by consequential anticipation (Rogers, 2017). Deducing from this theory, it can be understood that the role of parents in being academically aware of their children is based on the expectations they keep from their male and female children in terms of the ‘anticipated results’ after securing good academic performance. Regarding the question, “Why do you think educational attainment is as necessary for girls as for boys?” most parents interviewed considered their higher expectations from the girls like the boys for continual of higher learning and securing employability. A parent of a female student responded: “...we see so many girls performing in academics today and later securing higher places in the employment sectors like metro rail operations, technological spots, medicare facilities Today, girls need to be equal to the boys in accessing education and performing in their academics at the secondary level so that they can later meet the

successful employment expectations that we demand of them...” The excerpt portrays the ‘employability expectations’ of the parents from the girls as the same as those of the sons. These expectations, with the intertwined effect of the available academically successful girls as reference groups, further mobilise the ‘consequential behaviour’ of the girls towards attaining higher educational attainment in the secondary years. Regarding the question related to “whether the female students believe themselves to be able to attain educational performances similar to the boys”, most boys were found to have a positive attitude. A boy from grade 12 responded: “...my sister studies in the same class as me... Parents show us in the newspapers and television how other students have academically performed and the result of being academically strong in employment later.... They expect both of us to perform well, so they do not shy away from giving equal resources to us both... even we are equally enquired when performance is not good enough, or there are complaints from the school...”. The excerpt shows that the role of parents in providing essential resources for enhancing academic performance and the equality of expectations from both boys and girls play a considerable significance in the educational attainment performances of the girls at the senior level. Thus, such excerpts represent the transformative mindset and attitudinal change in comprehending the importance of increasing gender parity in terms of parental expectations and upliftment of self-perception of the girls towards better educational attainment.

Bahraich Data

Gender differences in learning processes and learning outputs have been pursued in social research for a considerable amount of time (Giuliano, 2017; Piccardi et al., 2011; Gibb et al., 2008; Grossman & Grossman, 1994). Through the analysis at the student level, the data shows the quantitative information on the gender of the student and performance on the educational attainment at the secondary level. Educational attainment is understood as the knowledge students should acquire by the end of a particular assignment, class, course or program, and help students understand ‘why’ that knowledge and those skills will be helpful to them (Sullivan, 2001). In the current study, the research variable educational attainment has been operationalised with the constitution of mathematical literacy and scientific literacy. The results reflect that the mean scores on educational attainment achieved by the boys (14.58) are higher than the mean scores achieved by the girls (10.89). In other words, boys fare higher than girls in the educational

achievement scores with significant differences. Contrary to the findings of the latest studies that demonstrate declining gaps of learning inconsistency, the results show underachievement of the girls in terms of educational attainment at the secondary level. While digging through the literature regarding the trends of gender differences over the years in academic performances, it is observed that the maximum studies available in the literature focus on boys performing better than girls (Reardon et al., 2019; Reilly et al., 2019). However, the gradual empirical strength of girls outperforming boys has been relatively recent and, therefore, holds less space in literature than the former observation (Fischer et al., 2013). Similarly, according to the India Human Development Survey, the rise in literacy rates from 16% to 65% has demonstrated the gradual decline in the gender differences towards attaining education in the Indian scenario (White et al., 2016).

According to Ranjeeth, Latchoumi and Paul (2020), academic performance is directly proportionate to the years spent in schooling for the formal learning process. Regarding the schooling years, studies by Rodriguez et al. (2020) show that boys tend to perform higher than girls in academic proficiency at the primary level. Gaps in gender, in the context of educational achievement, have been globally studied by extensive scale assessments like the International Association for the Evaluation of Educational Achievement (IEA), which reported, based on The International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS) that, there existed stark variance in the performance grades of boys and girls and the favourability inclined mainly to the boys regarding mathematical quantitative scores achieved (Meinck & Brese, 2019; Liu & Wilson, 2009). Similar differences were reported by the First International Mathematics Study (FIMS) and Second International Mathematics Study (SIMS) which analysed the data gathered from 20 international educational systems and found that gender differences are prominent in the primary schooling years as well as secondary schooling years (Golsteyn & Schils, 2014; Lavy & Sand, 2018). These findings confirm the elevated levels of the gender gap in scientific and mathematical learning over the school learning years, highlighting the favourability of boys over girls. These studies reflect the persisting gender differences in academic learning, thereby leading to serious educational crevices in the form of lag in learning by the end of secondary levels. This gap is believed to compound itself with the passage of time resulting in poor educational attainment across the total schooling period.

The results of this study indicate a significant difference in the educational attainment of the boys and girls in Bahraich district. It further indicates that the mean scores of boys in the Educational Attainment is higher than the girls at the secondary level. The persistent inability of government efforts and educational reforms to address the gender disparities in educational achievement necessitates a robust theoretical framework that may provide a rationale for the lack of progress in this area. The discussion of the result has been aligned with the empirical support found in the literature, qualitative data collected during the field investigation and the possible theoretical understandings regarding gender that can best explain the existing gender discrepancy of the performances.

In building the theoretical explanations for the underachievement of girls, the majority of the educational researchers favour the *socio-psychological perspective* that centralize around the sociological context governing the learning outputs of the boys and girls in terms of parent, teacher, and community roles at the secondary learning levels. One possible explanation could be the existing *gender stereotypes* and self-perception of ability regarding educational performance. Traditional stereotypes like ‘girls do not enter computing careers’, ‘jobs of feminine nature do not require mental effort’ and similar stereotypes are internalised by the girls so strongly that they tend to view themselves in ‘sub-ordination’ rather than boys in the context of the educational attainment. Studies assert that girls tend to start their schooling with a higher positive attitude than boys but tend to gradually decline in their attitude to learning due to the effect of their self-perception towards achieving academically through the schooling years (Singh & Krutikova, 2017; Golsteyn & Schils, 2014). Contrastingly other studies have argued on the decline of attitude towards academic learning as the progression to senior grades happens due to the gender stereotypes of ‘male dominance’ existent in their self-perception of their ability (Singh & Krutikova, 2017). During the field investigation, the semi-structured interviews questioned the secondary level girls about ‘whether the female students believe themselves to be able to attain educational performances similar to the boys’, in which the majority of the girls at the secondary level were observed to provide negative attitudes in their responses. A female student of Bahraich district replied: “...girls cannot be compared to boys in educational performances... boys must study more because they are responsible for making important decisions. Since girls are

not able to decide properly, faring well or even being at the top academically in the senior years really does not matter....". The above excerpt highlights the presence of gender stereotypes in decision-making abilities, which subsequently impacts the self-perception of academic achievements among females. This phenomenon is particularly evident when examining educational attainment scores in the Bahraich district.

Further, studies related to research on contextual factors that significantly play a role in the educational attainment of secondary students find that the role of parental support tends to impact the academic performance of students of both genders (Zhang et.al., 2020; Pinguart & Ebeling, 2020). Viewing this empirical evidence, it can be understood that *gender stereotypes held by the parents* in the context of academic performance affect the self-perception of girls and boys regarding their academic performance in their senior years. Traditional gender stereotypes strongly exist in families and are followed by parents including beliefs like 'daughters being less capable than sons in academics'. Regarding the question about 'whether the female students believe themselves to be able in attaining educational performances similar to the boys', the majority of the boys at the secondary level were observed to provide negative attitudes in their responses. A male student responded: *"..girls are not supposed to do well in academics, but boys are.... because my parents state that boys have more abilities of performance, but girls cannot do that much, if they do not do well in Mathematics then too it is alright..."*. The above excerpt reflects the belief of the male students regarding their female peers in the context of academic performance. With such mindset, the boys and girls at the secondary level were observed to internalise these stereotypes which might affect the educational attainment of the students such that the girls perform less than the boys overall in the Bahraich district.

In a nutshell, it can be concluded that contextual factors like the role of parents, and self-perception of individual educational abilities intertwine with the existing gender stereotypes to contribute significantly in the acquisition of educational attainment. While the contextual factors in Kanpur district have shown a steady transformation in social mindset to uplift the females from the existing educational differences, the mindset of people in the Bahraich district apparently seems to stagnate in the existing gender stereotypes that emerge as a firm blockage in diluting the disparities of educational attainment.

Educational Attainment and Classroom

Education is understood as the quintessential factor of development in the learning populations worldwide. Smith et. al (2017) have considered formal education to be the most effective way of imparting education. Previous studies have proved that educational attainment is directly proportional to personal characteristics and educational experiences achieved in the institutions that foster a formal education system (Goldstein et al., 2015; Ferguson, Macqueen & Reynolds, 2014). On the contrary, adverse educational experiences through school absenteeism, grade repetition and non-involvement in the classroom serve as challenges to the educational attainment of the students (Crouch et al., 2019). Educational researchers like Flook et. al (2005) and Brock et al. (2008) have consistently believed that classrooms within these formal education institutions or schools are the crucial factors to aid in providing educational experiences. Other studies have empirically portrayed that several educational experiences at the middle school level are acquired in the classroom through an interactional process which facilitates the smooth transition to secondary-level academics (Wentzel, 2017; Goldstein et al., 2015). Since these experiences can be successfully executed when there is a presence of a giver and receiver, the focus on classrooms essentially consists of the knowledge disseminator (educator) at one end and the learner (student) at the other end, with classroom interactions, teacher feedback and peer interaction as important dynamics to govern the performances in educational attainment.

This section centralises around the difference in the mean scores of educational attainment in the 11th and 12th class students, wherein the argument exists that students of 11th perform better than the students of 12th class in the learning acquisition process. Specifically, in this section, the study focuses on the research question- whether the class of the student demonstrate any variance in the educational attainment at the secondary level in both districts?

Kanpur Data

The results comprehensively portray the gravity of classroom experiences in the context of the learning process by asserting that to prioritise student learning, it is imperative to consider the diverse range of methods by which students are motivated to learn. Barrie Bennett and Peter Smilanich (1994), in their book *Classroom Management: A Thinking & Caring Approach*, had once quoted “If we believe in student learning, we must consider the variety of ways in which students are encouraged to learn.” It strengthens some empirical studies highlighting the importance of classroom environments in educational attainment (Berkowitz et. al, 2017; Rivkin & Schiman, 2015). The present study found no difference in the means of educational attainment for Kanpur district in the classroom demographic. It indicated no difference existed between the students of grades 11 and class 12. The explanation of this absence of difference could be understood through an in-depth analysis of the contextual elements that affect the classroom dynamics within the learning process. Regarding these contextual elements, various studies have highlighted classroom atmosphere as one of the important contextual elements along with the duration of knowledge dissemination and quality of the classroom for facilitating educational achievement (Rivkin & Schiman, 2015). It is further inclusive of the application of the curriculum, as well as the perspectives and beliefs about education in the teachers and students that influence the way learning is approached, and the behavior and overall culture within the classroom atmosphere (Herman et. al, 2022; Law, Geng & Li, 2019).

Based on these studies, the *application of curriculum* as the criterion of generating difference within grades 11 and 12 of the Kanpur district was considered. Contrastingly, the secondary education system caters to bifurcating grades into 11th and 12th. The teachers of grade 11 were found to apply a diffused curriculum such that the students promoted to grade 12 are anticipated to possess the base pedagogical content in grade 11th itself. Therefore, the pedagogical content of the curriculum applied in the secondary classes are almost similar to each other, rather the curriculum of the 11th being complementary to the curriculum of the 12th class. This similarity helps in the maintenance of similar learning outcomes among the students, especially in terms of subjects with a scientific and mathematical nature. Regarding the question, “to what extent do the students perceive their respective class to facilitate mathematical learning

with respect to the 12th class?” the majority of the students of the 11th class were found to opine positively. A student in grade 11 responded:

“...a large extent of what we learn in grade 11 determines how we will perform in grade 12....like, the curriculum of our grade 11 focuses on gaining the realistic experience of computation and statistics in mathematical learning....It is not much different from the mathematics curriculum in grade 12 where I will learn about using higher-level statistics in a complex real-world setting....If I learn better in my 11th class, it will show through similar performance in my 12th class exams also....”

The above excerpt collected from the 11th-class student reflects that the curricular application is not different in both classes. This facilitates the acquisition of largely similar knowledge, resulting in similar educational attainment of the students. Grade 12 is believed to be the nexus between the schooling system and the real- world comprehension. Thus, the grade 12 curriculum focuses on the objective of creating higher-level experiential learning of the same subjects taught in the 11th grade. Regarding the question, “to what extent do the students perceive their respective class to facilitate mathematical learning with respect to 11th class?”, most of the students in grade 11 were observed to opine positively. A student of class 12 was observed to respond:

“... It does not differ much.... in my opinion, learning in 11th class is akin to what is understood deeply in 12th class.... lot of concepts in mathematics have their comprehensive bases in class 11th ... generally the students who perform strongly in Mathematics in 11th class are the same students who perform academically in the 12th class Mathematics also....”

The excerpt from 12th-grade student reflects their attitude towards their mathematics learning in the previous class and the importance of educational attainment gained in the 11th grade in the consequential output of educational attainment in the 12th grade. These excerpts strongly form support for the obtained result of no significant difference between the classes.

The *student-teacher interaction* within the classroom dynamics is acknowledged. Studies have revealed that teachers are the key factor in supporting the learning process (Prewett, Bergin & Huang, 2019; Martin & Collie, 2019). Most of the literature suggests that when instructors or teachers invest time in developing a connection with their

students, they can motivate effective and disciplined student learning (Scales et al., 2020; Hajovsky et al., 2020). Previous research has indicated that teachers with a strong belief in building a positive relationship with discipline in the students play a crucial role in motivating them, which results in successful and satisfying academic performance (Areepattamannil et al., 2011; Kingdon, 2006). With these empirically supported views, the best fit theoretical underpinning here is the *Assertive Discipline Theory* (Canter, 1989). The theory understands the classroom interaction process through ‘assertion’ in the student’s behaviour that is taught effectively by the teachers. The assertion in the instillation of discipline is understood by the establishment of clear rules for the classroom, communication of those rules to students, teaching students about their inculcation and application of positive reinforcement, such as praise, to encourage good behaviour during the interaction process. When students break the rules, effective teachers use firm and consistent negative consequences to discourage bad behaviour. In other words, the theory observes both the teachers and students to lie at the “right-enabled” dichotomous ends where the outcome of educational attainment is directly proportionate to the process of teaching and learning with discipline. It is thus facilitated only when the assertion to follow the rules and guidelines set by the teachers within the classroom is proactively followed by the students.

During the interviews, the students of Kanpur district in grades 11th and 12th were observed to be highly proactive. For the question related to ‘How do you feel about the class interaction of your particular class with respective teachers assist you in learning Mathematics and Science?’ The students opined that better results in mathematical and scientific subjects could be received through consistent maintenance of discipline in classroom learning despite class promotions at the secondary level. A student of grade 11 of Kanpur district responded, “... *The teachers are highly punctual and disciplined in the class....They keep strict rules for homework completion, which I like..... I would definitely want to carry it forward to the next class to gain good marks in maths and science.*” These statements and opinions remained consistent for the 12th-grade students. Another student of grade 12 in Kanpur district was observed to state- “..... *my performance has not deferred much because I feel I am keeping the same learning discipline that I kept for class 11.....Teachers are equally supportive in maintaining the firmness of control from grade 11 to 12 regarding punishments when I and my friends do*

not complete my work....I believe it connects me more with my teacher.... It is going to help me get a good understanding of the subject”. These statements reflect the importance of assertiveness in the discipline that is consistent in both classes, thereby evincing the absence of difference in the high performance of educational attainment in the Kanpur district.

Bahraich Data

The study found no difference in the means of educational attainment for Bahraich district in the classroom demographic. The performance of grades 11 and 12 were observed to be strikingly lower than the classes of Kanpur district. The findings can be interpreted as the overall low performance in both the classes of Bahraich district along the Educational Attainment dimension. Numerous studies link educational attainment with personality growth, economic strength, and national development (Jensen, 2015; Hanushek & Woessmann, 2019; Fagerlind & Saha, 2016). However, studies have conversely found that low educational attainment shows serious aftermath regarding global issues like equality, poverty and violence (Quillian, 2014; Hanushek & Woessmann, 2010; Crouch et. al, 2019). Michelle Obama, an eminent philanthropist has rightly quoted about the importance of education “The ability to read, write, and analyse; the confidence to stand up and demand justice and equality; the qualifications and connections to get your foot in the door and take your seat at the table --- all of that starts with education”. The explanation of this absence of difference could be understood through an in-depth analysis of the contextual elements that affect the classroom dynamics within the learning process of the students of the Bahraich district. As the classroom context consists of the application of the curriculum, as well as the perspectives and beliefs about education in the teachers and students that influence the way learning is approached, and the behaviour and overall culture within the classroom atmosphere, the possible explanations through this very aperture that was earlier used for the observation of the students in the former district is discussed.

First, the *application of curriculum* as the criterion of generating difference within grades 11 and 12 of the Bahraich district is discussed. During the field investigation, it was observed that most of the 11th classes do not undergo concept clearance and total coverage of the prescribed curriculum. This results in dropouts of the students during the initial phase itself and weakened knowledge acquisition in the later class. Regarding the

question, “To what extent do the students perceive their respective class to facilitate scientific learning with respect to the 12th class?” many of the students of the 11th class were found to opine negatively. A student of class 11th responded: “...*I do not think that the 11th curriculum is going to affect the 12th learning...we go through an uneven curriculum....some chapters are half complete, some are omitted, and some will be rushed through at the last moment... chemical experiments of Chemistry are never practised in laboratories during the 11th class.... but in the 12th class, the examinations require mandatory laboratory tests and completion of the chapters that are based on our 11th syllabus.... It becomes very difficult to sit in the class and understand the scientific concepts... I feel disinterested in continuing further...*”



Picture 4: Laboratories remain locked during the school hours- Bahraich

The above excerpt shows that the discrepancies in the application of curriculum in terms of laboratory experiments and completion of the chapters cause disinterest towards educational attainment in the senior classes. A similar, opinion was found from the students of class 12th. Most students appeared confused with the conceptual understanding of the pedagogical content. Some of the students were observed to have less clarity about the curriculum of the 11th in comparison to the 12th class. Regarding the question, “To what extent do the students perceive their respective class to facilitate scientific learning with respect to 11th class?”, most students in class 12 were observed to opine negatively. A student of class 12th was observed to respond: “...*it is quite problematic.... We were never taken to the Physics laboratory, but now we are asked to conduct Physics experiments.... I am so confused about what to do and where to*

start....in 11th grade, Chemistry was regarded as unimportant....now in 12th, Chemistry is taught at equal par with Physics and Mathematics..... I do not know if it is going to help me further...even if I do not pass, it is alright...”

It could be ascertained that a 12th-class student shows their opinion towards their scientific learning in the previous class and the uneven application of the syllabus which might curb the overall educational attainment gained in 11th and 12th classes. These similar excerpts strongly form support for the obtained result of no significant difference between the classes.

The *student-teacher interaction* in consideration within the classroom dynamics. In contrast to the studies that link the role of the teacher in class to determine the educational attainment of students, the literature shows various case studies that reflect that lack of educators within the senior classes results in drop-outs at the secondary level and poor learning (Juma & Stonier, 2023; Griffith, 2017; Obeng-Denteh et. al, 2011). Studies confirm that poor teacher–student interactions within the classroom prove to be a major hindrance to educational attainment (Patrick, Stockbridge & Roosa, 2019; Asikainen, Blomster & Virtanen, 2018). Braun et al. (2019) have explored middle school teacher-student interactions and shown that a lack of teacher control in class leads to indiscipline in the learning process and difficulty in maintaining order and discipline in the classroom. Other studies have shown that poor teacher-student relationships can happen through a lack of control within the classroom which leads to students talking out of turn, disrupting class, and even engaging in more serious behaviours such as bullying or fighting (Di Stasio, Savage & Burgos, 2016; Kasen et. al, 2004). Based on these studies and the application of Assertive Discipline Theory in the former district under study, it can be understood that the poor learning behaviours of the students are consequentially caused by the poor control of classroom interaction by the teachers.

Studies have conversely found that the absence of firmness of control can further impede the educational attainment of secondary students (Sjurso et al., 2019; Kasen et al., 2004). The theoretical background of assertive discipline can be vividly observed in the poor classroom management throughout the schools of the Bahraich district undertaken in the study. During the field investigation, the students in the secondary classrooms of the Bahraich district were observed to study in classes devoid of proper teaching professionals and class regulations. For the question related to ‘How do you feel

about the class interaction of your particular class with respective teachers, assist you in learning Mathematics and Science?’ A student in class 12 stated- *“I feel bad.. I do not remember much of the prior knowledge taught in 11th grade...When I was in 11th grade, we frequently missed classes because teachers were often absent... teachers did not question the attendance shortage and poor marks in the class..... Now, the curriculum of senior classes expects us to attend all the classes till the end of school time, but they never happen.... I do not feel like learning anymore because I cannot understand any further...”*



Picture 5: A grade 11 student leaving the school during class hours - Bahraich

The above statement reflects the consequential possibility of lack of firmness and control in the teachers within the classes throughout the secondary levels at both 11th and 12th grades, thus resulting in lower means of educational attainment than the high-performing district.

Educational Attainment and Age

Education is comprehended worldwide as the outcome of the learning processes, followed throughout the global arena. Learning is a process furthering cognitive development through the progression of time. Research studies have considered age to be a ubiquitous, intrinsic and ongoing process in human development (Vetter et. al, 2013; Laz, 1998). Regarding childhood, some old empirical generalisations have proved that

the early years are formative, and the experiences gained during this time profoundly effect the development of children (Riley, 1987; Brim & Kagan, 1980). Various researchers in the social science arena believe in stages of age that show development cognitively, physically and socially. The demographic of age selected here is thus chosen because of the empirical strength found through these studies.

The subsequent part focuses on the difference in the mean educational attainment scores between students of various age groups, wherein the argument exists that students of higher age perform better than the students of lower age within the ages marked for adolescence. Specifically, whether the age of the student demonstrates any variance in the educational attainment is examined at the secondary level in both districts.

Kanpur Data

Educational researchers have further been inquisitive about the relationship of age with school learning (Vygotsky, 1963; Bong, 2009; Kawaguchi, 2011). Recent studies on age that are correlated with educational attainment, have found that older students typically perform better than younger students due to the expansion of biological and cognitive abilities (Kucuker, 2016; Dobkin & Ferreira, 2010). Developmental psychologists like Vygotsky (1963) have positively linked the increase in physical and cognitive abilities to the concept of maturity. Further, supporting studies have shown that older students are typically more mature than younger students, both physically and emotionally (Kucuker, 2016). This maturity leads to better self-regulation, which facilitates students to focus and pay attention to studies (Wang & Holcombe, 2010).

The study found that in the Kanpur district, the performance of the students in various age groups were highly significant. Prior research studies have portrayed that education relates to the learning process. Several theories attempt to explain how ageing affects learning. The reasons for this significance of mean scores can be best explained by the individual differences in the cognitive abilities of the students according to their age. One such theory which celebrates individual differences within the age dimension is the *Selective Optimization with Compensation Theory* (SOC) extensively given by Baltes et. al (1984). The theory provides a nuanced comprehension of how an individual thrives throughout their life. This perspective views development as a lifelong process influenced by various factors, including biology, environment, and culture. This perspective also emphasises the importance of individual differences in development.

Thus, deducing this theory towards understanding student development across ages, successful student development pertains to achieving positive outcomes and avoiding negative outcomes across various age groups. Further, this theory suggests that younger adults maintain their cognitive abilities by selectively focusing on important tasks, optimising their performance on those tasks, and compensating for any declines in their abilities.

New Education Policy (2020) mentions the secondary stage as consisting of 4 classes, is assumed to admit the students of age group 14 to 18 years. It is considered that entry to class 1 follows the age criteria of 6 years mentioned in the NEP and that the students get promoted to the higher classes successively without any demotion. Subsequently, the 9th and 10th classes cater to 14 and 15-year-old students, respectively. Also, an assumption that most of the 11th and 12th students would admit the students aged 16 years and 17 years respectively. Yet, keeping in mind, the relaxation currently followed at the practical grounds by the school admission committees, it is specifically dividing four age groups for the secondary section: 15 years, 16 years, 17 years and 18 years respectively.

In the Kanpur district, most 16-year-old students in the schools visited could maintain their cognitive abilities by focusing on important tasks, doing their best on those tasks, and making up for any weaknesses. Deducing through the SOC theory, the 16-year-old is better able to maintain their cognitive abilities than their 17 and 18-year-old peers. Regarding the question, “How do you think, you can do academically well in tough subjects in your class?” the younger students were observed to respond more methodically towards strategising their studies to yield maximum output. A student of 16 years responded: “...*Out of all the subjects currently taught, I think Maths is a tough subject to learn.... I select the tough subjects like Maths and accounts and pay more attention in class than other subjects....they have to be understood in terms of practicality.... I try to relate the chapters with practically available examples... along with the repetition of the same concept on various types of problems, the chapters become easy to acquire I can perform in the class evaluations more easily than my elder classmates...*”

In the above excerpt, the 16-year-old students are observed to use SOC strategies to maintain their cognitive abilities to do better in academics. For example, their

strategies of evaluating the tough subjects against the easier ones and the amount of attention in the class put towards the acquisition of tougher subjects as the optimisation of their effort towards cumulative knowledge gain is frequently used by the younger students. On the same question, the elder-aged students opined, another 18-year-old student responded: “...*All the subjects are tough in senior classes...I think we keep on studying and memorising the subject.... It should be enough to do well*”

The excerpt reflects that the elder-aged students believed in traditional memorisation practices to tackle the learning of tough subjects. The responses received were highly general in nature and devoid of any specific strategy that can help in academic facilitation. The use of SOC strategies by the 16-year-old students in Kanpur is a positive development. It suggests that they know the importance of cognitive abilities and are taking steps to maintain them.

Bahraich District

The study found that in the Bahraich district, the performance of the students in various age groups was highly significant. The highest mean was achieved by 15-year-old students (21.00) compared to the 16-year-old students (9.78), 17-year-old students (13.18) and 18-year-old students (4.50). Most of the understanding of the concept of ‘age’ relates to the study of cognitive development in the students during their learning process throughout the schooling period. Developmental researchers like Vygotsky have believed in the social and cultural context of cognitive development. It was believed that children learn through interaction with their environment and that more experienced peers play a critical role in this process. However, with the passage of time, other theories have also emerged to comprehensively understand how students develop their learning behaviours as they age.

The reason for this significance can be understood through the *Information-Processing Theory*. This theory is a more recent theory of cognitive development. It focuses on how children process information, and how this ability changes over time. Some cohort studies that have explored the development of attention abilities for the facilitation of learning behaviours found that students learn to develop a focus on the task at hand in their infancy without being easily distracted by environmental factors than their elder peers aged 17 – 19 years (Blankenship et. al, 2019; Sarama & Clements, 2009). Further, other studies that explored the perception of teachers on the strategies to reduce

risk behaviours in middle-aged students found that it is easier to teach students of 11 to 15 years to learn to control their impulses (Vanucci et al., 2020;), move from one activity to another without getting frustrated or overwhelmed (van Sluijs et. al, 2021) and use all of these skills together to solve more challenging problems that require them to think critically and creatively (Kim et al., 2019; Santos-Trigo, 2020). During the field visit, it was observed that the students aged 15 years were readily responsive to the riddles asked in the class. The teachers also perceived the younger students to understand better in the class. Regarding the question ‘How do the students differ in academic performance according to their age in the secondary classes?’ A teacher responded- “... Students *aged 15-16 years in lower grades answer very actively....sometimes even without thinking.....while the same students in higher grades aged 17-18 years take time in answering the questions of historical nature... We generally see the younger students to perform better in calculative and digital technology related subjects....when they grow older, they perform in the subjects of reasoning like Physics and Chemistry of Science Stream....*”

The excerpts reflect that students of younger age possess better participation in the computational subjects like Mathematics and Accounting by the teachers which is believed to elevate their academic performance in senior classes. For the question ‘How do the students differ in Mathematics performance according to their age in the secondary classes?’, a similar perception was observed in an 18-year-old student: “.....*I have seen my younger peers to excitedly solve the numerical and short questions that take minimum time to produce the answers....I used to like numericals and short questions when I was 16 as well... Now, my same-aged friends and I do not prefer such immediacy in computing answers and getting instantaneous feedback.... Rather questions that demand some ‘thinking’ on logic and the reasoning of the answer help me to perform.... You can find the performance unevenly scattered in any class you go...*”

The above excerpt portrays that the young-aged and old-aged students prefer different strategies for performing in computation-based studies and reasoning-based studies in the senior classes because, with the passage of time, there seems to be a transformation in processing the information disseminated in the class. Similarly, a study that used data from the Early Childhood Longitudinal Study, which tracks the development of children from kindergarten through fifth grade, found that kindergarten

and first-grade students were more likely to be attentive in class than third and fourth-grade students. Another study, conducted by researchers at the University of Pennsylvania, used data from the National Assessment of Educational Progress (NAEP), a large-scale assessment of student achievement in the United States. The researchers found that students who were more attentive in class were likelier to score higher on standardised tests. They were also more likely to graduate from high school and to attend college. Therefore, the study significantly proves that educational attainment in children is dependent on age as an important factor because adolescence is a time of rapid cognitive development. During this time, adolescents gain the ability to think in more abstract ways, to reason from known principles, and to consider multiple points of view. With age, the technique of processing the information differs, which fluctuates the educational attainment of the students at the secondary level.

Educational Attainment and Spatial Reference

The provision of education at a large scale is not a smooth task. Since the common belief today is to foster a society that consists of a whole population looking forward to growing multidimensionally, formal institutionalization of learning has gained much popularity. Considering that the institutes of formal learning can be those ‘doors’ to curb the crime that results in the establishment of prisons, it becomes very important to observe the locations where these ‘doors’ of formal learning are constructed so that a developing society can get rid of social inequalities and criminal establishments consequently.

As the geographical locations of the countries around the world vary quite vehemently, the learning output tends to vary as well. The international market is thus divided in terms of developed countries that can provide better resources through urbanization of the present civilisation and developing countries that lack the major resources to facilitate the development of an urbanized civilisation. This urbanised development can be achieved by raising the opportunities for knowledge acquisition, which is directly responsible in creating the academic output of the learning population. The developed countries observe academic acquisition to improve the individual’s chances of getting a good job and earning a high salary. There is a strong emphasis on academic achievement, and students are expected to work hard and achieve high grades to compete the globally created opportunities in the markets. There are also many

opportunities geographically for students to participate in extracurricular activities, such as sports, clubs, and student government. These activities equip the students with the awareness of current market state, skills required to engage in the available markets and develop prospects of sustainability in the everchanging market scenarios. In contrast, developing countries geographically face many challenges in academics acquisition, ranging from lack of awareness of urbanised facilities, resource allocation for better learning process to unavailability of contextual support and poor productivity generating opportunities.

Some studies have proved that in the geographical context, rural education is a vital part of the overall education system (Boix-Tomas, Champollion & Duarte, 2015). Rural schools often have strong ties to the local community, which elevate the learning opportunities and community participation in the students than those of the urban spaces (Schafft, 2016; MacJessie-Mbewe, 2004). It provides educational opportunities for children and youth who live in rural areas, helps to close the achievement gap, prepares students for success in college, careers, and life, and strengthens rural communities and economies (Porter et. al, 2004).

The following part focuses on the difference in the mean scores of educational attainments between students of urban and rural spaces, wherein the argument exists that students of rural spaces perform better than the students of urban spaces within the districts undertaken in the study. Specifically, the emphasis is on whether the spatial context of the student demonstrates any variance in the educational attainment at the secondary level in both the districts.

Kanpur Data

This study portrays that the difference in mean scores of educational attainments is significant between the students of urban areas (35.83) and rural areas (23.35). It is interpreted that there exists a significant difference between the students of urban spaces (Kalyanpur) and rural spaces (Bidhnu) in the secondary schools of Kanpur district. Specifically, the students of urban areas were found to outperform the students of rural areas. Older studies have confirmed the spatial effect on the learning process of the students (Lipton, 1980; Ward & O' Sullivan, 2006).

The study has evinced a school's location with respect to its geographical situation determines how it is characterised, classed, and defined (Guenther, Halsey & Bowman, 2015). So, the broad field of geography naturally acquires importance in learning as it has connections to the: i) demographics of the learning population availing the schooling facility, ii) economics of the resource allocation required to access the learning facility and iii) quality of education maintained in terms of equity between knowledge disseminators (teachers) and knowledge receptors (students) in the school (Lesaux et. al, 2007; Cai, 2013; Best et. al, 2013; Guo, Huang & Zhang, 2019). To give a sense of context connected to location, categorisation of schools can be possible as either rural or urban; provincial to remote to extremely remote.

Initially understanding the results with the geographical context, the *demographics of the learning population* in the Kanpur district. Authors like Taylor have frequently argued about the contribution of geographical conditions in learner-centric activities—right from embodied geographies of the learner at the micro level to the globalisation of the dissemination of knowledge at the macro level (Taylor, 2009). Kanpur Nagar district is observed to cater to the current population density of 3,234,000 which is projected to increase from its population marked at 2,928,000 in consensus 2011. It is projected to grow at 1.34% per year. The total city sprawls under 403.70 sq. kilometre. The urban spaces of the city cater to many institutions of formal learning of which, public schools are majorly found in the Kalyanpur urban area. Owing to the urban developments, the diversity of the demographics of the learning population is quite high.

There are abundant inhabitants in the district of Kanpur living in the Kalyanpur block, nevertheless, there also exist those who hail from various states and nations, including Punjabis, Irish, Bengalis, South Indians, Anglo Indians, Gujaratis, Iraqis, Portuguese, Gipsies, and Parsis, among other ethnic groups. Since the parents of such a diverse population reside in the same urban space, most parents are concerned about providing their children with the maximum available learning support as an essential uniformity with each other. Regarding the question, “To what extent do you believe that any child with diverse demographics has the right to avail the secondary education learning facilities in terms of being admitted and attending the school?” the majority of the parents of secondary students interviewed, held positive beliefs. The parent of a 16-year-old girl studying in Government Secondary School, Bhauti of Kalyanpur block

responded: “ diversity has become very important in a class today.... my child has right to avail secondary education as much as those who are girls of marginalised sections I believe it motivates them to learn better...” . Another parent of a boy from a marginalised section studying in Government Secondary School, Baikunthpur of Kalyanpur Block responded “if the normal children can learn in the school and learn to do better in various subjects, why cannot my child with the same potential do it ?... I think he learns better when attending school and sitting with others....”

These excerpts show the beliefs of the people in urban spaces to comprehend the importance of diversity in the demographics and fiercely support the learning of their children as an ‘equal right’ to grow further.



Picture 6: Students from diverse backgrounds are encouraged in schools of urban areas- Kanpur

In this urban block, the allocated resources required to access the learning facility was looked at. Since the passage of time, the provision of education has become a domain that is highly interwoven with the pillars of accessibility and affordability. While ‘affordability’ of education caters to the socio-economic dimension of society, ‘accessibility’ emerges as the most important pillar to build education in its true ‘rights-based’ sense. The gradual economization of education has transformed its ‘philosophical approach’ in the ‘accessibility’ realm to a ‘service-based’ approach. Presently, this transformation has created a dichotomous system in India which caters to the schools as

'service -providers' on one end, and students and their parents as 'consumers' of these apparent education marketplaces on the other end. In other words, the opportunity to gain education transforms itself into a 'choice-based' approach for the consumers where students' decisions on where to enroll for education are influenced by the geographical availability of formal educational institutions as well as the social dynamics of the community context. The provision of education thus becomes naturally dependent on the geographical location of the schools and the availability of resources to push this 'choice-based' approach so that the opportunity for education is equally distributed at the 'service provision' end.

During the field visit of schools in the urban Kalyanpur block of Kanpur district, it was observed that the schools in Kalyanpur block were accessible within the same range as primary and middle school establishments. This ease in accessibility of the secondary schools was observed to be treated positively by the parents of the secondary level students. Regarding the question, "How do you think the distance and resources in accessing secondary school affect the learning of the students?", the majority of the students and parents held similar positive opinions. A student of a senior class in Government Senior Secondary School, Bhauti of Kalyanpur block responded: "*.....distance plays a very important role.... we have secondary schools that are located around the same range where we used to go for our former primary school.... Since the area is within walking distance..... I like coming to school daily....*". A parent of another student residing in the Government Senior Secondary School, Baikunthpur of Kalyanpur area responded: "*.... I am sure that ample resources to tackle the problem of accessibility of the secondary school reflects in their daily learning capacity through their consistency of learning..... this school has the maximum students amongst the neighborhood public schools..... the school is situated near the highway where smooth transportation is easy..... the school itself maintains a fleet of 6 buses, 3 vans and 2 e-rickshaws to carry its senior and junior students to and fro...children come to the school daily to learn without the troubles of thinking 'how to reach' the school.....*"



Picture 7: Proper connection of roads maintained in urban neighbourhoods of government schools- Kanpur

These excerpts portray that schools with strong resources to build the accessibility of education through reaching to the ‘school doors’ facilitate the students with uninterrupted learning.

It was observed that the *quality of education maintained in terms of equity between knowledge disseminators (teachers) and knowledge receptors (students)* in the school. The urban space of Kalyanpur is geographically the learning centre of Kanpur district, which is a focal point of educational activities. A few studies that have explored the links between availability of equitable resources and learning of the children have found that abundance of resources for classroom practises increase the scientific comprehension of the students (Nachbauer & Kyriakides, 2020; Simon, Malgorzata & Beatriz, 2007; Schleicher, 2009). As far as the scientific subjects are concerned, the schools observed were found to have well maintained scientific laboratories, equipment like microscope, scalpel etc. for the experiments of Biology and measurement equipment for the Physics experiments in ample amount for the students. Opportunities to avail these laboratories were distributed to create equal exposure for all the enrolled students at the secondary level. Regarding the question, “How well do you think the school resources assist you in your science learning?”, majority of the students responded positively. A student at Government Senior Secondary School, Bhauti of Kalyanpur block responded: “.....I

think my school really helps us learn Science.... we have updated laboratories according to the need of the syllabus.... there are chemicals to practise experiments like 'titration' teachers have arranged us according to our roll numbers and divided the class in two batches.... laboratory can accommodate 10 students with their individual stands at one time.... batch formation helps all the 20 students to equally get the chance to learn the experiments at least once a week... I feel very excited to learn Science and do well".



Picture 8: Presence of functional chemical laboratories in government schools of urban spaces-Kanpur

This excerpt portrays that the presence of resources and the practice of provision of equal opportunity to avail the resources in the class practices facilitates science learning in the students.

Contrastingly, with an overall population of 364 households, Bidhnu is a medium-sized village within the Kanpur Nagar district of Uttar Pradesh. According to the Population Census of 2011, there are 1922 people living in the Bidhnu village, with 1040 men and 882 women. Children under the age of six account for 234 of the village's entire resident population in Bidhnu, or 12.17%. According to the Indian Constitution and the Panchyati Raaj Act, the Sarpanch (Head of Village), a local elected official, manages Bidhnu village.

So, considering the *demographics of the learning population in the rural block of Bidhnu*, it was found that the rural space of the city has relatively less diversification in

terms of the existing demographics. Most of the people residing here have never migrated or experienced an immigrant population to even nearby metropolitan areas. Since parents from a small relatively diverse population live in identical urban areas, a large number of people are worried about giving their children only the most basic primary learning rather than secondary education, which is mandated in order to maintain crucial social cohesion. Regarding the question, “To what extent do you believe that any child with diverse demographics has the right to avail the secondary education learning facilities in terms of being admitted and attending the school?”, some of the parents of secondary students interviewed, held negative beliefs. The parent of a 17-year-old boy studying in Government Secondary School Khersa, Bidhnu block responded: “.....*diversity might not be as important as it is portrayed.... students learn in the class despite no maintenance of diversity.... Our place is geographically small, it is not practical to accommodate students of larger diversity for learning...*”. Another parent of a secondary male student of Government Senior Secondary School Khersa, Bidhnu block responded, “....*diversity does not matter for learning that much, only government policies do.... government has made elementary learning compulsory so students of diverse population can be tolerated while studying in the same class..... enrolment of diverse population is not mandated from the government for the secondary level.... I do not believe it is important at all...*”

These excerpts portray the negative beliefs of the people in rural spaces to comprehend the importance of diversity in the demographics that might be the possible cause of low mean scores in the educational attainment of the students.

From the financial standpoint, it was seen that there lies a contrast in the *allocated resources required to access the learning facility* in this rural block of Bidhnu. It became apparent during the field visit to schools in the rural Bidhnu block of the Kanpur district that these schools did not have the equivalent level of accessibility as primary and middle school facilities. The family members of secondary-level students were shown to be reacting badly to the secondary schools' problems with accessibility. Regarding the question, “How do you think the distance and resources in accessing secondary school affect the learning of the students?”, most of the students and parents held similar positive opinions. A secondary-level student of Government Senior Secondary School, Bidhnu Block responded: “....*distance does matter, we have one secondary school as compared*

to the three or four primary schools here.... that too is far off... students do not plan for secondary learning because of the distance...”



Picture 9: Less students attend secondary class due to transportation difficulties- Rural area, Kanpur

A parent of another student residing in Government Secondary School Khersa, Bidhnu block responded: “...*accessibility of secondary school matters in the sense that I or the school should have facilities to overcome the distance difficulties.... Families that do not have transportation resources to avail the secondary school situated amidst the farmlands, often have students who are poor in availing the school and consequential learning...*”

These excerpts reflect that in the light of the difficult geographical location of the school and the absence of transportation resources, it becomes difficult for the student to perform better in attaining education.

Bahraich Data

This study portrays that the difference in mean scores of educational attainments is significant between the students of urban areas (17.73) and rural areas (7.31). It is interpreted that there exists a significant difference between the students of urban spaces and rural spaces in the secondary schools of the Bahraich district. Specifically, the students of urban areas were found to outperform the students of rural areas.

According to a study, a school's location in relation to its geographical situation determines how it is characterized, classed, and defined. With the usage of a similar geographical viewpoint as in the former district, the mean difference between both the urban and rural spaces is startlingly low as compared to the urban and rural spaces of the former district undertaken in the study. For clear comprehension, consider the following factors- (i) characteristics of the student population using the schooling facility, (ii) financial science of distributing the transportation resources needed to obtain the education facility, and (iii) maintenance of the highest possible standard of equitable resources in instruction for both learners as well as educators who disseminate knowledge in the school.

The primary observation is based on the comprehension of the *characteristics of the student population using the schooling facility* in the Bahraich district to interpret results in the light of the surrounding geography. From student's integrated geographical regions at the individual level to the globalisation of academic transmission at the global scale, researchers have frequently debated the significance of geographical conditions in learner-centric activities.

The Directorate of Census Operations in Uttar Pradesh has provided official Census 2011 data for the district of Bahraich. The region had an average literacy rate of 49.36 in 2011 compared to 49.36 in 2001. The stagnancy in literacy rates over the period of 10 years suggests the impending situation in terms of growth of academic potential in the region. According to the 2011 census, 91.86 percent of the people of Bahraich districts reside in rural villages. There are 3,203,687 people who inhabit rural areas while 8.14 percent of the district's population census reside in the urban areas constituting 284,044 of the total population in the urban areas (Census, 2011). Studies that have explored the various dimensions of urbanized regions have provided strong links between urbanization and multiculturalism (Chervinska et. al, 2021; D'hondt et. al, 2021). Since the demographic strength of the urban areas only constitutes 8.14%, it can be understood that the availability of diversity in the population is quite low. This low presence of diversity is responsible for the low diversity in the demographics of the learning population. During the field investigation, it was observed that the parents of the diverse population live in heterogeneous environments without sharing cohesive urban space. Thus, the majority of the parents are concerned about the dominance of a single

community in the schools for their adolescent children which consequentially gives rise to communal rifts during the learning process. Regarding the question, “To what extent do you believe that any child with diverse demographics has the right to avail the secondary education learning facilities in terms of being admitted and attending the school?” the majority of the parents interviewed, opined indifferently. A parent of a marginalized section student of Government Senior Secondary School, Bahraich Nagar replied “... *It is very difficult.... I am not sure how a diverse population of students can be admitted to the same class for learning?..... In our times, the total secondary class was constituted of students of the same religious, ethnic, and social groups.... I think its continuity can help our children...*”. Another parent of a 17-year-old marginalised female student of Government Senior Secondary School, Bahraich Nagar replied, “..... *It is not practical to enroll a diverse population of students in the same secondary class.... I discontinued my daughter’s education..... other parents also complained about the disruption their children faced in order to keep my daughter on the same learning frequency during the class... other students would observe from their parents and look at her resentfully...*”

These excerpts show that the students of the urban areas are highly intolerant to the wide diversity of the class. The presence of indifference towards the significance of diversity in the demographics has subsequently resulted in challenges to performing academically well. Regarding the question, “Do you think you can perform in a population-wise diverse school?” the majority of the students in the urban regions opined negatively. A student of Government Senior Secondary School, Bahraich Nagar Area answered, “...*I do not want to learn in a class where everybody belongs to different demographical identities..... it is hard for me to understand how can different students be put in the same class and taught? My class has some diversity in population, so I keep missing the classes frequently...*” Such a response easily provides insight into *local competence* as the barrier to the acceptance of diverse demographics of the learning population within the formal learning system.

An economic perspective on the *financial science of distributing the resources needed to obtain the education facility* in this district is examined. Given that the supply of education has developed into a field that is closely related to the principles of availability and affordability, 'Accessibility' appears as an extremely crucial component

to creating education in its real 'rights-based' sense, while 'affordability' of education responds to the socio-economic dimension of the society. Education has gradually become more economical, changing its "philosophical approach" in the area of accessibility to a "service-based" approach. Currently, this transition has led to a dualistic system in India that serves pupils and parental figures as "consumers" of these seeming education marketplaces on the one hand and schools as "service providers" on the other hand. In simpler terms, the possibility for customers to obtain education converts into a "choice-based" strategy, where the choices pupils make about where to enrol in school are influenced by the location of formal educational institutions as well as the social dynamics of the local environment. To advance this "choice-based" strategy and ensure that opportunities for education are dispersed evenly at the "service provision" end, the supply of educational services thus becomes inherently contingent on the geographical positioning of the schools and the availability of resources.

It was found during a field visit to schools in the Bahraich area that secondary schools located in the Kaiserganj block were not within walking distance of the primary and middle schools. The parents of secondary-level pupils were seen to have a poor opinion of this geographic challenge in accessibility to secondary schools. Most of the students and parents responded negatively to the question, "How do you think the distance and resources in accessing secondary school affect the learning of the students?" A senior student in the urban setting school reacted as follows: “ *...the distance does matter in accessing the school for learning....our school is very far from the residence.... half of the days, I cannot reach the school.... Learning becomes very confusing and disinteresting....* ”



Picture 10: Secondary school with difficulty of accessibility - Bahraich

This excerpt shows that schools with difficult geographical locations create low motivation of learning in the secondary level students.

The maintenance of the highest possible standard of equitable resources in instruction for both learners as well as educators who disseminate knowledge in the school was looked at. The rural areas of Bidhnu block promote bare minimum use of resources in their local space. Studies that have explored the significance of resources for secondary level learning have found that presence of teachers in the classroom prove to be one of the most impactful resources during the learning process (Knight, 2019; Cardichon et. al, 2020). Contrastingly, the schools were observed to have resources that were just very essential to keep the curricular activities running smoothly. In context of subjects like Mathematics, the schools were observed to have teachers but their regularity remained constantly questionable. Out of the total schools visited, the attendance registers for teachers showed minimum 1 recruitment of professionally qualified Mathematics teacher but only 2 Mathematics teachers could be observed to be present in

the school. Regarding the question, “How well do you think the presence of teachers as school resources assist you in your Mathematics learning?”, majority of the students opined negatively. A student of Government Senior Secondary School, Khersa of Bidhnu block responded: “ *presence of teachers in school every time does not seem that important... our Maths teacher keeps frequently absent despite residing within the range of school....we are taught that in senior classes, teachers do not matter that much....*”

This excerpt shows that the absence of teachers as an important equitable resource impedes the Maths learning in the students. However, the rural parts of Bahraich see a complete lack of resources all over which can be explained as the most significant possibility of the low performance scores in educational attainment of the student at the secondary level. Considering the *characteristics of the student population using the schooling facility*, the available diverse population in the secondary level is observed. The rural areas consisting of Kaiserganj is made of 56.07% of people other than Hindu religion while the urban areas of Bahraich Nagar Area experience higher diversity of people (Census, 2011). With no homogeneity of ethnic and religious diversities, the area caters to high dominance of Muslim religion. People of the dominating community were observed to pay importance to religion specific studies than availing proper school education. Thus, majority of the parents are concerned about the dominance of a single community in the schools for their adolescent children which consequentially gives rise to communal rifts during learning process. Regarding the question, “To what extent do you believe that any child with diverse demographics has the right to avail the secondary education learning facilities in terms of being admitted and attending the school?”. Most of the parents interviewed, held negative beliefs. Parent of a student in Government Senior School, Kaiserganj responded “....*I do not believe in diversified students studying in one class at all.... In our religious practise, our children cannot share their classes and learnings with the children of variant ethnicity....it does not lead them to academic growth..*” These excerpts portray the negative beliefs of the people in rural spaces to comprehend the importance of diversity in the demographics that might be a possible cause of low mean scores in the educational attainment of the students.

It was investigated that the *maintenance of the highest possible standard of equitable resources in instruction for both learners as well as educators who disseminate knowledge in the school*. The rural areas of Bahraich block promote the bare minimum

use of resources in their local space. During the field visit, it was observed that these rural parts of Bahraich district are inhabited by a total of 344 families that live on footpaths or without any type of roof covering. This data of people who live without basic amenities was covered in the population report where it was shown that in 2011, 1,794 people lived with no shelter altogether (Census, 2011). In addition to this condition, it becomes very clear that the pace of development remains very low as compared to the other metropolis areas that develop due to the allocation of equitable resources. In such conditions, availing the facility of secondary education in schools becomes a difficult target to achieve. Regarding the question, “How well do you think the presence of school resources assists you in your Mathematics learning?”, most of the students opined negatively. An adolescent boy of Government Senior Secondary School, Kaiserganj, Bahraich responded: “.... firstly it is difficult to get enrolled in the schools....my family lives on street.... We can barely manage two meals a day..... how can school learning be done?.....I learn whatever I can on these streets by working as a daily wage laborer...”



Picture 11: School teachers standing outside the school during class hours- Bahraich

Along with this excerpt, the schools in the rural areas of Bahraich were observed to undergo teacher absenteeism, lack of laboratories for experimentation, and absence of proper libraries and toilets. These observations and statements prove to strengthen the understanding of equitable resources and their significance in learning.

5.2 Objective 2

To explore the differences of Socio- Emotional Competencies and its dimensions based on the demographic characteristics (class, age, gender, spatial reference, school location, Socio- Economic Status, favourite subject, aspiration after 12th, pursual towards Higher Education) of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

Socio-Emotional Competencies and Gender

Gender disparity in the young student population continues to be a topic of ongoing research in the fields of learning (Kundu, Bej & Rice, 2021; Cahyanto, Ashadi & Saputro, 2019; Sampermans and Claes, 2018). As understood by Carter (2012) "Socialisation experiences, immediate comprehension of gender roles, and evaluation of gender-appropriate behaviour" are important factors for comprehending gender in pupils. Consistent study has revealed associations between male and female schooling and other significant development indices in this regard ((Rashmi et. al, 2022; Momsen, 2019; Harcourt, 2009). Furthermore, research findings support female education on the basis of well-being, age-appropriate weddings, and declines in pre-mature pregnancy (Matud, Lopez-Curbelo & Fortes, 2019; Van Zanden, Moor & Carmichael, 2019). However, the rise of the role of men in accessing educational opportunities and an ongoing danger to female education have frequently been seen in the context of global gender disparities (Lee & Chin, 2019; Madara & Cherotich, 2016).

This section centers around the difference in the mean scores of socio-emotional competencies in the male and female students, wherein the argument exists that male students perform better than female students in socio-emotional skills. Specifically, in this section, the focus is on the research question- whether the gender of the student demonstrates any variance in the socio-emotional competencies at the secondary level in both the districts?

Kanpur data

The findings indicate that there are no differences in socio-emotional competencies between male and female pupils. Through a number of characteristics, the study investigates whether there is a disparity in having socio-emotional competencies that

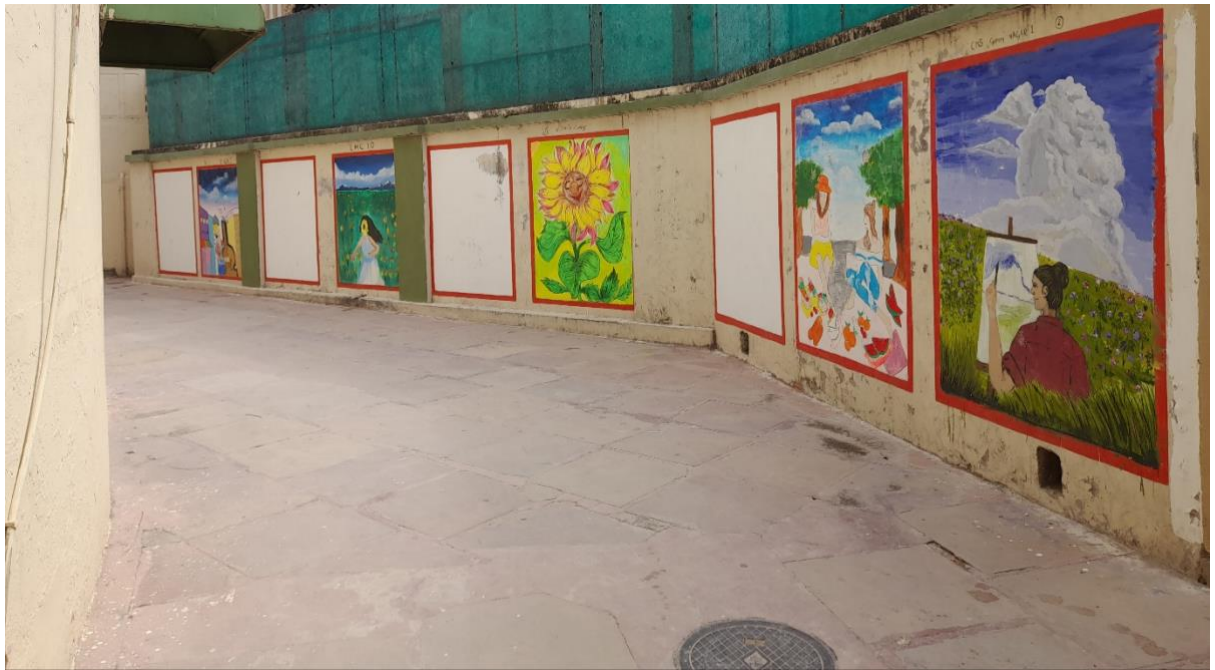
facilitate Higher Education Readiness. It was concluded that there is no significant difference between male and female students in the socio-emotional competencies. In the provided data, the mean scores of male performers in the socio-emotional competencies (79.80) are marginally lower than the mean scores of female performers (81.93). To put it another way, female students typically outperform male students on the socio-emotional competencies.

Stereotypes and disparities among genders were pervasive in all facets of life in the past. Gender and education refer to the sociological hypothesis that men and women do not have equal possibilities for upward progress in the educational system. This shows that the educational system does not treat both genders equally. However, studies done on the attitude of secondary learning show that a higher learning attitude leads to higher performance in educational activities (Ferrer et. al, 2020; Getie, 2020). So, it can be safely understood that women of developed countries foster higher learning attitudes as equal to men in the field of education. In other words, the context of learning plays a significant role in learning. Great men like William S. Burroughs have believed that “The aim of education is the knowledge, not of facts, but of values” which makes us reflect on the fact that education is the balanced combination of cognitive abilities and socio-emotional competencies that consist of skills to succeed in the sociological, emotional and employment scenarios.

Hence, it could be comprehended that the development of socio-emotional competencies in the secondary level is embedded in the context of the learning environment. Gender disparities, bias, and even prejudices are not unintentional; rather, they are carefully intended actions of discrimination conducted by social institutions based on physical appearance in order to prevent women from similar achievements as men (Braun & Wilkinson, 2005; Fahs, 2012). Supporting this, Takeuchi et al., (2018) have stated that learning organizations like schools are seen as places where culture and society are replicated. As a result, the disparity between men and women within the society is reproduced and is perpetuated by formal as well as informal expansion of opportunities. Thus, the explanation of the results demonstrates through the *Social Construction Theory* (Rosenholtz & Simpson, 1984) that abilities are often believed to be unchangeable and entirely biological— like gender, class, and aptitude—are the result of human categorization and understanding modified by cultural and social settings.

Since cultural categories like "men" and "women" are conceptions that are generated, altered, and reproduced through the course of time inside the social and learning institutions, social constructionism emphasizes how these processes work to reduce or increase the existing disparities of gender.

Deducing from the Social Construction Framework, it is explained that when schools as formal learning organizations foster the 'acquisition of skills' equally to the students, the consequential outcome is the reduction of gender differences during the transition period. In this context, some of the studies showed that comprehension of required skills in secondary-level education was majorly infused in male students (Savin-Williams, 1980; Crow et. al, 1998). With the passage of time, the social constructions that earlier barred females from equal chances of exposure to skills now required them to be equally skilled in the holistic acquisition of secondary education (Jayachandran, 2021; West et. al, 2019). So, the social constructions laid focus on the instilling of skills in the female students as well. For instance, it was socially constructed in the past, that women serve as 'poor innovators' due to the lack of innovative abilities in them. Some studies have exaggerated these statements without acknowledging the contextual factors. During the field investigation, it was observed that the schools of the Kanpur district have redefined these social constructions by creating equal opportunities for innovative ideas in scientific subjects. In response to the question, "I often try to come up with new ideas" most of the male and female students opined 'very strongly'. In the interviews with the female students, it was asked, "How does the school facilitate equal opportunities to both the male and female students in discussion of innovative ideas?", The majority of the female students thought positively. A female student responded: "...*Our school runs a local innovation program 'Kabaad se Jugaad' for senior students that allows the discussion of innovative solutions to the everyday problems every friday.... irrespective of the gender of the students in the class, every secondary level student is expected to participate and put forth at least one idea that does pertain to the traditional scientific solutions taught in the class.....*"



Picture 12: Students make use of a discarded wall under ‘Kabaad se Juggad’ Scheme- Kanpur

Another male student responded to a similar question: “..... *the local innovation program ‘Kabaad se jugaad’ carries a mandatory criterion of equal representation of both genders and equal chance of providing the ideas to every student in every session.... If any session shows even one member opting out from the presentation of ideas, the total session gets nullified.... Similar opportunities are practised for discussing innovative ideas regarding school hygiene, class health, and conceptual application of scientific experiments in the syllabus...I do not find my female classmates any less in sharing their innovative ideas...*”

The excerpt reflects that schools reshape the social constructs of women being ‘poor innovators’ with equal opportunities to develop inquisitiveness towards novel ideas through programs like ‘Kabaad se Jugaad’.

Bahraich Data

In the educational sector, there is still gender disparity and discrimination, with boys receiving better treatment in educational settings or even from educators than girls. Personal biases and gender inequalities were prevalent in all aspects of life in the past. Because of this, education was seen as a means of relieving those who were more vulnerable (females) from the threat of gender prejudice and oppression. Some studies have focused on the widening discrepancies between the developing and the developed

countries in this context (Reilly et al., 2019; Amelink, 2009). Many parents, particularly in developing and less developed nations, continue to feel that it is better to educate a boy than a girl (Stoet & Geary, 2018; Geribo, 2012). Due to these contextual beliefs, the population of boys in a given school in many secondary and primary schools is not equal to the population of girls in that same school. Gender and education, from a sociological standpoint, refers to the notion that there lies some discrepancy in viewing and treating males and females. Gender issues have received more attention in industrialised nations including those in Europe, some regions of Asia, and the United States of America, which has resulted in larger accomplishments (Sempruch, 2008).

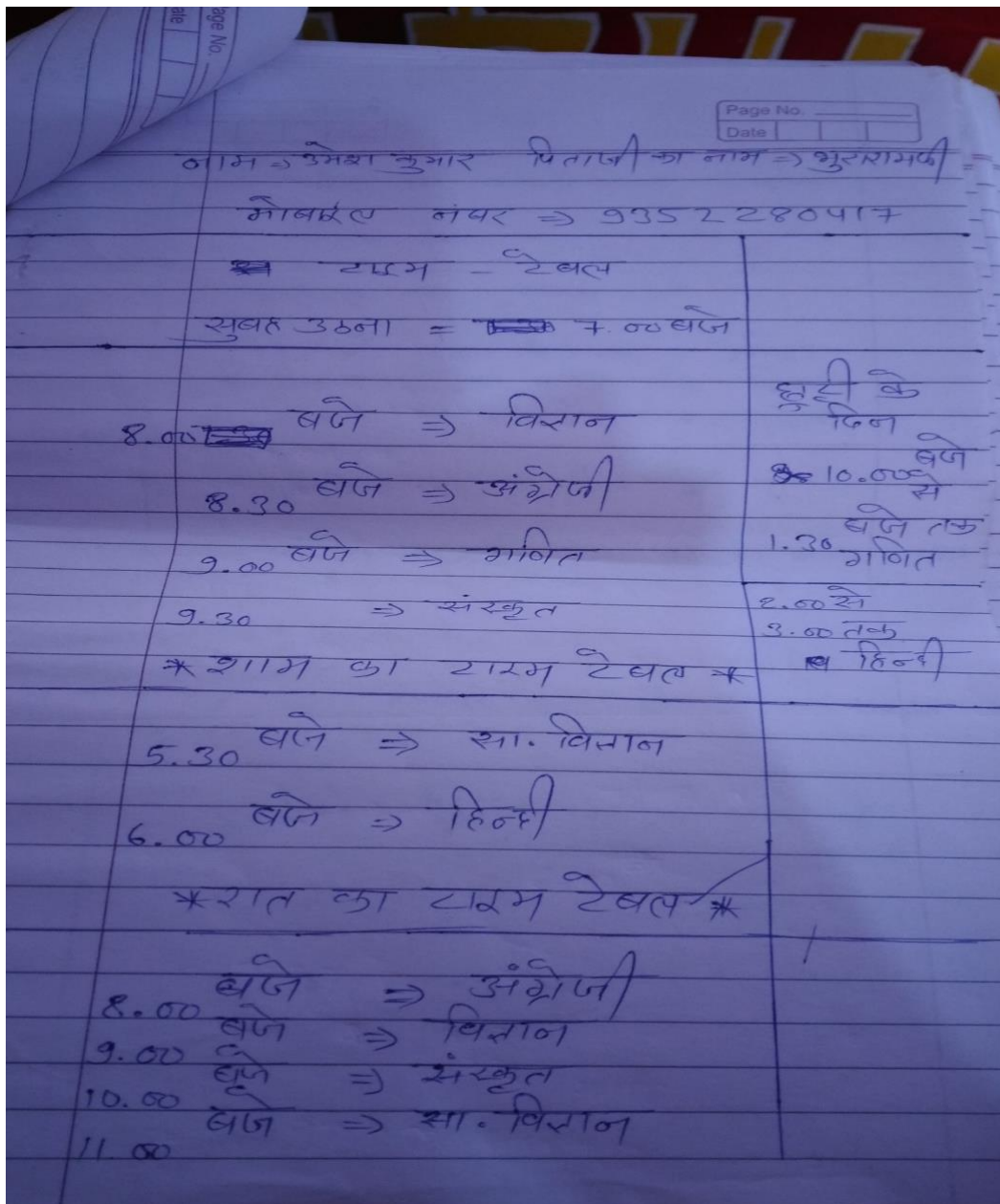
Gender disparity as a problem in learning is now much more widely recognised than it once was in these nations. This shows that the educational system has begun to take girls' education into greater consideration to support them and allow them to pursue employment prospects that are on par with those available to men. Women nowadays compete with men for employment prospects due to their increasing educational attainment (Skelton et al., 2010).

The findings indicate no differences in socio-emotional competencies between male and female pupils of the Bahraich District. Through several characteristics, the study investigates whether there is a disparity in having socio-emotional competencies that facilitate Higher Education Readiness. It can be concluded that there is no significant difference between male and female students in the socio-emotional competencies. In the provided data, the mean scores of male performers in the socio-emotional competencies (73.38) are marginally lower than those of female performers (81.92). In other words, female students typically outperform male students on the socio-emotional competencies.

A possible explanation for these results can be understood through the *reduction in the existing gender stereotypes* and their effect on the learning environment. Gender stereotyping is the extrapolation of traits, distinctions, and features of groups determined by their gender (Ellemers, 2018; Narahara, 1998). It produces and propagates prejudices regarding specific traits of each gender. In the context of secondary education, gender stereotypes are transformed into certain assessments and projections of the young learning population based on prevalent ideas about their gender, which take precedence over their own uniqueness and capabilities (Patel, 1998). Gender stereotypes not only

contribute to curbing the development of those potentials, but they also cause us to push the growth of potentials based on mere superficial perceptions of the individual. Due to these expectations, schools as formal learning organisations separate the students based on prevalent and hegemonic perceptions of “men, women” and “femininity, masculinity”. These methods are very subtle and sublimated. As far as the research arena is concerned, the literature suggests that the prevalence of gender stereotypes in class and school environment hinders the social and personal growth of students at the secondary level (Kosir & Lakshminarayanan, 2023; Dandapat & Sengupta, 2012; Askew, 2002).

For instance, the schools observed in the Bahraich district were reported to face gender stereotypes regarding the academic mastery competencies of both genders. Female students were stereotyped to be ‘lethargic in time management’ due to the ‘softness’ in their behavior. However, studies in the literature regarding time management capabilities suggest that female students possess equal capabilities of time management in their academic learning (Lovejoy & Stone, 2012; Mulligan & Rubinstein, 2008). Such empirical strength has been further utilized by the school administrations in the Bahraich district. During the field investigation, it was observed that the schools of Bahraich district have redefined these gender stereotypes by creating awareness about time management and assisting in the development of time-management techniques in class interactions. In response to the question, “I know the habits that do not let me use my time effectively” most of the male and female students opined ‘strongly’. In the interviews with the female students, it was asked, “How does the school facilitate equal opportunities to both the male and female students in the awareness about time-management?”, The majority of the female students thought that awareness lectures to secondary students irrespective of the gender stereotypes about ‘women being poor time managers’ helps in the comprehension of time-management skills. A male student responded: “...*I had priorly heard that women have ‘poor skills in time management.... our school does not cater to such stereotypes.... all of us are taught about the importance of time in the awareness class managed by the school administration my female classmates are encouraged to ask questions about self – awareness with time management and ways to effectively use it for studying the syllabus, as equally as we are encouraged to do so...*”



Picture 13: Students taught about academic mastery through time-management competencies-Kanpur

Such excerpts reflect that the contribution of schools in the creation of the awareness of socio-emotional competencies irrespective of the existent gender stereotypes, facilitate the development of socio-emotional competencies like time-management in both genders alike.

Socio-Emotional Competencies and Preferred discipline

The current educational reforms hold ‘quality’ as the most important inculcation in the education process. Greek philosopher Plutarch believed that “The very spring and root of honesty and virtue lie in good education”. Considering that the process of

imparting education showcases the ‘responsibility’ of the provision of the virtues to the learning population, the quote of political scholars like Bob Beauprez, “Education is a shared commitment between dedicated teachers, motivated students and enthusiastic parents with high expectations” stands tall and true in the present era. It is a realisation that the primary commitment must be shared by the formal learning institutions and the learning environment during the class interactions to build the virtuous pillar on the competency platform of the students.

This section centralizes around the difference in the mean scores of socio-emotional competencies in the 11th and 12th-grade students, wherein the argument exists that students of 11th perform better than the students of 12th grade in the learning acquisition process. Specifically, in this section, the focus is on the research question-whether the class of the student demonstrates any variance in the socio-emotional competencies at the secondary level in both the districts?

Kanpur Data

The present study found a significant difference in the mean performance of the students on socio-emotional competencies for the Kanpur district in the classroom demographic. The explanation of an in-depth analysis of the contextual elements that affect the classroom dynamics within the learning process.

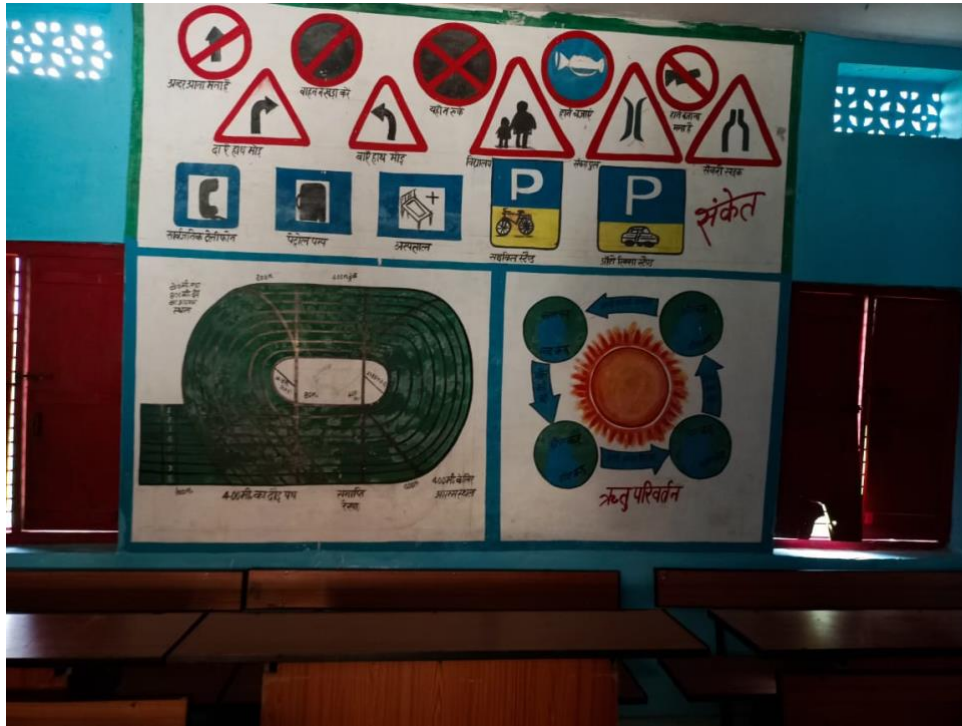
Previously conducted studies have demonstrated that individual virtues are directly proportionate to class performance and educational experiences attained in the institutions that develop formal education systems (Goldstein et al., 2015; Ferguson et al., 2014). Contrarily, negative learning experiences such as school absences, class dropouts, and lack of participation in class pose obstacles to students' ability to complete their education (Contreras et. al, 2022; Fortin et. al, 2013; Yang et. al, 2018). Furthermore, numerous studies have negatively linked the incomplete pursuit of schooling to risky adolescent behaviours (Weybright, 2017). So, according to educational researchers , classrooms within these school learning systems are the most important variables to help implement the academic learning experiences and develop the required academic competencies (Abry et al., 2017; Roche et al., 2008).

The significance of the difference in the results can be understood through the *Sociocultural Theory of Cognitive Development* proposed by Lev Vygotsky. The

theory contends that social contact with adults and more educated peers can facilitate a child's ability to acquire knowledge. According to the theory, interpersonal training is necessary for the cognitive development of students because learning from self-exploration is not enough to interpret academic concepts. Deducing from this theory, the frequency of interpersonal interactions between students, teachers, and peers facilitates the student's ability to develop the required competencies (Vygotsky & Cole, 2018). Since the frequency of class interactions differs from class to class, it might also cause a difference in the performance of socio-emotional skills. Some educational psychologists have researched the comprehension of classroom interaction and found that class interactions majorly purport to elevate the growth of expressive competencies in communication (Markee, 2019; Hiver et al., 2020). Other studies have related class communication with the role of teachers and students and stated that the educator's responsibility aims to foster an environment of knowledge dissemination within the class learning space and inspire the pupils to propose novel viewpoints on the subject (Annisa et al., 2021; Marcos et. al, 2020). During the questionnaire filling, some of the students in class 11th were observed to select 'Disagree' for the questions related to 'Whenever I have a new idea, I always discuss it with someone how successful will it be'. In the interviews with the students of grade 11, it was interrogated "To what extent does the class interactions with teachers and classmates help in discussing the innovative ideas?", Some students opined negatively. A student from grade 11 responded: *".....the discussion about innovative ideas is limited only to the shaping of the answers for the text-related questions teachers do not bother to discuss the innovative ideas in the field of science or technology within the class... the total focus is on completing the course within time, so every innovative discussion is held only once in 3 months..."*

Contrastingly, during the questionnaire answering round, most of the students in grade 12 were observed to select 'Strongly Agree' for the questions related to 'Whenever I have a new idea, I always discuss it with someone how successful will it be'. In the interviews with the students of grade 12, it was interrogated "To what extent do the class interactions with teachers and classmates help in discussing the innovative ideas?", The majority of the students opined positively. A student from grade 12 responded: *"....our teachers plan the discussion of innovative ideas not just in science but also in mathematics, technology, commerce, and business subjects.... the discussion of ideas is*

further checked with their practicality in real life..... thrice in a month, we are taken outdoors in teams to see if there are other ideas about historical architecture or age-old engineering that can match and even improvise our ideas.... It is very interesting to attend these classes...”



Picture 14: Innovative ideas compared with practical scientific ideas in grade 12- Kanpur district

Both the excerpts from grades 11 and 12 present a strikingly different sketch of the way in which innovative competency is fostered in the students. While the class interactions of grade 11 focus solely on developing innovative ideas on the presentation of theory, grade 12 interactions are largely based on the discussion and practical implementation of the innovative ideas to derive and improvise those ideas into better ones.

Bahraich District

The present study found no significant difference in the mean performance of the students on socio-emotional competencies for the Bahraich district in the classroom demographic. It indicated no significant difference existed in the students of grade 11 with mean performance (73.97) and grade 12 with mean performance (78.84). The explanation of the absence of significance in the difference could be understood through

an in-depth analysis of the contextual elements that affect the classroom dynamics within the learning process.

Some studies have suggested that classroom interactions foster innovativeness in the learning process (Ozkan & Umdu Topsakal, 2021; Supena et al., 2021). However, studies that explore the negative links of innovation with classroom interactions contend that as students go through their schooling, their capacity for innovation are affected because of policies that standardise learning and place a focus on fundamental abilities and standardised examinations (Sternberg, 2020; Sawyer, 2019).

The sociocultural theory of cognitive development can possibly comprehend the presence of no difference between the performances of both grades. The theory investigates how the external environment affects the personal growth of an individual. It contends that social interaction with other people with greater expertise or ability than the student's ability allows for the growth of learning. Drawing from this theory, classroom environments devoid of the presence of teachers and peers with knowledge impede the students' individual growth. Since the quality of class interactions differs from one class to another, it might also cause a difference in the performance of socio-emotional skills. A few studies that explore the links between innovative behaviour and direct feedback from teachers find that continuous and direct feedback from educators during classroom interaction on innovative behaviours facilitates innovative competencies (Cremin & Chappell, 2021; Kupers et. al, 2019). During the questionnaire filling, some of the students in grade 11 were observed to select 'Strongly Disagree' for the questions related to 'Whenever I have a new idea, I always discuss it with someone how successful will it be'. In the interviews with the students of grade 11, it was interrogated "To what extent do the class interactions with teachers and classmates help in discussing the innovative ideas?", most of the students opined negatively. A student from grade 11 responded: "... *We have never heard of such discussions.... even if some of the class activities within the curriculum demand the discussion of creative ideas, the science teacher skips the part or simply refers it as 'unimportant'..... She iterates in the class that completing the syllabus is the priority rather than discussing such ideas....*"



Picture 15: Science classes limited to discussion of textual knowledge- Bahraich district

Similar responses were recorded for the students of grade 12 where, most of the students in grade 12 were observed to select ‘Disagree’ for the questions related to ‘Whenever I have a new idea, I always discuss it with someone how successful will it be’. In the interviews with the students of grade 12, it was interrogated “To what extent do the class interactions with teachers and classmates help in discussing the innovative ideas?”, The majority of the students opined negatively. A student from grade 12 responded: “.....*we have not seen such discussions in the classroom at all....teachers are not available for discussions ... The discussions are related to syllabus only, any other discussion that is related to new ideas is strictly refrained from...*”



Picture 16: Empty staffroom due to teacher absenteeism during school hours - Bahraich

The above excerpts portray that students undergo a lack of feedback on creative ideas with a lack of availability and no importance provided to the discussion of innovative ideas from the teachers, which is common in both classes. Thus, it is possible that both classes do not show significant variance in the performance of socio-emotional competencies.

Socio-Emotional Competencies and Age

Social scientists have reflected that adolescence is a critical time for development. During this time, adolescents form their identities, learn about relationships, and make decisions about their future by contributing more time to the learning process. These

learning experiences further facilitate the development of skills and definitions of their personal goals. Considering such empirical generalisations, the age under study was divided into four groups.

The subsequent section emphasises the difference in the mean scores of socio-emotional competencies between students of various age groups, wherein the argument exists that students of higher age possess better competencies than the students of lower age within the ages marked for adolescence. Specifically, in this section, the emphasis is on the research question- whether the age of the student demonstrates any variance in the socio-emotional competencies at the secondary level in both the districts?

Kanpur Data

The present study found a significant difference in the mean performance of the students on socio-emotional competencies for Kanpur district in the age demographic. It indicated that there existed a significant difference in the students of 16 years with mean performance (85.22), students of 17 years with mean performance (78.05) and 18-year-old students with mean performance (70.00). The significance of the difference could be understood through an in-depth analysis of the contextual elements that affect the age dynamics in the acquisition of socio-emotional competencies.

The significance of the difference in performance along the age demographic can be explained by *Kohlberg's Theory of Moral Development*. Based on Piaget's research, this theory explored how moral reasoning develops through age. According to Kohlberg (1984), moral growth proceeds in a series of stages, similar to how Piaget felt that intellectual growth in children proceeds in distinct phases. Kohlberg's six stages are typically organised according to three moral justifications: pre-conventional, conventional, and post-conventional morality.

Some studies have acknowledged that the chronological age from 13 to 19 years is pertained as 'adolescence' (Dumith et. al, 2011; Guerin et. al, 1994). Drawing from this theory, the students of 16 years, belong to the adolescent group. Adolescence is seen as a time of social role preparation and cognitive changes in an individual's ability for intellectual and diversified thought (Arnett, 2007). So, the conventional stage in adolescence pertains to a time when the youngster starts to be concerned about the effects of situations on various people and desires to feel liked and appreciated.

Adolescents may consider the benefits of adhering to societal standards in the form of rules or less formalised rules during this stage of development. According to studies, students at the early adolescent age of 13 to 16 years were better at making general social adjustments than students aged 17 to 19 years (Waldrip et al., 2008). Hamm, Lambert, Agger and Farmer (2013) explored social adjustment in 237 males and discovered that males of 16 years had better social networking skills than those in late adolescence.

Students of 16 years are adolescents at the secondary level who typically belong to the conventional morality stage. At this stage, their acquisition of abilities and skills focuses on meeting the social expectation of “being a good student”. It academically entails competencies of building interpersonal relationships and prosocial inclination in cognition. For the question related to “I believe that I am gaining knowledge to serve others in the future”, most of the 16-year-old students marked “Agree”. During the interviews, the 16-year-olds were observed to feel prosocial concern due to social conformity. When asked “Why do you think that your knowledge is for helping others?”, a 16-year-old student responded: “...*I think that our knowledge ‘should’ help others because it is believed in our society.... We should acquire qualities to help the weak and downtrodden because we are taught in the class that good students are those who help other people through their knowledge...*” To probe deeper into the cognitive difference of morality development in the 16 and 17-year-old students, the sociology teacher of the secondary level was questioned, “To what extent do you believe that 16 and 17-year-old students differ in their interpersonal skill acquisition?” Her response outlined that while the 16-year-old students mainly conform to the rules of interpersonal and prosocial concerns as ‘ideal behaviour’ towards society, the 17-year-old students acquire the prosocial and interpersonal skills as “individual rights” of the people, thus showcasing deeper maturity in terms of understanding people and society.

Bahraich Data

The present study found a significant difference in the mean performance of the students on socio-emotional competencies for Bahraich district in the age demographic. It indicated that there existed no significant difference in the students of 16 years with mean performance (73.01), students of 17 years with mean performance (81.43) and 18-year-old students with mean performance (73.75). The explanation of the presence of no significance in the difference could be understood through an in-depth analysis of the

contextual elements that affect the age dynamics in the acquisition of socio-emotional competencies.

A few early adolescent longitudinal studies show that late adolescent students seem less impulsive, self-disciplined, supportive, and prosocial. It was discovered to be more traditional, complying, and humourless (Li et. al, 2021; Jo & Armstrong, 2018; Carlo & Randall, 2002). In conceptualising the explanation for the obtained results, the existence of significance in the difference in performance on the socio-emotional competency scale suggests that various age groups at the secondary level tend to perform equally while responding to the questions. This can be explained by the cohesiveness of the classroom population rather than the individual acquisition of the competencies by age. For the question related to “I try to think about the problem of others”, most of the 16-year-old students marked “Disagree”, irrespective of their age. During the interviews, both the 16-year-olds and 17-year-olds were observed to feel interpersonal concern due to fixed rules that, if not followed, relate to consequential punishments. When it was questioned “Why do you think that your knowledge is for helping others?”, a 16-year student responded: “... We have to help others with our knowledge because we are taught in the class that we should help others....if we do not help people, teachers would scold us in the school.... they have taught us that helping others makes parents happy....” A similar response was recorded from a 17-year-old student of the same class: “....helping others with our knowledge is taught in the class by the teacher..... so if my teacher imparts that knowledge is for helping, then I understand the same.....if she teaches knowledge is for earning money, then that is also comprehensible to me....”

These excerpts reflect that the acquisition of prosocial leadership competency is largely an imparted classroom concept rather than a self-developed ability because of chronological cognitive maturity. It pertains to the dominance of the ‘pre-conventional morality’ discussed by Kohlberg in his Theory of Moral Development. These excerpts and collected responses easily evince the difference in the acquisition of socio-emotional competencies through age.

Socio-Emotional Competencies and Spatial Reference

For this analysis, the geographical areas composed of urban spaces in the spatial context often exclude places where rural dominance exists. The skills needed to address the issues of economic growth in these areas are strongly influenced by how urban spaces

are defined. Thus, the definition of urban areas contains one crucial feature that sets them apart from rural areas: their high abundance of population. Population density is significant as it raises the expenditure on the supply of physical facilities and support systems while lowering the possibility of adverse effects among businesses along with other organizations.

This section focuses on the difference in the mean scores of socio-emotional competencies between students of urban and rural spaces, wherein the argument exists that students of rural spaces perform better than those of urban spaces in terms of acquiring socio-emotional competencies within the districts undertaken in the study. Specifically, in this section, emphasis is on the research question- whether the spatial context of the student demonstrate any variance in the socio-emotional competencies at the secondary level in both the districts?

Kanpur Data

This study portrays that the variance in mean scores of socio-emotional competencies is significant between the students of urban areas (84.50) and rural areas (74.88). It is interpreted that there exists a significant difference between the students of urban spaces (Kalyanpur) and rural spaces (Bidhnu) in the secondary schools of Kanpur district. Specifically, the students in urban areas were found to outperform those in rural areas.

Previous studies evince that geographical location is strongly linked with the development of personality and abilities in the learning population (Allik & McCrae, 2004; Jokela et. al, 2015; Schmitt et. al, 2007). Some studies have related the large population size in a certain area with economic development (Peterson, 2017; Bloom & Canning, 2009). The evidence suggests that the significance of any geographical location depends on the financial emphasis laid by the bulk of the population present in that area (Easterly & Levine, 2016). This observation is backed by the contemporary theoretical perspective of *Concentric Zone Theory* propounded by Ernest Burgess (Reiffenstein, 2017; Lance, 1970). The idea aims to demonstrate how cities develop and how urban morphology influences the formation of character traits. Despite the importance of employment opportunities, facilities and architectural design, cities are largely a lived emotional experience. Evidence demonstrates how these factors significantly and directly impact the personal growth and well-being (Sridhar, 2010).

The theory divides the total urban morphology into five zones namely, the Central Business District (Zone I), Transition Zone (Zone II), Working Class Zone (Zone III), White Collar Zone (Zone IV), and Commuter Zone (Zone V). Of these, Zone I is the innermost zone with maximum land value due to high economic returns. Kanpur district area is the central business district because of its greatest valuation of land due to the very high population and tall structures (Gupta & Hall, 2020).



Picture 17: Recognition of Central Business District (Zone I)- Kanpur district

The mentioned zone comprises of tertiary activities and offers the highest rates of return on investment. An additional feature is the location's accessibility due to the confluence and passage of transportation routes from nearby as well as distant parts of the metropolitan area via this location. Studies have shown that areas with tertiary professions escalate the development of competencies that meet the upgraded demands of society (Salmi, 2017 Choy & Le, 2023). For instance, upgraded societies currently require competencies like digital and ICT skills. These characteristics of the urban region with the dominance of tertiary-level professions demand the development of technological competencies in the learning population. As a CBD zone, in Kanpur, there has been a tremendous use of land to develop various buildings that are capable of being used for residential, commercial, office, and even light industries. The parallel presence of heavy industries, added with the growing technology to operate these work areas efficiently, has demanded the requirement from the formal learning organisations, for

a population that can fulfil the need for a technologically skilled workforce to function in these industrial zones in competition with the international markets. The schools actively instil such demand in the learning population residing in the CBD area. During the questionnaire filling, the students marked 'Strongly Agree' for the question 'I can easily do the tasks (emailing, online editing, saving documents) on the computer/ smartphone'. In extension to this item of Academic ICT Competency, the students were interviewed about how their school facilitates their awareness of the acquisition of Academic ICT competency?" A student of Government Secondary School, Kalyanpur block responded: "...our school consists of computer laboratories which is to be mandatorily attended by all the senior students irrespective of their streams... all the teachers discuss the scope of technology used in the economic development, which keeps our district in high employment zone like the digital transaction systems, managing bank transactions and use of real-time digital services like food ordering, booking of tickets to help ourselves and the needy people around.... It makes us aware that the area where we reside is highly technologically laden.... we have to be equally adept in working with information and technology systems to get hired in these jobs after the completion of secondary years for our economic survival in our area....".

It reflects the input of the school institutions in comprehension of the importance of learning the information and communication technology competencies that are required for the survival and maintenance of international competition that are characteristic of the Kanpur district.

Bahraich Data

The study portrays that the variance in mean scores of socio- emotional competencies is significant between the students of urban areas (95.06) and rural areas (64.30). It is interpreted that there exists significant difference between the students of urban spaces (Nagar Area) and rural spaces (Kaiserganj) in the secondary schools of Bahraich district. Specifically, the students situated in urban areas were found to outperform the students situated in rural areas.

Deller et. al, (2001) have explored the relationship between geographical location and commercial development on students at the secondary level and found that urban locations are highly correlated with the development of financial activities. Rural youth perceive and experience lesser educational returns, meaning that pursuing higher

education is unlikely to considerably raise one's level of living (Luca et. al, 2023; Wiggins & Proctor, 2001).

Studies have confirmed that the formation of planned urban spaces are quite important in the development of related competencies in the young population (Luca et. al, 2023; Valentine, 2017). Some scholars prove that urban areas which consist of tall structured buildings, proper transportation facilities and upgraded technological environment facilitate competencies like creativity and ICT literacy (Ronsivalle, 2018; Medved et. al, 2018; Basove & Stefancova, 2017). While other scholars have shown that rural areas are related to the development of environmental concern competencies (Armstrong & Stedman, 2019; Gifford & Nilsson, 2014). Bahraich district is situated somewhat to the north of the Devipatan division. Its entire geographical area is 4696.8 square kilometre, and its northern boundaries are those of Nepal, Barabanki, and Sitapur districts. Examining the geographical location of the Bahraich district using Burgess' Theory of Concentric Zone, it was found that it is located in Zone II, which constitutes the Transition Zone. Due to its inconvenient vicinity to the Central Business District zones, this zone has a delayed transition. The Bahraich district is home to those who are unable to afford residences in areas with greater land prices because of its mixed land use, prevalence of old, decaying structures, and dispersed population density. In other words, the place consists of people with the lowest economic and residential conditions. Little residential development occurs in this zone as a result of agricultural dominance and the continuous movement of people toward commercial locations (Khan et al, 2023; Khattri, 2017).



Picture 18: Recognition of Transition Zone (Zone II)- Bahraich district

Due to geographical characteristics, a large part of Bahraich remains rural, thereby facing a shortage of economic development which has further led to the absence of apt transportation facilities and educational institutes that can foster the need for economic growth in the people. Some studies have also favoured the notion that agriculture-dominated rural spaces tend to lower the educational competencies and occupational mobility of the learning population (Butool, 2018). At least eight percent more people live in impoverished circumstances in rural areas with poor academic resources than in communities with a greater percentage of education (Pal & Singh, 2022; Khanna, 2002). Students from poorer backgrounds are more prevalent in rural areas. Many rural students witness secondary curriculums that are influenced by inadequate availability of higher education opportunities and poor school and university enrollment rates. These patterns of poor schooling might be caused by the extreme poverty prevalent in rural areas. In contrast, other causes might be triggered by unique challenges rural schools face, including a sparsely populated student body. During the questionnaire filling, the students marked ‘Strongly Disagree’ for the question ‘I can easily do the tasks (emailing,

online editing, saving documents) on the computer/ smartphone’. In extension to this item of Academic ICT Competency, the students were interviewed about how their school facilitates their awareness of the acquisition of Academic ICT competency?” A student of Government Secondary School, Kaiserganj, Bahraich responded: “...we have not heard much about digital learning....there is a computer laboratory in our school but nothing is practiced on them...just we memorize theory.... Since there are not enough students to learn Information and Technology skills, no teacher informs us about the need to learn computer..... The laboratory has enough computer sets for the students to practice but they are not functional which creates high disinterest in learning the technology skills in the first place amongst us... it is difficult to do anything that is technology-laden independently....teachers frequently talk about the agriculture-related activities”



Picture 19: Unutilized technological resources due to non-availability of enough students- Bahraich

This excerpt portrays that the areas in the transition zone face ignorance about learning upgraded competencies due to the rurality-laden geographical features of the district.

Socio-Emotional Competencies and Aspiration after 12th & Higher Education Pursual

Beyond the influence of intrinsic abilities and other contextual factors, an individual's aspirations are mostly dependent on the academic and socio-emotional skills they develop initially in life via their educational and professional experiences. The abilities of people, their choices, their means of being competent, or all three of these factors may be impacted by the aspirations possessed. As a result, they influence the effectiveness of human capital productivity, susceptibility choice, and span of time preference while not being immediate indicators of market pay. The type of aspirations formed during the learning years may increase worker output and have a direct impact on earnings. The empirical investigation demonstrates the multiple functions that the formation of aspirations plays in the enhancement of post-secondary learning.

This section focuses on the difference in the mean scores of socio-emotional competencies between students who show a positive perception towards the pursual of higher education and students who do not. It further focuses on the variance in the mean scores of socio-emotional competencies between students who aspire to be formal sector of work, those who aspire to be in the informal sector of work, and those who do not aspire to work at all, wherein the argument exists that students who aspire to be in formal and informal sector perform better than the students who do not aspire to work at all in terms of acquiring socio-emotional competencies within the districts undertaken in the study. Specifically, in this section emphasis is the research questions- whether the perceived willingness to pursue higher education reflect any difference in the socio-emotional competencies at the secondary level in both the districts? Also, whether the aspiration of working after the completion of secondary education demonstrate any variance in the socio-emotional competencies at the secondary level in both the districts?

Kanpur Data

This study portrays that the variance in mean scores of socio-emotional competencies is significant between the students with the aspiration to be in the formal sector (82.12), students with the aspiration to be in the informal sector (79.63), and students with no occupational aspiration at all (73.36). It is interpreted that there exists a significant difference between the students with aspirations (formal and informal) and

students with no aspirations of work in the secondary schools of the Kanpur district. Specifically, the students with aspirations to be in the formal sector were observed to perform better than the students with no aspirations of work. Further, the study also projects that there exists no difference in the mean performance of the students who responded positively towards pursuing higher education and students who responded negatively towards pursuing higher education.

Considering that the mean of performance on the socio-emotional competencies in students who aspire to work in the formal sector is higher than the mean of performance on the socio-emotional competencies in students who aspire to work in the informal sector and students who do not aspire to work at all, it is clearly comprehended that a large part of learning population at the secondary level aspires to be in the formal professions that exist at the tertiary level and are therefore inclined to build their socio-emotional competencies according to their respective aspirations. Also, it is understandable that although 57.6 percent of the respondents prefer to pursue higher education, there is not much difference in the socio-emotional competencies possessed according to their counterparts who do not prefer to pursue higher education.

In understanding the reasons for this high aspiration, it is believed that aspirations are deeply embedded in the work opportunities that evolve through time. Some studies have focused on the significance of educational institutions in producing aspirations that can be explored alongside the role of occupational opportunities (Agger et al., 2018; Ferrant, 2009). Conversely, considerable research on the reasons for dropout in students has argued that low competencies and learning aspirations for future employability are key determinants driving dropout levels (Zahra, 2020; Acharya, 2016; Foley et al., 2014). In the Kanpur district, the work opportunities pertain to the surrounding economic and technological growth. Since the district is highly focused on tertiary activities for growth, most schools encourage the students' awareness of aspiring for higher education and work opportunities that can fill the tertiary professional requirements in the district. Thus, the 'Aspiration- Expectation Gap' can theoretically support the development of aspirations. It explains that the congruence between the expectations of the market, the stakeholders participating in the education of the student and the development of aspirations in the student through exposure to extended family, classmates, the accessibility of higher educational opportunities, the copious supply of

popular media, and political endorsement for certain professions strongly determine the facilitation of competencies that assist the secondary-level students to direct their higher learning and employability (Foley et al., 2014).

For instance, most industries today expect their employees to be occupationally innovative (Mbukanma & Goswami, 2023). Vrana & Das (2023) have shown that the industrial demand in smart cities for automation and technology has risen dynamically and raised the standards of digitalisation of various job platforms ranging from e-commerce to health care. As per the second edition of the "*State of Artificial Intelligence in India*" report by Deloitte India, over 50% of firms intend to boost their ventures in Artificial Intelligence and innovation. 200 Indian company leaders participated in the study, and 88 percent of them favoured raising their AI initiatives year over year (YoY) in 2022 as opposed to 82 percent in 2021 (Mbukanma & Goswami, 2023). This has emboldened the parents, teachers, and other direct & indirect stakeholders to expect the learning generations to land in innovative and highly technological job platforms like retail, manufacturing and pharmaceuticals that provide better salaries. During the semi-structured interviews, the teachers were questioned, "What competencies do you expect of a secondary education pursuing student according to innovation dominant industries?" A secondary grade teacher, at Government Senior School with the highest number of respondents for formal sector aspirations answered: "*.....Kanpur is a district of heavy industries with continuous corporate growth.....with the change in consumer demands, the industries have to keep their pace with continuous innovative strategies to compete with the globally attainable products even as small as a needle, simultaneously maintaining the least economic expenditure.....so the parents expect their children to learn flexible thinking competencies and innovation competencies to match the changing industrial demands....thus, we have aligned our curricular programmes with the inclusion of 'Kabaad se Jugaad' programme which is a monthly contest among the secondary students to encourage students to adopt innovatively sustainable practices....these are just simulated programmes and need detailed understanding before entering the real market, so higher education along the same lines is deeply encouraged...".*



Picture 20: Innovative expressions fostered in students with formal sector aspirations- Kanpur

The ‘Kabaad se Jugaad’ programme is implemented throughout the government schools of Kanpur district under the facilitation of IAS Officer Himanshu Nagpal to foster an out-of-box thinking approach between the secondary students for meeting the demand of economically affordable innovative strategies in the market. During the semi-structured interviews, the students were questioned, “How do the school programmes help you in understanding the competencies required in the jobs and industries, after the completion of your secondary education?” A student of Government Senior Secondary School, Kanpur who aspired to be in the formal sector responded: “...*Our teachers continuously encourage us to participate in the ‘Kabaad se Jugaad’ essay writing contest that is held every two months....I have been a winner in it twice and with the innovative*

strategies built towards better sewage planning, so I aspire to be in Indian Administrative Services after completing my secondary studies... The contest has important criteria of including only those essays that reflect the innovations made with recycled products and have industrial use or that revolutionize an existent job problem.... the categories of those problems are mentioned in the circular of the contest.... After the contest, these essays on products and the strategies are demonstrated to the parents with the help of the teacher to judge the innovative expression level in every student individually....it helps us understand that when we pass out from school, we might have to face such conditions in the industrial hiring..... also when we fail, it makes us eager to acquire further higher learning that can help us develop more innovative strategies to get hired in the jobs....”

The above excerpts show that the school encourages innovative expressions in the students through simulated occupational opportunities at the secondary learning level which is highly congruent to the expectations of the surrounding market demands and the parents. With such *awareness of the innovative opportunities in their learning surroundings, the students tend to develop the necessary abilities for aspiring high after completing secondary education.* The claim is that the individual's competencies convert given surrounding opportunities—like the existence of an expanding economy and an abundance of good occupational opportunities in particular industries—into subjectively perceived ones, like the perception of having a good chance of landing an interesting/well-paying job.

Bahraich Data

This study portrays that the variance in mean scores of socio-emotional competencies is significant between the students with aspiration to be in the formal sector (96.32), students with aspiration to be in the informal sector (79.84) and students with no occupational aspiration at all (63.52). It is interpreted that a significant difference exists between the students with aspirations and those with no aspirations of work in the secondary schools of Bahraich district. Specifically, the students with aspirations to be in the formal sector perform better than students with no aspirations of work.

Considering that the mean of performance on the socio-emotional competencies in students who aspire to work in the formal sector is higher than the mean of performance on the socio-emotional competencies in students who aspire to work in the informal

sector and students who do not aspire to work at all, it is clearly comprehended that despite federal exemptions regarding school enrolments and improvements in policy for ensuring the accessibility of resources, a sizable portion of the learning population at the secondary level abstains from aspiring towards conventionally powerful professions in the economy and thus performs lowly on the socio-emotional competencies. Similarly, there is no significant difference between the students of Bahraich who responded positively towards pursuing higher education and those who responded negatively towards pursuing higher education.

While comprehending the reasons for this abstinence from aspiring to formal professions, it is evident that aspirations are built as a reflection to the abilities possessed by an individual as well as the demand emerging from the surrounding environment. This conceptualisation of the aspirations can be theoretically explained by the ‘Aspiration-Expectation Gap’ amongst students. It asserts that people with visualised aspirations fail to succeed in meeting the anticipated outcomes because of the scepticism of their educational achievement. This could explain some of the discrepancies in the mean of the performances (Kirk et al., 2012).

Bahraich is a district with agriculture dominance and skin shearing work all over its area (Butool, 2018). The development of the area has majorly seen the rise of the informal sector including the successful running of the NREGA programmes to facilitate daily wage labour work (Pandey, 2018; Das & Singh, 2013; Roy & Pandey, 2012). Since the commercially active areas are geographically far, professionally strong careers are relatively less available. During the semi-structured interviews, the teachers were questioned “To what extent do you believe that the absence of formal jobs and technology-dominated industries develop the aspirations of the students towards the informal sector?”, to which maximum teachers demonstrated positive beliefs. A teacher of Government Senior Secondary School, whose students majorly aspired to work in the informal sectors, responded: “...*I firmly believe that our district has very little availability of formal sector jobs it is primarily dominated by farming jobs and other daily wage jobs like plumbing, shopkeeping, MNREGA labour work and alike...since the students do not get real-life exposure to the higher paying stable professions, they do not aspire to get into technology dominated jobs and industries....*”



Picture 21: Dominance of agriculture relate jobs- Bahraich district

This excerpt coincides with the opinion of educational experts who empirically demonstrate that some areas with low socioeconomic status have insufficient facilities in their educational infrastructure, which has an enormous adverse effect on the competency growth and educational performance of secondary-level students thereby affecting their aspirations (Barrette et. al, 2019). Many studies demonstrate that adequate competency growth greatly reduces the risk of dropping out of school (Nemtcan et. al, 2020; Korhonen et al., 2014; De Witte & Rogge, 2013). Arguably, some research suggests the presence of aspirations in the development of socio-emotional competencies that may assist in the academic success of the students to facilitate the retention of the students in school (Nambiar, 2013; Wang et al., 2011).

Further, the current scenario values the development of higher-order ICT literacy competencies in the markets to increase their qualitative and quantitative profits manifolds (Burke & Maceli, 2020). Thus, the expectations of the highly professional industries are greatly inclined to the communicative efficiency of language and calculative proficiency along with higher-order skills of judgement and market

predictability. This is only possible when the foundational literacy and arithmetic skills are equally paced with the grade-specific learning. However, the recent data presented by ASER shows that despite the successful launch of the NIPUN Bharat Mission (National Initiative for Proficiency in Reading with Understanding and Numeracy) to tackle the problem of foundational literacy and calculative skills at the early stage of learning in the government schools, merely 25% of the children studying in grade five can read simple English sentences in Uttar Pradesh (ASER, 2022). In such an impending situation, it becomes difficult to match the high proficiency levels of reading, writing and calculative competencies by the secondary years which causes an incongruence between the industrial expectations and the aspirations of the secondary level students resulting in voluntary exclusion from the formal sectors demanding the best competencies for survival in the market. During the semi-structured interviews, the students were questioned, “How do the school programmes help you in understanding the skills required in the jobs and industries, after the completion of your secondary education? A student of Government Senior Secondary School, Bahraich who did not aspire to work at all responded: “...*the school just focuses on the grade-specific syllabus completion in the secondary education.... It makes us understand that our academic performance is important.... When we pass out, we have to deal with interviewers conversing in fluent English and industries that ask for innovative applications to practical problems...even informal service jobs as minimal as plumbing and daily wage repairing have become digitised, but we do not have enough technological competencies to upgrade ourselves.... the additional struggle of reading the English language and expressing is so burdensome that it is not possible to match the industry expectationsbetter to opt out of professional work altogether....*” The above excerpt reflects on the expectation and aspiration mismatch which results in no aspirations among the students.



Picture 22: Classroom setting with a focus on textual knowledge- Bahraich district

Socio-Emotional Competencies and Socio-Economic Status

With the field study observation, it could be noticed that, education is an opportunity dependent on social factors. Thus, if society must be equalised, then equal opportunities for availing education must be formed. Since education today pertains to the availability of formal education through economic means, including financial factors has gradually become important in availing of this formal learning opportunity. Economists believe that availing of learning opportunities in formal institutions is directly proportionate to the amount of financial strength reflected by a family to gather equitable resources for their children. In such a situation, it is obvious that students with higher levels of education who have higher-paying positions also tend to be more politically trustworthy, have better psychological wellness, and are more acceptable on a social level.

This section focuses on the difference in the mean scores of socio-emotional competencies between students from various socio-economic statuses. It further focuses on the variance in the mean scores of socio-emotional competencies between students who belong to middle socio-economic status, students who belong to lower socio-economic status and students who belong to Below Poverty Line, wherein the argument exists that students who belong to higher socio-economic background perform better than the students who belong to the lower socio-economic background in terms of acquiring

socio- emotional competencies within the districts undertaken in the study. Specifically, in this section, the research questions- ‘ whether the socioeconomic status reflect any difference in the socio-emotional competencies at the secondary level in both the districts?’ is emphasises.

Kanpur Data

The study reflects that there exists no significant difference in mean scores of socio-emotional competencies between the students of the Middle Socio-Economic Group (81.72), students of the Lower Socio-Economic Group (82.09) and students of the BPL Group (79.29). It is interpreted that no significant difference exists between the students of the Middle Socio-Economic Group, Lower Socio-Economic Group and BPL Group in the secondary schools of Kanpur district.

Considering that the mean of performance on the socio-emotional competencies in students of all three groups lie more or less along the same lines, it is clearly comprehended that Socioeconomic status does not influence the growth of socio-emotional competencies in the students. Further, the presence of approximately 51.1% of students from economic groups that lie above the intense poverty line presents a satisfactory picture of the government schools being able to carve their niche in the preference of the well-earning parents.

The relationship between family socioeconomic circumstances, early academic aptitude, and future school performance has been demonstrated by prior research (Hollett et. al, 2022; Thomson, 2018; Cheng & Furnham, 2014). This observation clearly paves the comprehension of competency development as a part of parental choice, irrespective of earning, towards educational engagement rather than individual differences. On such note, Goldthorpe's perspective on the significance choice plays, in inequalities in educational engagement for different socioeconomic groups is essential and distinctive. This study explains *Goldthorpe's Rational Action Theory* to show how decision-making processes that incorporate a logical evaluation of available equity, possibilities, and restrictions may be employed to make allowances for both the rise in educational participation and competency development. Arguably, it is unnecessary to cite individual distinctions in the beliefs and orientations of persons from various socioeconomic origins, to explain differing decision-making patterns regarding school enrolment for competency development. Families with more affluent financial

circumstances possess higher facilities to allocate the schooling of their kids, are convinced of positive outcomes from school engagement, and perceive more benefits in learning competencies that strengthen academic mastery and ecological sustainability than less affluent families (Croll, 2008).

According to the Report of Multidimensional Poverty Index released by NITI Ayog, approximately 13.5 million of the population have upgraded themselves from the poverty level. With almost 3.43 crore inhabitants escaping multidimensional poverty in the preceding five years, Uttar Pradesh has led the list, followed by Bihar (2.25 crore) and Madhya Pradesh (1.36 crore)(MPI, 2023). Further, the ASER report has shown that government school enrolments to rise from approximately 40% to 60% in Uttar Pradesh in 2022. Similarly, the increase in students availing educational resources on Foundational Literacy and Numeracy programme state-wide, syllabus-related textbooks, usable toilets and drinking water other than the teaching material has elevated from 15.9% to 23.7% in 2022 (ASER, 2023).

The shreds of such data evidence that the elevation of families from the intense poverty level has facilitated the urge in the parents to provide better education to the children in the households of Uttar Pradesh. Parallely, the upgradation of the government schools through ‘Operation Kayakalp’ to cater for the learning requirements of the students has reinforced the interest of such parents towards public schools that seek to afford quality education for their children based on their gradual economic upliftment. During the interview, the students were questioned, “Why do you feel that your parents focus on the efforts of competency development despite your lower socio-economic status ?” to which a secondary student from lower socio-economic status, Government Senior Secondary School answered “.....*although I belong to a lower socio-economic status, I am in a situation where my parents earn a decent income.....my father is a food delivery man and my mother works as a caretaker in a physiotherapy clinic.... They are very concerned about my secondary year studies and ready to afford anything I ask, for my studies.... From Science Olympiad fees or a historical exhibition trip to getting a second-hand laptop for practising my digital competencies, both are very prompt in making me learn that mere academics will not fetch me employment....I really need to learn other competencies simultaneously to fit in the jobs available today....*”

The above excerpt reflects that parental concern for the development of the competencies has risen because of economic facilitation in the families of the Kanpur district.

Bahraich District

This study demonstrates that there is a presence of significant difference in mean scores of socio-emotional competencies between the students of the Middle Socio-Economic Group (90.36), students of the Lower Socio-Economic Group (80.23) and students of the BPL Group (73.87). It is interpreted that the means of the three groups vary significantly in terms of socio-emotional competencies performance at the secondary school level of Bahraich district.

Further, the analysis of the respondents who took part in the study shows that almost 56.8% of the students under the Below Poverty Line at the secondary level form the majority with the lowest mean on the socio-emotional competency performance. This analysis suggests that the maximum population enrolled in the secondary level falls in Below Poverty Line family backgrounds. Poverty in socio-economic status to the narrow boundaries of income has to be considered (de Wolff & van Slijpe, 1973; Carvach et al, 2013). Specific definitions only consider poverty in terms of income or associated expenditures or consumption of resources. From the landmark 'Poverty Maps of London, published by Charles Booth in 1889 and Seebom Rowntree's work on 'Poverty & Progress', published in 1899, to 'Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty' published by Abhijit Banerjee and Esther Duflo, all set the stage for early systematic studies on poverty that focused on wages to determine the social status of the people decade after decade (Booth, 2021; Rowntree, 1941; Banerjee & Duflo, 2011). A family background was observed to be in a state of poverty if its income did not provide enough money for the family members to engage in constructive activities.

Embedding the concept with the economic viewpoint, it is not difficult to understand that when procuring essentials seems tough, education becomes a rare commodity for children. This can be further explained by the *Individual Pathologies Theory* which, against the social background, propounds that the lack of competencies to elevate one's condition from poverty is responsible for the stagnation in the poor condition of the family (Turner & Lehning, 2007). According to this

theoretical understanding, poor individuals bear accountability for their situation. Furthermore, its core premise is that people who live in poverty are predisposed to their circumstances due to personal deficiencies.

Being unproductive, and addicted to the political distribution of freebies, the presence of limited cognitive ability, or having physical impairment constitute a few of the characteristics listed in this framework of thought that clarify why a person fails to take advantage of possibilities that have allowed the affluent to grow. Of these many examples, the *addiction of the people in BPL towards the political distribution of freebies* seems to be highly prominent in the areas of Bahraich undertaken in the study. While the government is committed to assisting the people with conditional cash transfers to alleviate poverty levels, the recent rise in the unconditional cash transfer schemes has led the BPL population to move adversely. During the interview, the students were questioned, “To what extent do you feel that your parents focus on the efforts of competency development despite your BPL socio-economic status?” to which a secondary student from BPL socio-economic status, Government Senior Secondary School, Bahraich answered: “...parents do not usually focus on the competency development in our studies... we get maximum free distributions from the government for vote procurement.... from getting free cylinder under UJJAWALA YOJANA to getting unconditional monthly cash transfers under the Deen Dayal Antyodaya Yojana and Kanya Sumangala Yojana to Pradhanmantri Free Laptop Yojana for getting laptops Our livelihoods are already uplifted by these free distributions....parents teach that there is no need of learning more because remaining in this situation, brings us more materialistic upliftment than education and mainstream struggle can bring.....”



Picture 23: Socioeconomic status of people- Bahraich

The excerpt demonstrates how the unconditional distribution of free resources has pushed the students in the BPL families towards the unwillingness in competency development as there is an inclination to exchange materialistic upliftment with political loyalty.

5.3 Objective 3

To explore the differences of Higher Education Readiness and its dimensions based on the demographic characteristics (class, age, gender, spatial reference, school location, socioeconomic status, preferred discipline, aspiration after 12th, pursuit towards Higher Education) of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

Higher Education Readiness and Gender

The world yearns for a skilled labour force and the need of the hour in countries like India is an educated population for social and cultural growth and technological advancement. Most studies indicate that secondary schooling for students is accepted mandatorily in most OECD nations (Pantelopoulos, 2022; Auld et al., 2019). Most of these pupils want to continue higher learning beyond secondary-level schooling (Guzman et al., 2021; Burke, 2019; Mazzotti et. al, 2021; Coertjens et. al, 2017). Despite this, there are nevertheless many students dropping out of higher education. Academic readiness is one of the most crucial components of continuing higher education in a university (Agherdien et al., 2018; Lemmens et al., 2011).

Many studies exploring university readiness show that pupils who feel more prepared for college will adjust to their new environment more smoothly (Fennie et al., 2020; Jansen & van der Meer, 2012). Other studies have found that one of the key variables influencing steady performance in higher learning is thought to be the degree to which students are prepared for higher education (Barnes et al., 2010).

This section centralises around the difference in the mean scores of higher education readiness in the male and female students, wherein the argument exists that male students perform better than female students in the higher education readiness abilities. Specifically, in this section, the focus is on the research question- whether the gender of the student demonstrates any variance in the higher education readiness at the secondary level in both the districts?

The findings indicate no differences in higher education readiness between male and female pupils in the Kanpur district, but the Bahraich district demonstrates a significant difference. Through several characteristics, the study investigates whether

there is a disparity in having higher education readiness. It is concluded that there is no significant difference between male and female students in higher education readiness in Kanpur. Comparatively, Bahraich district reflects a significant difference between male and female students on higher education readiness. In the provided data, female students outperform male students in higher education readiness, as the overall gender performance of the Bahraich district is lower than Kanpur district.

In understanding the interrelationships of social behaviours that call for a level of accountability in the students' learning processes for higher learning, gender dynamics are crucial. Recent studies that explored the learning advancements in both genders have found that women in developed countries outperform men in higher learning and career development (Folbre, 2019; Doepke & Tertilt, 2019). Understanding the divergent paths taken by male and female students is essential to enhance their growth towards the preparedness to higher education within their learning environments. While there is no statistically significant difference between male and female students' higher education readiness ratings in the Kanpur district and the Bahraich district, the stark difference in the means of Kanpur district for males (104.85) and females (108.19), from Bahraich district for males (91.24) and females (96.02), require in-depth investigation on the qualitative analysis which, can reveal the reasons of this reduced variance in terms of the changing societal perceptions towards higher learning and economic survival of the young transitioning population.

Previous studies on gender in education have suggested that the evolution of society was dependent on the capability of accessing available resources for growth (Rostow, 2013). Gradually the discrepancy between increasing demand and limited resources thrust competition among the two major consumers, males, and females. Microscopically, the Feminist Conflict Theory aids in understanding the hegemonic competition by defining society in terms of social communities that compete for superiority on the available limited resources. The theory contends that males attempt to hold onto power and privilege at the expense of women, as the most effective means to understand this competition in the context of gender. Thus, the race for 'supremacy' makes men, the dominating group, and women the subservient group (Weber, 2006). Conflict theory holds that the oppression or exploitation of subordinate groups by dominant groups is the consequential result of this 'race for supremacy' that further grows

into other societal issues like scarce opportunities for learning, forced marriages and low autonomy for making life decisions.

In contrast to this theory, the introduction of liberal views and egalitarian approach due to various feminist movements, societal perceptions about accessing resources has undergone a huge transformation from 'race for supremacy' to 'collaborative efforts' for their judicial use. This transformation has further initiated the formation of small 'tides of change' in the perceptions of parents (who are part of the same society) towards understanding the value of higher education in accessing the resources collaboratively. During the interview, the students were asked, "To what extent do you find that the parents are more inclined towards the preparation towards higher studies in females after secondary education?" A male student of Government Senior Secondary School, Kanpur district responded: "*...nowadays, parents are very much aware about the higher learning of the female children....they think that men and women participate together in the economic as well as national development it is important for the females to be prepared enough to be able to avail the opportunities of income, equal social status, and freedom in making important life choices.... these were priorly available only to the males but now the scenario has changed...*" The above excerpt shows that there has been a considerable perceptual change in the social context of the Kanpur district where higher education has become an important factor for collaborative mobility towards development in both genders without the commonly prevalent stereotypes.

Similarly, when the students were asked, "To what extent do you find that the parents are more inclined towards the preparation towards higher studies in females after secondary education?" A male student of Government Senior Secondary School, Bahraich district responded: "*...earlier female students were restricted from accessing higher education because women were believed to marry and take up domestic responsibilities sooner than male students... education was believed to be a liable cost with no perceptual profits.... Now parents believe that higher education to females has better returns regarding voice raising against gender oppression, forced marriages and discrimination in the wages....so they are more liberal in preparing the female students for higher education...*"



Picture 24: Secondary level female enrolments during a higher education lecture in school- Kanpur district

Such excerpts clearly suggest that the perception to pursue higher education has improved greatly for further learning in both the genders where higher education has emerged as an effective tool to alleviate gender inequalities that exist in the social and economic domains of the society.

Higher Education Readiness and Age

The requirement to execute the process of preparatory learning through efficient educational practices in secondary school has expanded along with the pursuit of human progress. The arguments still lean towards tailoring the preparatory competencies to the ages of the students and intellectual maturation when examining these successful educational practices in school organisations (Marciniak et. al, 2022; Bhattacharjee & Ray, 2013; Davies, 2000). This idea of maturity has led many stakeholders to feel that the younger aged population can be effectively prepared for the prerequisites of higher learning since educators have considered age to be such a deeply ingrained aspect in the holistic development of a student.

This section centralizes around the difference in the mean scores of higher education readiness in the male and female students, wherein the argument exists that older-aged students perform better than the younger-aged students in higher education

readiness abilities. Specifically, in this section, the focus is on the research question-whether the age of the student demonstrates any difference in the higher education readiness at the secondary level in both the districts?

The findings indicate no differences in higher education readiness between students of older and younger ages in Bahraich district. Contrastingly, the findings of the Kanpur district suggest that age is an important determining factor in higher education readiness at the secondary level. In other words, age does not reliably emerge as a determinant demographic in the acquisition of higher education readiness at the secondary level for students. Supporting studies have revealed that cognitive psychologists have examined cognitive growth with age because of the growing interest in student success beyond classroom boundaries (Botwinick, 2013). Developmental psychologists have therefore connected the idea of age with interest in higher education (El et al., 2022; Janacsek et al., 2012). Understanding how students perceive their age-related academic lived experiences as they transition from high school to college is one such method of investigation.

Studies have contended that the experience of a student's readiness for higher education is viewed as a complex developmental process that starts in secondary school (Blair & Raver, 2015). A student's readiness for the forthcoming transition in terms of grasping the advanced courses and being able to articulate the expressions in elaborate forms depends on a wide range of elements. This intricacy necessitates a closer look at the *dynamics of the classroom where students are taught to develop their competencies more collaboratively*. To comprehend the challenging process of moving from high school to college, it is helpful to investigate how each student perceives their academic lived experiences for classroom preparation of higher learning. One important competency required in higher education readiness is Higher Academic Efficiency Practice, including communicative tolerance in small group settings. According to academics, corporate executives all over the globe are attempting diligently to achieve sustainable development by creating workplaces that are more interactive, coherent, and dynamic (Panicker et al., 2018). By removing barriers and fostering a climate, in the Indian learning population, where everyone is viewed with respect and fairness in terms of equal possibilities for involvement, the development of the ability to be communicatively liberal in the exchange of ideas can predict efficient organisational

success. A 16-year-old secondary grade student of Kanpur district responded that the methods of the dissemination of readiness competencies in the classroom interaction play the key role in the learning of those competencies alike- “ ... *we are taught the ways to broaden our understanding regarding advanced academic subjects that will be available during the higher learning process.... teachers keep us making aware that the team projects allotted for complex concepts are given to make us all learn that we have to be tolerant of the ideas presented by other group members even if their ideas seem less practical or behavioristic....all the students irrespective of their age, learn to develop this awareness due to such frequent reiterations...*”.



Picture 25: Students participating in a session focusing on the exchange of ideas

A high school student, aged 18, attending a government senior secondary school in the Bahraich area, expressed similar views as a 16-year-old student concerning their classroom experiences and preparation for higher education. Both students acknowledged improvements in the higher academic efficiency practices.

Higher Educational Readiness and Spatial Reference

The scope of the community and the density of the people are frequently cited as indicators of rurality. Studies have shown that due to limited geographic access, there are inequalities in the availability of education between rural and urban students (Singh & Sarkar, 2023; Ghosh, 2019; Singh & Sarkar, 2019). Geographic limitations can significantly impede a student's educational opportunities and the type of post-secondary education they can pursue, all due to the complexities of distance (Singh & Sarkar, 2019). Ziegler and Davis (2008) discovered that rural residents performed worse on literacy and calculative proficiency than their urban counterparts using the International Adult Literacy Survey (IALS). Similarly, the ASER reports (2014) note average discrepancies between rural and urban population literacy levels, but they do not explore the potential causes of these variations (Bandyopadhyay et. al, 2021).

The following part focuses on the difference in the mean scores of higher educational readiness between students of urban and rural spaces, where prominent claims pertain to supporting the students of rural spaces to perform better than the students of urban spaces. In this section, the focus is on the research question- whether the spatial context of the student demonstrates any variance in the higher educational readiness at the secondary level in both the districts?

The study shows that the difference in mean scores of higher educational readiness is significant between the students of urban areas (108.62) and rural areas (94.88). It is interpreted that there exists a significant difference between the students of urban spaces (Kalyanpur) and rural spaces (Bidhnu) in the secondary schools of Kanpur district. Specifically, the students of urban areas were found to outperform the students of rural areas. Similarly, the Bahraich district reflects a significant difference in the mean scores of higher education readiness between the students of urban areas (105.91) and rural areas (84.49). It means that the students of urban areas (Bahraich Nagar Area) were found to outperform the students of rural areas namely, Kaiserganj in terms of higher educational readiness. With such empirical support, the argument is that the geographical location is a significant demographic to show the variance in the acquisition of higher education readiness. Less research has been done on rural higher education learning populations than metropolitan students (Fleming & Grace, 2014; Arnold et al., 2005). Recently there has been a surge in research studies, practices, and governmental

initiatives that have probed into and promoted the need for higher education in rural students (Luvalo, 2014; Gibbs, 2005). These research activities aimed at understanding and supporting higher learning of the rural learning population have focused primarily on university readiness and participation, considering knowledge voids and measures aimed at higher learning experiences and perseverance at a much lower value (Fleming & Grace, 2014; Stone, 2017; Foote et al., 2019; Gaertner & McClarty, 2015). Thus, focusing on the existing differences by considering perseverance in the higher learning context.

Urban locations are primarily very congested with limited availability of resources for dense populations existent there. Thus, according to Robert Ezra Park's work on the theory of Urban Ecology published in the '*Human Communities: The City and Human Ecology*' (1952), the simultaneous demand for accessing resources raises the competition levels with respect to those places that are dispersed according to the primary professions (Park, 1952). In this case, it is argued that exposure to the competent nature of urban lifestyle propels the learning generation to be more acceptable to readiness in the form of higher education buoyancy competency. It was observed that students of the urban areas were better prepared for the academic setbacks that could occur while pursuing higher education. During the questionnaire filling, the students marked 'Agree' for the question 'I consider myself prepared to deal with setbacks at school'. In extension to this item of Academic Buoyancy, the students were interviewed about 'how does the geographical location of the school community propel the students to cope with everyday academic setbacks for further learning?' A student of Government Secondary School, Kalyanpur, Kanpur district responded: "... Our *school is located in the urban parts where the lifestyle requires competitive attitude for pursuing the professions desired....the enormity of the population that participates in the same race shows that there are high chances of faltering, receiving poor feedback despite diligence towards the task and emotional conflicts regarding the uncertainty of the future....the school organises campaigns like 'My Everyday Strength' wherein students are encouraged to write the potentials that are self-observed on small pieces of paper.... these are put on the bulletin wall outside the newly constructed 'career guidance cell' to reflect back whenever we go through rough phases during the pursual of secondary education.... Often, students are gifted these pieces during their completion phase to encourage the higher learning goals*

despite adversities...” The above excerpt shows that the social structure and the structural layout of urban areas are compatible with the development of perseverance despite regular academic setbacks in secondary-level students.



Picture 26: Availability of career guidance cell to handle everyday academic setbacks-Kanpur

Studies have confirmed that within the boundaries of each geographical location, population dispersion tends to follow distinct and predictable patterns (Wiggins & Proctor, 2001). The immediate learning community of the school builds enough resources to build the distinct constellation of the competencies required to survive in that geographical part.

Comparatively, it is argued that the local neighbourhoods of the rural areas can be analysed based on the areas where people live and the population density in those areas. It is asserted that large urban spaces have unique physical characteristics that are not present in smaller communities due to the way people choose to live and interact with each other based on their demographics. These rural parts are devoid of the resources that can help in fostering the competencies needed in the higher learning institutes which further hampers the readiness towards higher education in the first place. During the

questionnaire filling, the students marked 'Strongly Disagree' for the question 'I consider myself prepared to deal with setbacks at school'. In extension to this item of Higher Education Buoyancy, the students were interviewed about 'how does the geographical location of the school community facilitates the students for coping with everyday academic setbacks for further learning?' A student of Government Secondary School, Kaiserganj, Bahraich district responded: "...the rural position of the school is a big problem in helping us understand the ways to tackle everyday emotional struggles and dejections in the secondary years... I have no idea about how to deal with myself if I perform poorly in the higher learning courses...". Such excerpts reflect that unequal availability of resources and the lack of elements for building readiness skills emerge as a plausible explanation for the difference in the scores of the urban and rural spaces.

Higher Education Readiness and Aspiration after 12th & Higher Education Pursual

Students have diverse personal and social goals and talents in today's world. This is because they seek financial stability and control over their quality of life. Secondary education is mandatory, but to attain 21st-century aspirations, higher learning is also necessary. Dohm and Shniper (2007) found that 73% of the rapidly expanding professions require postsecondary education or training, which aligns with these aspirations. However, students undergo several challenges in enrolling in higher education programs that align with their capabilities and objectives. Their employment choices are influenced by various factors, not just their personal preferences.

This section focuses on the difference in the mean scores of higher educational readiness between students who show a positive perception towards the pursual of higher education and students who do not. It further focuses on the variance in the mean scores of higher educational readiness between students who aspire to be in formal sector of work, who aspire to be in informal sector of work and who do not aspire to work at all, wherein the argument exists that students who aspire to be in formal and informal sector perform better than the students who do not aspire to work at all in terms of readiness for further learning within the districts undertaken in the study. Microscopically, this part is inclusive of the focus on the research questions- whether the perceived willingness to pursue higher education reflects any difference in the higher education readiness at the secondary level in both the districts? Also, whether the aspiration of working after the

completion of secondary education demonstrate any variance in the socio-emotional competencies at the secondary level in both the districts?

The study found that there exists a significant difference in the means of higher education readiness scores between the students who aspire to be in the formal sector professions (104.74), students who aspire to be in the informal sector (101.98) and students who do not aspire to be in any profession at all (94.93) in the Kanpur district. Similarly, the Bahraich district demonstrates that the means of HER in the students with aspirations for the formal sector (103.24), students with aspirations of the informal sector (96.99) and students with no aspirations after secondary education (84.75) are significantly different. While it is primarily evident from the analysis that students with aspirations towards the tertiary professions are better prepared for higher learning, the secondary inference from the results is the contrast of the percentage of the respondents that gain a majority in the aspirations. Within the Kanpur district, almost 94.4% show their aspiration towards some work that requires higher learning. In contrast, the Bahraich district is analysed to have only 59.2% of respondents who are inclined to be in professions embedded with higher learning.

This stark variance can be attributed to individual differences in perceiving personal ideas, values, accomplishments, and abilities through comparison with opinions, accomplishments, and abilities. The concept of this comparison can be elaboratively understood against the theoretical backdrop of *Social Comparison Theory* by Festinger (Festinger, 1957). People often compare themselves to others to evaluate their social and personal worth (Morse & Gergen, 1970). This is known as the social comparison hypothesis, and it may explain why different individuals have differing aspiration levels. In fact, being part of a group or a whole environment, which fosters certain patterns of behaviour in the individual can be a significant factor in shaping one's aspirations (Van Garst, 2022; Slaten & Baskin, 2014). So, the group or immediate environment can act as a powerful anchor that enhances what one feels they can achieve. Amalgamating the theory with the obtained results, the students of Kanpur observe an intellectually productive learning environment where a large mass is highly drawn towards the skill of transferability of content knowledge and learnt competencies in the real world. The presence of this inclination throughout the learning period of the student generates the desire for better academic achievements through self-comparison to enter into the group

of highly learned peers who are already established as role models for tertiary work engagement. Continuous availability of feedback from the teachers, peers and the immediate learning environment generates the propulsion towards the individual differences in the aspirations by the senior learning years, thus shaping some students towards formal sectors while others towards the informal sectors. In the questionnaire filling, most students with formal sector aspirations of the Kanpur district marked 'Agree' to the question 'I believe that I am prepared to put extra efforts (long hours of study, willingly minimising entertainment)'. During the interview, the students who aspired to be in the formal sector of work were asked, "To what extent do the students believe that their acquired competencies are comparable to the aspirations towards the chosen sector?" A student who aspired to be in the formal sector responded: "...*I feel that we live in a place that focuses on scientific professions largely... teachers reaffirm continuously through the class about how science dominant professions are expanding and success can be achieved when we are ready enough to transfer our academic learnings to the practical field... since I can apply the concepts of Chemistry to the real world problems adeptly like my classmates, I aspire to be Chemistry professor... I understand that success in my field would require long, tedious hours of research on the reactive elements and their possible combinations....I try to build my competency in giving those extra efforts for learning and taking up higher learning in Chemistry, like rest of my friends who wish to be professors...*". Such an excerpt contends that the existent environment propels the level of comparison between the individuals and their peers with similar capacities, thereby shaping the aspirations towards tertiary professions according to the aspirations of the classmates.

Conversely, it is observed that the learning environments of Bahraich district are poorly constructed. While the government focuses on the availability of equitable resources in the school environments, what schools of the district undertaken for the study lack, is the qualitative development of the teachers and students in terms of updated awareness regarding the 21st-century employability and further learning scenario. Thus, by the Social Comparison Theory, students do not observe many opinions, accomplishments, and abilities to compare themselves to. In such a situation, the growth of the aspirations remains stagnant in comparison to the students with higher aspirations. Khare (2014) has asserted that the lack of environmental cues in the development of

further learning results in poor employability of the students. Scarce availability of opinions from educators, peers and the immediate learning environment gradually sabotages the rising work aspirations from the early to the senior learning years, thus preventing the students from choosing the higher learning alternative altogether. In the questionnaire filling, several students with no work aspirations of the Bahraich district marked 'Disagree' to the question 'I believe that I am prepared for putting extra efforts (long hours of study, willingly minimising entertainment)'. Further, during the interview, the students who did not aspire to work at all were asked "To what extent do the students believe that their acquired competencies are comparable to the aspirations towards the chosen sector?" A student who aspired to not work at all responded, "...*I do not know what I will do in the future... Teachers do not know about the upcoming work professions other than agriculture or fertiliser making....classmates talk only about joining the farm with the parents.... It becomes difficult to understand where the chemical bondings of organic Chemistry can be used in real-life settings...the secondary learning is just to pass the school grade, so I have not thought about doing any further studies...*" Such an excerpt highlights the pathetic state of the students with no aspirations where the intellectual stimulation from the teachers and peers are highly unavailable. These situations are responsible for the difference in the aspirations of the two districts for work and higher education.

Higher Education Readiness and Socio-Economic Status

This section focuses on the difference in the mean scores of higher education readiness between students from various socio-economic statuses. It further focuses on the difference in the mean scores of higher education readiness between students who belong to middle socio-economic status, students who belong to lower socio-economic status and students who belong to Below Poverty Line, wherein the argument exists that students who belong to higher socio-economic background perform better than the students who belong to the lower socio-economic background in terms of acquiring higher education readiness within the districts undertaken in the study. Specifically, in this section, the research question arises that- whether the socioeconomic status reflects any difference in the higher education readiness at the secondary level in both the districts?

This study reflects that there exists no significant difference in mean scores of higher education readiness between the students of the Middle Socio-Economic Group (102.73), students of the Lower Socio-Economic Group (104.67) and students of the BPL Group (102.18). It is interpreted that no significant difference exists between the students of the Middle Socio-Economic Group, Lower Socio-Economic Group and BPL Group in the secondary schools of Kanpur district. Contradictorily, the study shows that there is a presence of significant difference in mean scores of higher education readiness between the students of the Middle Socio-Economic Group (100.68), students of Lower Socio-Economic Group (95.87) and students of the BPL Group (91.08). It is interpreted that the means of the three groups vary significantly in terms of socio-emotional competencies performance at the secondary school level of Bahraich district.

The data also shows that the number of students from the intense poverty group has increased in availing of secondary education within the Kanpur district. However, the numbers are visibly less than in the Bahraich district. The data reaffirms the socio-economic status of a large part of the population that cannot meet its daily living and thus finds it difficult to afford paid education.



Picture 27: BPL population living under intensely low financial conditions

So, affordable secondary education is believed as ‘handy aid’ for the intensely poor population. Some review studies and detailed meta-analyses have shown that parents with higher social status possess strong educational backgrounds (Nomaguchi & Milkie,

2020, Tan, Lyu & Peng, 2020). Other studies have shown that highly educated parents provide more social support towards the higher learning goals of their children (Felten & Lambert, 2020). Higher socioeconomic status has been found to be strongly related to entrepreneurial behaviour (Fragoso et al., 2020) For example, Amalia & von Korfflesch (2021) have also shown that parents with higher social status are more acceptable to the entrepreneurial attitude of the senior students during the secondary learning process. During the questionnaire filling, most of the middle socio-economic class students were observed to select 'Strongly Agree' to the question 'I think I am prepared to access the entrepreneurial information from industry and create my own opportunities'. In extension to this question, the students were interviewed with the question, "How do your parents support your entrepreneurial learning towards your planning of higher education?". A student of middle socio-economic status, Kanpur district responded: "...our parents are very aware of the transformations in the higher learning systems they encourage us to be involved in the industrial visits of the manufacturing sites when career expos are conducted they actively participate with us to analyse the scope and capital required for entrepreneurial planningmy parents have discussed with teachers about the schemes under 'Aatmanirbhar Bharat'they support me with the provision of the resources of making me self-reliant on work rather than just depend on government employment...they explain the importance of higher education in making me self-reliant for developing commercially strong ideas.....". This excerpt demonstrates that the introduction of self-employment schemes and their aggressive government advertisement has been instrumental in making parents with decent affluence understand the importance of entrepreneurial competencies for facilitating their children with the generation of self-reliant opportunities as an essential part of education.



Picture 28: List of industries displayed in Career expos under ‘Atmanirbhar Bharat Scheme’- Kanpur

Conversely, the students of Bahraich were found to largely belong to the Below Poverty Line socio-economic group where the lack of basic resources push the parents to compel their children to engage in farming activities only. Roksa & Kinsley (2019) have demonstrated on 728 low socio-economic students that financial constraints forbid them from entering higher learning programs as compared to their financially strong classmates. During the questionnaire filling, most of the middle socio-economic class students were observed to select ‘Strongly Disagree’ to the question ‘I think I am prepared to access the entrepreneurial information from industry and create my own opportunities’. In extension to this question, the students were interviewed with the question, “How do your parents support your entrepreneurial learning towards your planning of higher education?”. A student of BPL socio-economic status, Bahraich Nagar Area responded: “...majority of the students here have parents who are farmers or do menial daily wage jobs... pursuing higher education is costly with vocational learningparents push us for engaging in agriculture-related jobs or daily wage jobs that can

bring some money daily...we do not prepare for higher learning because financial restrictions are very huge..”. This excerpt shows that parental indifference to preparation for higher learning happens because of heavy financial restrictions and dependence on daily wage labour jobs which provide immediate monetary gratification for family needs.

5.4 Objective 4

To analyse the effect of class, age, gender, spatial reference, Socio-Economic Status, preferred discipline, aspiration after 12th and pursual to HE on the Educational Attainment, Socio-Emotional Competencies and Higher Education Readiness of students at the secondary level across Kanpur and Bahraich districts of Uttar Pradesh.

The causal relationship of Kanpur district show that the geographical position of the school significantly impacts the educational attainment of the students. Class, gender, socioeconomic background, and preferred discipline did not significantly impact pupils' academic performance. The study highlights the significance of a school's geographical location because students studying in a cognitively rich geographical location can perform intellectually well as opposed to other students studying in a less cognitively rich learning environment. The large-scale assessments like PISA 2000 conducted on 5477 students assert that educational settings with quantitatively rich learning contexts are a less common but successful route to intellectual enlargement (Creswell & Underwood, 2004). The investigative demands also reflect the requirement of research on equitable development along the nearby geographic spaces (Jovinius, 2015; Irwin et. al, 2011) from spatial planners and educational policymakers to recognise the value of the condition of educational institutions, libraries, playgrounds and accessibility facilities adjacent to the physical learning environments of schools (Guha, 2022).

In underdeveloped nations, research has shown that providing electricity and access to libraries can significantly improve cognitive learning in secondary-level students (Figuerola et al., 2016; Guha, 2022). Well-maintained classrooms with suitable furniture, access to tap water, and toilets have been positively linked to better educational attainment (Murillo & Roman, 2011). Unfortunately, impoverished nations often have inadequate school environments that lack even the most basic amenities (Chudgar et al., 2015). A student of secondary class, Kanpur district reflected similar views- “ *...Our school has an appropriate library with updated books, attached playground for sports and physical training and laboratories for experiential learning ... I like coming to school and learn the subjects with using these... it helps me learn better and understand the concepts very clearly...’*”. According to the present research, such an emphasis on the

close vicinity of additional educational facilities to schools can also serve to elevate qualitative learning in the schools of India.

Age of learning has also become a significant predictor of higher academic achievement among kids in the current sample, in addition to the school's physical location. Navarro, Garcia-Rubio and Olivares (2015) have recently asserted the requirement of developing age flexibility in academic learning by finding that the relative age effect (RAE), which is a result of more mature perspectives of the elder-aged pupils and growth, involves their relatively superior performance in academic contexts. Further, the aspirations of entering the profession and willingness to pursue higher education affected the educational attainment of the secondary level students. Using the Longitudinal Study of Young People in England (LSYPE), Khattab (2017) investigated whether various blends of aspirations, desires, and educational attainment impact learning in the later years and discovered that students with high aspirations outperform those with both minimal goals in terms of academic success. The most significant predictor of academic success in the later years is the complete alignment between high ambitions and outstanding educational performance. Some identical opinions were stated by the students of Kanpur district- “...*I aspire to be in military service....military services require a high level of calculative and linguistic proficiency....I know that this level of proficiency cannot be achieved without engagement in higher education ...so I try to understand my studies right from the secondary level.....*” According to the present research, the inclination towards working in the formal sectors after clearing secondary education propels students towards educational attainment at the secondary level.

Similarly, in the Bahraich district, the academic performance of students was shown to be unaffected greatly by class, gender, socioeconomic background, and age. However, strong causal links have demonstrated aspirations after 12th and willingness to pursue higher education with educational attainment at the secondary level. Some studies have asserted that educational aspirations during high school influence educational aspects of students' lives (Bowden et al., 2021; Amida et al., 2021). Young, underrepresented people in rurality-dominated areas are less likely to successfully transition to higher education if they graduate from high school with a lack of occupational orientation and meaning of productivity (Mishra, 2020). It is contended that

the scarcity of professional possibilities makes the formation of job aspirations less likely to occur in locations where rurality predominates. It pertains to the dearth of technical, hybrid, and inventive professions that are statistically rising in the global labour market (Kormos & Wisdom, 2021). With a lack of work aspirations, the inclination towards educational attainment drastically reduces impeding the orientation of the students towards higher education. Such ideas are supported by the secondary students with opinions like- “...there are no jobs that can practically make us enter in the tertiary sector here... so I have not thought about working further...in such case, keeping a dream of learning more after my secondary education does not really fit...I just come to the school to escape the farming job...” Such statements provide a closer look at the vicious cycle of ignorance towards academic learning which, the students enter in the absence of aspirations towards work.

Success comes from having competencies that are beneficial in finances and longer sustainability in the international market. These competencies differ from people to people differ in the context of acquisition and application in each situation. Research has indicated that a person's socio-emotional development is as crucial as their cognitive abilities, if not more (Lechner et al., 2019). These qualities are intricate and strongly associated with academic achievement and overall life outcomes for students (Farrington et al., 2012). As a deeper exploration is conducted, it is discovered that more social and emotional components are imperative for future learning and growth (Lechner et al., 2019; Acosta, 2018). Since competencies are primarily dependent on the level of acquisition, which happens over time, the development of these competencies is said to occur gradually. Depending on age, they grow as the person ages and become multifaceted with the addition of different elements. As a result, a well-known idea is that the passage of time determines a student's chronological development, which runs directly counter to the growth of crucial competencies needed in the actual world. In this regard, Chavda and Trivedi (2015) explored the development of diverse competencies among 150 students in Ahmedabad and discovered that students between the ages of 18 and 20 were better at acquiring competencies than those between the ages of 11 and 13. A possible explanation for the effectiveness of age in the grasping of competencies could be understood through the biological approach which believes that maturity in chronological age is highly dependent on the development of neural networks in the

hippocampus and amygdala part of the brain that are empirically proven to control impulsivity (Keresztes et al., 2017). Thus, the provision of adequate stimulation during these years by the formal learning environments along with the awareness of this biological approach prompts the significance of acquiring and developing competencies within the students. Clearly, then, those students who do not belong to the same age group might find it difficult to acquire advanced competencies like innovative expression, sustainable engagement, and proactive leadership. Similar opinions are portrayed by the students of 17 years who opined that young aged peers are less able to comprehend the significance of competency in a given situation. A student of Kanpur district notably responded that- “.....*all of us are equally taught about developing innovative behaviour essentially in the class for understanding the new and blended concepts better.....I think my same-aged classmates are very responsive in the class to value the importance of innovative ideas and their expression in learning..... but the younger-aged classmates struggle with clarity on innovative behaviour and ideas very much*” Such responses show that age emerges as a significant factor in comprehension and conceptual clarity about abstract ideas like competencies, thus facilitating the elder-aged students positively in terms of acquisition.

The perceived likeness towards a specific subject was found to impact the socio-emotional competencies of the students. The findings are consistent with previous important research studies (Bolondi et al., 2018; Stoet & Geary, 2018; Saw, 2016) that consider various causes for the visibly strong effect on the acquisition of socio-emotional competencies. The existence of cultural influences that affect cognitive capacities is acknowledged by large-scale examinations of PISA 2015 and TIMSS 2015, which show students with an inclination towards mathematics and science to outperform students with a likeness towards social science subjects on the parameters of logical comprehension and calculative competencies (OECD, 2016; Mullis et al., 2016; Di Tommaso et. al, 2016; Winkelman as al, 2008). This finding was further supported by the views of students pursuing biology, who opined that their preference for science subjects determines their perceived acceptability towards objectivity, innovative experimentation and environmental concern due to the abundance of professional sectors that demand these competencies today mandatorily. A student of government secondary school, Kanpur district who liked Biology opined- “...*I like biology that is why I try to*

learn about innovative ideas of alternatives to cardiac surgery and optic problems....nowadays pursuing a career in cardiac surgery essentially demands non-invasive techniques to help the heart in gaining its functionality...my success in gaining excellence on my preferred subject later is dependent on how well I can acquire these competencies during my secondary years” This excerpt is reflective of the importance of the subject preferred in the process of acquiring socio-emotional competencies.



Picture 29: Resource allocation in Science class includes wall paintings- Kanpur

On the contrary, Bahraich district was observed to be affected by the preference of favourite subject and the aspirations after completion of secondary education. A notable observation throughout the field investigation was the role of media and community towards escalating the existing indifference in aspiring for tertiary professional work in the Bahraich district. It visibly deteriorated the individual perception of students' productivity in terms of better financial earnings of the learning population at the secondary level. Some of the students were found to be inclined towards working in the informal sectors after the completion of their secondary education. A student of the secondary class expressed- "...doing work that makes us earn immediate money is

somewhat important.....in Bahraich, we hear from people around and see on the billboards that small chunks of immediate money is beneficial to maintain families rather than studying more and waiting for money after a considerable passage of time.....the place is full with work advertisements of gardening, farm help, contractual labour work and house help that do not demand in any secondary education or the like... so, secondary education does not seem mandatory in getting hired for any sort of profession...” the response is representative of the existing indifference in the mindset of the learning population due to the regressive role of media in promoting the need of secondary education as the minimal benchmark of fetching job.



Picture 30: Dominance of agro-activities make ‘no aspiration’ a forced choice- Bahraich

Also, the spatial nature of Bahraich was observed to be dominantly rural with huge farmlands and empty plots which arises as an important determinant in the low acquisition of socio-emotional competencies. Furthermore, aspirations after 12th and the willingness to pursue higher education were found to impact the performance of socio-emotional competencies. A study found that teachers are familiar with the benefits for learners who establish challenging aspirations and are motivated to make advancements toward them (Ferreira et al., 2020). Though Bahraich is marked as an aspirational district under the rural development programme of NITI Ayog, the public sector stands as a defeated player while the private sector bleakly captures some role of supporting the students for aspiration of work, in the first place. Unfortunately, this leads to a massive population learning in the secondary level without any purpose or work-orientation

explaining the grave indifference towards comprehension of the value of socio-emotional competencies in today's era. During the interviews, a relatively large fraction of students were observed to have no aspirations towards entering professions at all. A student of secondary class with no work aspirations stated- "... It is difficult to think of some work where we only see farming work around, while the females do housework or help in menial farming work only there is nobody to tell what the use of all the secondary studies is, that we are doing.... I do not know why learning to work with each other is important when we have to be at our farmlands at the end..." Such excerpt of the responses reflects the failure of the students in comprehending the utility of secondary education beyond the school boundaries which eventually deters them from the acquisition of socio-emotional competencies like teamwork at the secondary learning stage. This view compounded with the inclination towards linguistic subjects that do not have physical establishments to complement the professional opportunities further deteriorates the value of the subject undertaken for future financial productivity. In this regard, the opinion of a student who likes Hindi subject is notable- "...I like Hindi but there is no opportunity that I know or have been told about in the school, which can help me in pursuing a career in this subject....so after my secondary learning either I will be at home to help my parents in daily house chores or do daily wage job.....then putting efforts to learn how to build innovative ideas does not seem to have any value.....". This statement represents the intertwining of contextual elements like geographical location, favourite subject and aspirations after completion of secondary education with an existent dearth of resources to determine the low performances on socio-emotional competencies.

Macroscopically, the reason for viewing higher education optimistically by the students of India is the desire for societal advancement through enhanced job prospects. While developing the job market with learned human resources may not be the sole intent of higher education, it is undoubtedly one of the main reasons for endeavouring for the massive enrolments of the students after the completion of secondary education. This congruence of intentions at both the teaching and learning end has led to the sudden increase in the want of higher education, especially in India's newly emerging metropolitan and smart cities.

The study found that in the Kanpur district, spatial reference and favourite subject emerge with the strongest causal links to higher education readiness amongst other

demographics. A close observation of the geographical entity of Kanpur district explains the high urbanisation of the area in terms of education, living, health and work facilities. This entails the presence of both public and private stakeholders to offer the consumers, a high-end range of choice of the facilities they would want to engage in. Hence, Kanpur notably emerges as an urban space that is densely congested with infrastructural support towards higher education. The district enjoys high exposure to international markets due to its geographical comfort. This effectiveness of geographical location in the development of higher education readiness could be further explained through the *Proximity Effect in Spaces* (Healy & Morgan, 2012). Despite its sublime nature, the consequential effect of proximity turns out to be very strong. It pertains to the determination of a relationship based on the nearness or proximal closeness of two or more entities in question (Sykes, 1977). While Festinger and the Gestalt school have vehemently supported its theoretical contribution to social psychology, it is very interesting to see how it impacts the spatial relationships between humans as one entity and higher education institutes as another entity. In other words, the ‘proximal closeness’ of equitable resources for higher education to the student determines his perception towards higher education and the presence of readiness for it.

In this regard, it would be worthwhile to note that the district hosts higher education institutes like Chandra Shekhar Azad Agricultural University and The Indian Institute of Technology Kanpur (IIT-K) which is well-known worldwide for their high quality of learning.



Picture 31: Presence of higher education institutes- Kanpur

As per the NIRF, the institute secured the 4th position in the Engineering category across the nation for the year 2023 (Choudhury et al., 2023). Furthermore, the QS World University Rankings have positioned the institute at an impressive global rank of 264 (Choudhury et al., 2023). The proximity of national universities that provide exceptionally competitive internationally acclaimed education to their students, including cultural diversity in the learning environment and the scope of practical dealing with real-world problems, becomes the desire of educationally strong students to demonstrate their productivity. So, the students develop a strong sense of attraction towards being ready to enter such learning places for better employment opportunities later in life. A student of Government Senior Secondary School, Kalyanpur block, Kanpur, responded similarly: “.....*my school is very close to IIT Kanpur which is a world acclaimed university....I know that students who study there, have the best options for employment when they pass out....since limited seats mark entry to that university, I have started preparing myself right from grade 8 by learning time management and distribution of my efforts to grasp the subjects....*”. Such opinions about readiness highlight the importance of globally acclaimed higher education institutes that play a major role in facilitating readiness for higher learning.

The effect of this proximity is so strong that most of the students interviewed in the schools undertaken for the study were observed to engage in the readiness competencies including digital literacy and academic buoyancy to be at the same par with the students of private educational platforms during the entrance competition. The strength of this proximity effect was observed to impact even the choice of subjects during secondary education. Some research studies have argued that choosing subjects preferred in academic learning is not related to developing competencies (Attard, 2011; Hannover & Kessels, 2004). However, the research demonstrates a clear impact of the preferred discipline on developing readiness competencies for higher learning in the Kanpur district.

A possible delineation of this impact is indirectly attributed to the perception of accessibility of equitable resources for later earning in the stream and the level of excellence offered through institutional support. In this regard, the effect of the physical presence of globally acclaimed universities is fortified to the level that it subliminally governs the emotional likeness towards an academic discipline. The statement of another

student from Government Senior Secondary School, Kalyanpur block, Kanpur is noteworthy- “...*I like Mathematics.....It is good to like a subject that will help me enter reputed institutes like IIT Kanpur with world-class education facilities and learn further from there.... So I try to develop my logical and innovative competencies to understand the concepts...*” These excerpts pave the way for comprehending the strength of urban spaces in the spatial reference demographic of higher educational readiness.

Conversely, it is interesting to observe that age, spatial reference, school position and preferred discipline are significant predictors of higher education readiness in Bahraich district. While some studies have demonstrated higher age to be positively linked with competency development (Chavada & Trivedi, 2015; Gathercole et al., 2004), other studies have remained neutral regarding the advancements in older age (Mungas et. al, 2009; Gerstorff et al., 2006). In this regard, the majority of the respondent students of the schools of Bahraich district were observed to be 16 years old which, by chronological maturity of the child, made the comprehension and acquisition of readiness competencies difficult for higher education. On questions regarding how the students perceive the value of being self-efficacious for higher learning, the 16-year-old students were observed to lack clarity on the first, the ‘higher academic efficiency’ term itself and the requirement of competencies that include effective time allocation for equal attention to all the subjects of advanced nature. A 16-year-old student of Bahraich district responded: “...*studies in higher education can be only done as we have done in school... it is also a higher school where we go and study....teachers are responsible in dictating what must be done in a particular subject..... I do not understand why we need our own efforts for managing time..... ultimately it is about memorising the subject again, as in secondary classes and writing....*” This statement indicates the complexity in deducing the advanced nature of academic comprehension by students of younger age, hence impacting their readiness towards higher learning.



Picture 32: Secondary students understand higher education as replication of school practices- Bahraich

Similarly, spatial reference was observed to reflect the strong causal relationship with higher education readiness. A close observation of the geographical entity of Bahraich district explains relatively scattered and high rurality in the area giving rise to primarily agricultural dominance in the area. This entails the presence of mostly public stakeholders to offer the consumers, proximally distant and very low-quality of health, education and professional facilities that are practically forced, because of the unavailability of other competitors.



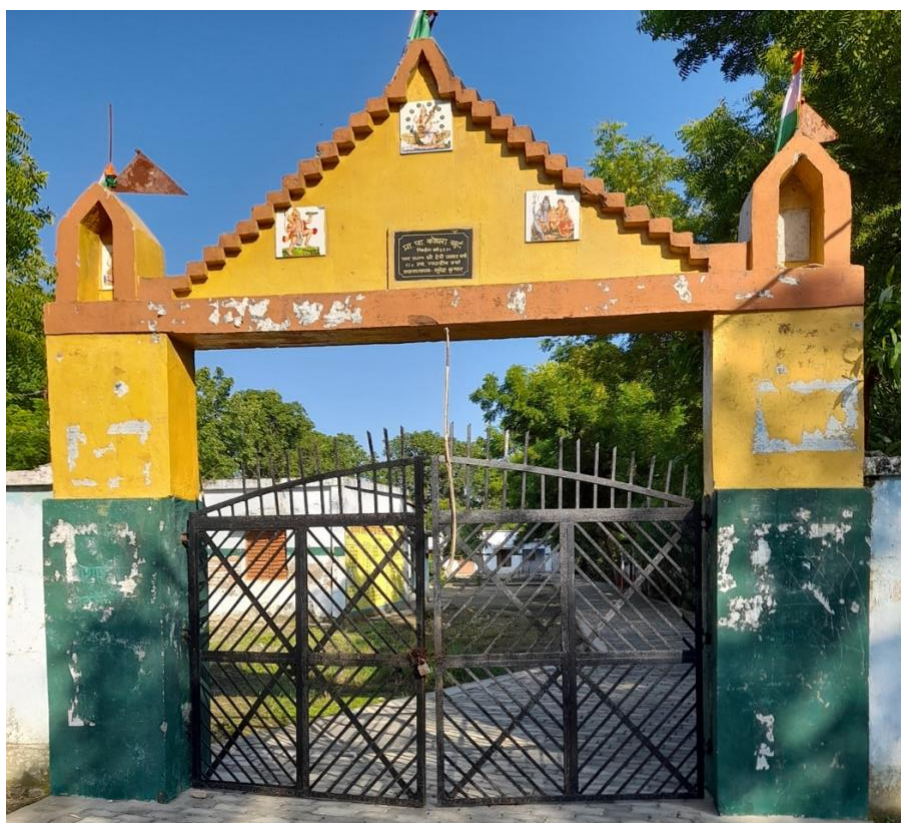
Picture 33: Dilapidated class environment and absence of teachers in secondary classes during school hours- Bahraich district

The education sector suffers from similar grievances where long distances to the school, the absence of the teachers from the class, irregular attendance of the students during crop harvesting and lack of social and community support towards understanding the value of tertiary professions are enough to make the students disinterested towards higher learning.



Picture 34: Road to commute to school –Government Senior Secondary School, Kaiserganj, Bahraich

When this location complexity is compounded with the tedious bureaucracy and long service delivery duration in the government sector, to attain basic resources of accessibility like transportation services and proper road connections for commutation, it becomes difficult to stay motivated by the students for an educational phase that requires everyday efforts for achieving uninterrupted higher education. The views of a student from Kaiserganj block, Bahraich district are remarkable- “...the school I study in, is almost 4 kilometres from the house and situated amidst a farm area.....only 2.5 kilometres of the journey can be covered by the public transport.....rest has to be walked....till date I have not reached the school on time because of these complexities.....after this, availing higher education would require covering almost 7 kilometres of the distance for attending the nearest government college.... The village committee has applied for bus-stop and bus-service for two years but there is no response till date....by the completion of this secondary education if the commutation does not become easy, it will be very difficult to think of studying further....”. Hence, Bahraich notably emerges as a rural space that is sparsely equipped with infrastructural support towards higher education.



Picture 35: Locked school during school hours – Bahraich

Owing to the geographical complexity, the district faces difficulty in enrolling students for higher education. Those who do, prefer to migrate to 'education hub' districts for environmental comfort. Moreover, another observation is the causal association of preferred discipline to higher education readiness. Studies that have explored the significance of experiential learning in pursual to higher education found that subjects with greater professional success were perceived with more favourability for later pursual (Pandey, 2018; Lauermann et al., 2015). It was observed that the preference to linguistic disciplines like Hindi, was determined firstly, by the comfort of command in the language because of the mother tongue advantage and secondly, by the language requirement in the later agricultural and informal profession. Unfortunately, the second assertion portrays the lack of visible professions that can reflect the need of developing intrinsic likeness towards scientific natured subjects. Despite being the district undertaken for 'Aspirational District Programme' by NITI Ayog, Bahraich apparently lacks the profuse development of technological and scientific careers in the tertiary sector. This is inclusive of corporate investments for industrial expansion and building relevant professional sectors for financial augmentation of the geographical area. A student of Government Senior Secondary School, Nagar Area, Bahraich opined- "*...There is no choice other than liking Hindi....my other friends who like Mathematics and Computer Science do not have much professions to go to....investing my interest in a subject that takes efforts to be understood but only gives me a future of being shopkeeper or fertilizer dealer besides being farmer, does not seem acceptable to me at all.....I think liking an easy language that we use frequently, saves us effort and helps us taking the traditional family profession of farming without much struggle...*" Such opinion reflects that the lack of availability in professional opportunities creates the favourability towards linguistic subjects as a forced choice.

5.6 Objective 5

To identify the differences in the way the socio-emotional competencies predict higher education readiness in public secondary schools across Kanpur and Bahraich districts.

The study reflects that socio-emotional competencies possess strong causal relationships with higher education readiness in the Bahraich district. The socio-emotional competencies that come from excelling in secondary-level schooling may be related to higher education readiness, and there may also be a significant mediating relationship between secondary academic achievement and college preparedness for higher learning (Lechner et al., 2019; Moore et. al, 2010).

Most of the demographics were found to be highly impactful in the study. Age, school location, spatial reference and preferred discipline were observed to be the demographics that affect both socio-emotional competencies and higher education readiness in Bahraich district. In other words, these demographics effect the innovative competency, ICT competency, and sustainable competencies at the secondary level. Some studies have proven that competencies like time management, innovation and collaboration directly associate with educational attainment at the secondary level (Ganguly et al., 2017; Arya & Maurya, 2016) Similarly, other research studies have evinced that there exists a huge array of competencies like perseverance, flexibility, sustainable responsibility, academic efficacy practices that emerge as strong predictors of readiness towards higher learning, of which some are repetitively notable (Stewart et al., 2015; Vijaykumar, 2013). A meta-analysis of 109 studies by Robbins et al., (2004) which explored the impact of socio-emotional competencies on secondary performance found that academic aspirations and higher academic efficiency practices could be strong predictors towards higher learning readiness (Komarraju et al., 2013).

Several colleges and universities have identified innovative expressions being an essential socio-emotional competency of a college education, and crucial for both secondary-level and post-secondary levels during the entry into industry (Mokher et al., 2019; Nodine, 2009; Greene & Forster, 2003). However, some research studies related to higher education and psychological development have found that higher education competencies are somewhat advanced in nature that are required in the retention and success of higher studies in the post-secondary institutes selected by the students after

their completion of secondary schooling (Gay et. al, 2020; Barradell et al., 2018). Thus, their base lies in the development of socio-emotional competencies that can be acquired in the core form during secondary schooling. For instance, the innovative expressions acquired during the secondary learning phase might assist the student in perceiving their preparedness to create innovative thoughts for the aspired career during the higher education phase. This ideology gained further confidence from the answers of the students in their perceptual ability towards a readiness competency.

Conversely, during the questionnaire phase, it was observed that the majority of the students who selected 'Disagree' for the item 'I often look for new ideas different from the book so that I can use them in my studies' were also found to select 'Strongly Disagree' for the item 'I think I am prepared for innovative thoughts regarding the discipline I want to pursue' under the 'Higher Academic Efficiency Practices' dimension in higher education readiness. During the interviews, the students were asked about questions related to "how do you think that developing innovative thoughts in the school helps in pursuing higher learning with innovative ideas? To which majority of the students in bahraich district responded: "...it is difficult to understand how innovative thoughts can be applied to the texts that we read...higher learning looks to me as another phase for learning where the textual content of the same concept is presented in an augmented format..." Such statements represent that continual of regressive techniques and dominance of textual content in the secondary years impedes the growth of innovative ideation which is consequently impeding the readiness of innovative application for the higher learning phase.

The application of innovative strategies in class interactions plays an important role in the development of innovative expressions competency that further facilitate innovative ideas to comprehend the subject meaningfully and prepares the student to be self-efficient in developing the innovative strategies for controlling the extent of acquiring the disseminated knowledge at a broader level. Conversely, the pedagogical support provided to the students of Bahraich during class interactions were observed to be outdated and relevant. For instance, the textual chapters of physics in class 11th demand the understanding of momentum through actual movements. The chapter instructs some creative practises to enhance the judgement of practicality in the concept. However, no such practices are entertained in the class interactions as reported by the

students. During the field investigation, it was observed that the acquisition of innovative behaviour as a socio-emotional competency at the secondary level was determined by the nature of class interactions. The schools of Bahraich did not appear to deter from the conventional ‘syllabus-finishing’ approach. Classroom interactions were observed to be limited to memorisation of the answers for achieving quantitatively better performance. When asked about how do the students perceive their abilities to be utilised for building innovativeness in their chosen field, a student of Government Senior Secondary School, Bahraich Nagar Area, Bahraich district opined negatively- “...*we have not been taught beyond the memorisation of answers theoretically in Science and Mathematics.....teachers believe that acquiring ‘marks’ is the primary job in senior classes for getting admitted to colleges and universities.....when we have repetitively learnt about the observation, retention and production of views in the same way that can help us fetch marks, then how can we build genuine innovative ideas in any chosen field ?...*” such excerpt represents the deeply penetrated conditioning of ‘dependence over quantitative performance’ in the classroom interactions between teachers and students as the sole indicator of readiness for entering higher education.

In the Kanpur district, the socio-emotional competencies were observed to have weak causal relationship with higher education readiness of the student. This can be explained by the Connectivism Theory of Learning which posits the involvement of various links that interconnect numerous networks, hence enabling the learning procedures at transitional level (Dunaway, 2011). Within the learning realms, these links supply individuals with immediate access to trustworthy knowledge and competencies from a multitude of sources, enabling them to replicate, distribute, and disseminate such knowledge among their social communities that can enable them to be prepared for higher phase of learning. These connections allow individuals to remove, evaluate, and reject the competencies that are found to insignificant or erroneous (Kropf, 2013). Kanpur district caters to several factors other than the development of socio-emotional competencies including awareness in the parents and their acknowledgement on the need of ‘competitive edge’ for gaining better employability opportunities. In this regard, the views of a student in Kanpur district are notable- “.....*parents help us in understanding the importance of higher learning to achieve better employability opportunities...social media facilitates the relevant competencies required in various disciplines....awareness*

in the peer groups and interactions related to learning after the completion of secondary education play a major role in drawing the comprehensive picture of the complexity level at the higher education institutes and the probability of securing job with such competencies.....the environmental information regarding higher learning is so high that even children who do not access proper secondary schooling prepare for the continual of some sort of learning to gain financial stability later.....” The statement is representative of the multi-dimensional information from the existing environment that are connected by the students to analyse the importance of competencies in continual of advanced learning. Some other studies have demonstrated that the connectivist approach is the most frequently followed approach for gaining attainment of higher education (Sitti et al., 2013; Makina, 2016).

Thus, to conclude, it can be understood that the development of higher education readiness is intensely governed by the development of socio-emotional competencies that are further fuelled by the competency learning disseminated in the school environments for districts like Bahraich that suffer lack of equity and geographical disadvantages. Districts like Kanpur overflow with additional factors like strong contextual variables of aware stakeholders, infrastructural support, and a rich learning environment. This extreme paradox requires addressal in the educational policy making for standard framework of competency development.

CONCLUSION

The study illustrates the significance of comprehensive education in enhancing the ability of young learners as they grow academically and navigate real-life challenges. It underscores the significance of integrating academic knowledge with practical competencies at the secondary level to cultivate effective strategies for addressing real-world challenges beyond the confines of the educational institution. The findings from the quantitative analysis provide a thorough understanding of the demographic variables that influence preparedness for higher education, as well as their educational attainment and socio-emotional competencies of the students. Furthermore, an evaluation is conducted to examine the contrasting impacts of these variables on the public schools in two districts, namely Kanpur and Bahraich of Uttar Pradesh. To provide an exhaustive comprehension of the variables utilised in the research and their causative qualities, qualitative data was gathered through the field investigation. This enabled a thorough exploration of the findings and the potential factors contributing to their development.

The acquisition of competencies has emerged as a crucial aspect of the learning process, due to the evolving demands of the workforce and the need to enhance the national economy from multiple perspectives. The documents examined in the preceding chapters facilitated the discovery of multiple justifications to support the results. Within the framework of the Indian Education System, the process of transitioning from one educational level to another is a significant aspect that warrants examination and analysis. Secondary education encompasses grades 9, 10, 11 and 12, of which grades 11 and 12 represent the transition phase in the journey of learning. Secondary level schooling serves as a conduit for individuals during their adolescent years, facilitating their academic performance, emotional development, and engagement during the turbulent years of gaining maturity. So, the study assesses various abilities and competencies that are required to be multidimensionally successful. So, the study employs model problems derived from the PIAAC questionnaire to assess and compare the numeracy and literacy competencies of the students. The educational system at this stage should effectively cater to the individual demands and requirements of the students, developing the necessary aptitudes to effectively navigate the process of transitioning, cultivating a comprehensive approach to personal growth, and acquiring the requisite abilities to assume leadership roles along with enhancing the quality of life. Indian policy directives

acknowledge the increasing importance of multiple competencies and emphasise the urgency to improve the current secondary level education system by incorporating multifaceted strengths. This is crucial for societal development and to facilitate progress into higher education and employment opportunities. The first stage of the research encompassed an extensive examination of the current body of literature that addressed the conceptual and empirical aspects of various competency frameworks. From these frameworks, dimensions were extracted and defined to create the scale for assessing socio-emotional competencies.

Secondary-level education serves as the foundation to cultivate human capital and enhancement of quality in a productive young workforce soon. The need of the hour is to equip the education at the transitioning phase with several aspects of human performance including the potential to enhance engagement and facilitation of continued learning at a higher level. Numerous scholarly investigations and policy papers have demarcated the imperative for the augmentation of the competencies acquired at the secondary level towards higher learning context, to consolidate the school learning for better employability prospects later. The review of international comparisons reflects that although India has lately participated in the global ranking and put its endeavours to secure considerably respectable positions, the persisting ignorance in the development of microscopic contextual dynamics like lower socio-economic status and gender disparities have stagnated its probability of rank acceleration in international community. Thus, the literature including frameworks of preparedness in the higher education contexts were analysed and the dimensions were derived to quantitatively measure higher education readiness in the districts of Kanpur and Bahraich in Uttar Pradesh.

The research design utilised in this study encompassed a mixed methods approach due to the social scientific nature of the investigation. The study employed this approach to create the richness of the obtained data in terms of the impact of contextual variables on the independent variable and the dependent variable. The study incorporated both quantitative and qualitative data to develop a comprehensive understanding of the concerned research objectives. The study encompasses three primary research objectives that centre around the student participants and the influence of two variables on the third variable. Following the collection of two distinct types of data, an additional analysis was conducted, and interpretations were derived accordingly. The quantitative analysis

employed the t-test, ANOVA test, and simple regression analysis. In contrast, the qualitative examination involved a thematic assessment of the semi-structured interviews conducted with the students of both districts.

The research studied differences on various student demographics namely, age, class, gender, spatial reference, school location, socioeconomic status, preferred discipline, aspirations after 12th and pursual to higher education in association to the performance on educational attainment, socio-emotional competencies and higher education readiness. The findings indicate the presence of disparities in educational attainment, socio-emotional competencies, and higher education readiness across the two districts. This observation demonstrates the presence of two contrasting levels of quality within the identical boundaries. The study contributes to the understanding of the spatial distribution of schools has emerged as a significant determinant of disparities in secondary education outcomes. Districts such as Kanpur benefit from their geographical location, which provides them with accessibility and well-established networks of contextual factors such as informed stakeholders, infrastructure support, and a conducive learning environment. On the other hand, districts that are spatially disadvantaged experience the negative consequences of governmental ignorance, resulting in cumbersome bureaucracy and prolonged service delivery timelines.

The preferences for a particular discipline and the aspirations of students have a significant role in fostering positive attitudes towards learning. The students in Kanpur Nagar are exposed to a range of factors that contribute to their inclination towards specific areas of study and use of modern learning techniques to elevate the experiential learning. In contrast, the Bahraich district displays a lack of interest in understanding individual preferences and fails to foster a sense of purpose in learning endeavours of the students. Reluctance in embracing upgraded technology and continuation of conventional teaching methods have further hampered the possibilities of competency acquisition in the transitioning students. The disparities in equity, accessibility, equality, and accountability of contextual factors significantly influence the observed inequities in both districts. Consequent ignorance of these inequalities for long term confers a distinct advantage to the population that can 'afford', hence implying that individuals who possess wealth are more likely to assert their 'rights to quality and competent education'. In order to maximise opportunities for the transitioning generation, it is imperative that

fundamental rights such as access to quality education are made available without spatial or socioeconomic discrimination.

6.1 Major Findings of the Study

An overview of the significant findings of the study is provided below:

- The quantitative data demonstrated that the scores for the educational attainment of the students at the secondary level differed significantly across spatial reference, pursual to higher education, age, school location, socio-economic status, preferred discipline, and aspiration after 12th in the Kanpur district. Surprisingly, gender demographics do not reflect any variance.
- In contrast, the scores for educational attainment of the students differed significantly across gender, spatial reference, pursual to higher education, age, school location, Socioeconomic status, preferred discipline, and aspiration after 12th in the Bahraich district.
- The data showed that the scores for the socio-emotional competencies of the students differed significantly across class, spatial reference, age, school location and aspirations after 12th in the Kanpur district.
- Contradictorily, it was analysed that the scores for the socio-emotional competencies of the students varied on gender, spatial reference, pursual to higher education, age, school location, socio-economic status, preferred discipline, and aspiration after 12th demographics.
- The data revealed that the scores for the higher education readiness of the students differed significantly across spatial reference, age, school location and aspirations after 12th in the Kanpur district.
- At the district level, student indicators age, school location, aspiration after 12th grade and pursual towards higher education were found to predict Educational Attainment in Kanpur Nagar significantly.
- The student indicators of preferred discipline, aspiration after 12th grade and pursual towards higher education were found to predict Educational Attainment in the Bahraich district significantly.

- The student demographics, age, school location and, preferred discipline, aspiration after 12th grade were found to predict Socio-Emotional Competencies in Kanpur Nagar significantly.
- In the Bahraich district, the student indicators of age, spatial reference, preferred discipline, and aspiration after 12th were analysed to emerge as strong predictors of Socio-Emotional Competencies.
- The predictor demographics spatial reference and preferred discipline were observed to contribute to Higher Education Readiness in Kanpur Nagar significantly.
- It was observed that age, school location, spatial reference and preferred discipline demographics significantly contribute to the Higher Education Readiness in Bahraich district.
- At the district level, Socio-Emotional Competencies were observed to predict Higher Education Readiness strongly in the Bahraich district.
- In the schools of Kanpur, Socio-Emotional Competencies did not emerge as a significant predictor of Higher Education Readiness in the regression model, representing that there is no significant relationship between the dependent variable and independent variables in public school institutions.
- In both districts, the student demographics spatial reference and preferred discipline exert strong effects on educational attainment, socio-emotional competencies and higher education readiness variables undertaken in the research.

6.2 Policy Implications

The findings of the undertaken research yield several policy implications that are proposed below:

- The research outcomes, both qualitative along with quantitative, indicate that the geographical location of the school is a contributing factor to the inadequate academic learning competencies observed in the Bahraich district, in comparison to the Kanpur district. These findings highlight the necessity for policy interventions aimed at establishing standardised equitable requirements for educational facilities in public educational institutions.

- There exists a necessity to establish technologically empowered learning environments equipped with uniform application to all the divisions, concerning the aim of fostering the exchange of information technology resources, cultivating technological competencies, promoting information literacy among learners for academic use, and augmenting these competencies for technological readiness in higher learning contexts.
- There is a pressing requirement to establish bridging programmes at the school level that specifically aim to facilitate continued education as a means of strengthening knowledge and competencies acquired at the secondary level. These programmes also aim to address the financial uncertainties that emerge from inadequate education, which can subsequently enhance career stability for individuals.
- The qualitative analysis of this study places emphasis on enhancing the accountability of rural school education systems through effective management of bureaucratic procedures in resource acquisition and enhancing the overall state-of-the-art infrastructure resources that foster scientific competencies in the learning population of rural areas.
- There is a recognised necessity to provide an inherent pedagogical framework that substantiates the significance of pursuing a higher education based on individual choices and aspirations and fosters the notion of 'readiness' to access higher learning among secondary-level students in public school systems.
- This study emphasises the relevance of cultivating competencies throughout the transition phase, which can serve as a period of growth incorporating academic challenges encountered in everyday life. To achieve greater achievements in the real world, it is imperative to adopt a learning attitude and embrace the inevitable fluctuations and challenges that arise.

6.3 Limitations and Further Scope of the Research

There exist potential concerns that were identified after the completion of the research investigation. The investigation is a cross-sectional examination that could not delve into the developmental phase of numerous transitional competencies from the perspectives of teachers, parents, and peers. Moreover, the investigation could have been

conducted within a comparison approach considering multiple states with various demographic variables. Due to time constraints, two districts with extremely variant literacy rates were studied from the same condition. The study could engage additional variant levels of literacy rates with more districts for future investigations. A comprehensive observation of higher education readiness could have been attained by employing various other dimensions of socio-emotional competencies from the literature. Furthermore, the assessment of disparities between the dimensions of educational attainment and higher education readiness could have been accomplished by utilizing multiple socio-cultural demographic backgrounds.

The research is limited to government education institutions and the study could not be undertaken on private institutions for extensive inferences. Although appropriate methods were used to obtain verified and wide-ranging details, additional parameters may be established to account for the comprehensiveness of the data gathered from district-level education authorities and higher education administrative authorities.

References

References

- Abdollahi, A., Abu Talib, M., Yaacob, S. N., & Ismail, Z. (2015). The Role of Hardiness in Decreasing Stress and Suicidal Ideation in a Sample of Undergraduate Students. *Journal of Humanistic Psychology, 55*(2), 202–222. <https://doi.org/10.1177/0022167814543952>
- Abowitz, K. K. (2000). Democratic communities and business/education “partnerships” in secondary education. *The Urban Review, 32*, 313-341.
- Abry, T., Rimm-Kaufman, S. E., & Curby, T. W. (2017). Are all program elements created equal? Relations between specific social and emotional learning components and teacher–student classroom interaction quality. *Prevention Science, 18*(2), 193-203.
- Acharya, L. (2016). Educational aspiration, dropout and TEVT. *Journal of Training and Development, 2*, 69-78.
- Acosta, P. M. (2018). The role of cognitive and socio-emotional skills in labor markets. *IZA World of Labor*.
- Adewumi, O. M. (2022). The effect of quality of education on disruptive innovations: a cross-country analysis. *International Journal of Business Innovation and Research, 27*(2), 263-280.
- Agarwal, P. (2006). Higher education in India: The need for change (No. 180). Working paper.
- Agger, C., Meece, J., & Byun, S. Y. (2018). The influences of family and place on rural adolescents’ educational aspirations and post-secondary enrollment. *Journal of youth and adolescence, 47*, 2554-2568.
- Agherdien, N., Mey, M., & Poisat, P. (2018). Factors impacting on students’ readiness for higher education. *Africa Education Review, 15*(1), 52-71.
- Aghion, P., Hasanov, F., & Cherif, R. (2021). Competition, innovation, and inclusive growth.
- Agrawal, T., & Agrawal, A. (2017). Vocational education and training in India: a labour market perspective. *Journal of Vocational Education & Training, 69*(2), 246-265.
- Akos, P., Lambie, G. W., Milsom, A., & Gilbert, K. (2007). Early Adolescents’ Aspirations and Academic Tracking: An Exploratory Investigation. *Professional School Counseling, 11*(1), 2156759X0701100. <https://doi.org/10.1177/2156759X0701100108>

Alam, A. (2022, April). Psychological, Sociocultural, and Biological Elucidations for Gender Gap in STEM Education: A Call for Translation of Research into Evidence-Based Interventions. In Alam, A.(2022). Psychological, Sociocultural, and Biological Elucidations for Gender Gap in STEM Education: A Call for Translation of Research into Evidence-Based Interventions. Proceedings of the 2nd International Conference on Sustainability and Equity (ICSE-2021). Atlantis Highlights in Social S.

Alex Carpenter, Rachel Wilson, *The International Journal of Management Education*, <https://doi.org/10.1016/j.ijme.2021.100541>

Alex Carpenter, Rachel Wilson, *The International Journal of Management Education*, <https://doi.org/10.1016/j.ijme.2021.100541>

Alexander, D. S. (2020). Concurrent triangulation mixed methods research: Designing and conducting a childhood obesity study in a rural setting. SAGE Publications Ltd.

Alexander, R. (2008). Education for all, the quality imperative and the problem of pedagogy. Institute of Education, University of London.

Alli Klapp (2015) Does grading affect educational attainment? A longitudinal study, *Assessment in Education: Principles, Policy & Practice*, 22:3, 302-323, DOI:10.1080/0969594X.2014.988121

Allik, J., & McCrae, R. R. (2004). Toward a geography of personality traits: Patterns of profiles across 36 cultures. *Journal of cross-cultural psychology*, 35(1), 13-28.

Almeida, F. (2018). Strategies to perform a mixed methods study. *European Journal of Education Studies*.

Amalia, R. T., & von Korfflesch, H. F. (2021). Entrepreneurship education in Indonesian higher education: mapping literature from the Country's perspective. *Entrepreneurship Education*, 4, 291-333.

Amaratunga, D., & Senaratne, S. (2009). Principles of Integrating Research into Teaching in Higher Education: Built Environment Perspective. *International Journal of Construction Education and Research*, 5(3), 220–232. <https://doi.org/10.1080/15578770903152856>

Amelink, C. (2009). Literature overview: Gender differences in science achievement. *SWE-AWE CASEE Overviews*, 3(2), 1-22.

Amida, A., Algarni, S., & Stupnisky, R. (2021). Testing the relationships of motivation, time management and career aspirations on graduate students' academic success. *Journal of Applied Research in Higher Education*, 13(5), 1305-1322.

Anan'ev B.G. Chelovek kak predmet poznaniya [Person as a Subject of Cognition]. Psychological Readiness of Students for Pedagogical Activity]. Soviet Pedagogy, 1984, no. 5.

Aneesya Panicker, Rakesh Kumar Agrawal, Utkal Khandelwal, "Inclusive workplace and organizational citizenship behavior: study of a higher education institution, India", Equality, Diversity and Inclusion: An International Journal, <https://doi.org/10.1108/EDI-03-2017-0054>

Anner, M., Pons-Vignon, N., & Rani, U. (2019). For a future of work with dignity: A critique of the World Bank Development Report, the changing nature of work. *Global Labour Journal*, 10(1), 2-19.

Annisa, P. S. M., Saragih, B., & Bancin, H. T. D. (2021). Teacher Roles Used in English Classroom Interaction. *Jurnal Darma Agung*, 29(1), 135-145.

Areepattamannil, S., Freeman, J. G., & Klinger, D. A. (2011). Intrinsic motivation, extrinsic motivation, and academic achievement among Indian adolescents in Canada and India. *Social Psychology of Education*, 14, 427-439.

Armstrong, A., & Stedman, R. C. (2019). Understanding local environmental concern: the importance of place. *Rural Sociology*, 84(1), 93-122.

Arnim, Wiek, Michael J. Bernstein, Rider W. Foley, Matthew Cohen, Nigel Forrest, Christopher Kuzdas, Braden Kay, & Lauren Withycombe Keeler. (2015). Operationalising Competencies in Higher Education for Sustainable Development. In M. Barth, G. Michelsen, M. Rieckmann, & I. Thomas (Eds.), *Routledge Handbook of Higher Education for Sustainable Development* (0 ed.). Routledge. <https://doi.org/10.4324/9781315852249>

Arnold, M. L., Newman, J. H., Gaddy, B. B., & Dean, C. B. (2005). A look at the condition of rural education research: Setting a direction for future research. *Journal of research in Rural Education*, 20(6), 1-25.

Asikainen, H., Blomster, J., & Virtanen, V. (2018). From functioning communality to hostile behaviour: Students' and teachers' experiences of the teacher–student relationship in the academic community. *Journal of Further and Higher Education*, 42(5), 633-648.

Askew, S. (2002). Gender stereotyping and career expectations. *Journal of the National Institute for Career Education and Counselling*, 6(1), 8-18.

Attard, C. (2011). "My favourite subject is maths. For some reason no-one really agrees with me": student perspectives of mathematics teaching and learning in the upper primary classroom. *Mathematics Education Research Journal*, 23, 363-377.

Auld, E., Rapple, J., & Morris, P. (2019). PISA for Development: How the OECD and World Bank shaped education governance post-2015. *Comparative Education*, 55(2), 197-219.

Babadimas, C., Boras, C., Rendoulis, N., Welsh, M. B., & Begg, S. (2019). Transferability of calibration training between knowledge domains. <https://Cognitivesciencesociety.Org/Cogsci-2019/>.
<https://digital.library.adelaide.edu.au/dspace/handle/2440/137185>

Bandyopadhyay, M., Chugh, S. (2020). Status of Secondary Education in India: A Review of Status, Challenges and Policy Issues. In: Tilak, J. (eds) *Universal Secondary Education in India*. Springer, Singapore. https://doi.org/10.1007/978-981-15-5366-0_2

Bandyopadhyay, S., Bardhan, A., Dey, P., Bhattacharyya, S., Bandyopadhyay, S., Bardhan, A., ... & Bhattacharyya, S. (2021). Exploring Rural–Urban Education Divide in India. *Bridging the Education Divide Using Social Technologies: Explorations in Rural India*, 163-190.

Banerjee, A. V., & Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs.

Barhate, B., & Dirani, K. M. (2022). Career aspirations of generation Z: a systematic literature review. *European Journal of Training and Development*, 46(1/2), 139-157.

Barnes, W., Slate, J. R., & Rojas-LeBouef, A. (2010). College-readiness and academic preparedness: The same concepts?. *Current Issues in Education*, 13(4).

Barradell, S., Barrie, S., & Peseta, T. (2018). Ways of thinking and practising: Highlighting the complexities of higher education curriculum. *Innovations in Education and Teaching International*, 55(3), 266-275.

Barrett, P., Treves, A., Shmis, T., & Ambasz, D. (2019). *The impact of school infrastructure on learning: A synthesis of the evidence*.

Bašová, S., & Štefancová, L. (2017). Creative and smart public spaces. *International Journal of Liberal Arts and Social Science*, 5(1), 17-33.

Battersby, M., & Bailin, S. (2018). *Inquiry: A new paradigm for critical thinking* (Vol. 7). University of Windsor.

Beal, S. J., & Crockett, L. J. (2010). Adolescents' occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology*, 46(1), 258–265. <https://doi.org/10.1037/a0017416>

Bennett, B., & Smilanich, P. (1994). Classroom management: A thinking & caring approach. Bookation.

Berkowitz, R., Moore, H., Astor, R. A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research*, 87(2), 425-469.

Bernardo, A., Zhang, L.-F., & Callueng, C. (2002). Thinking Styles and Academic Achievement Among Filipino Students. *The Journal of Genetic Psychology*, 163, 149–163. <https://doi.org/10.1080/00221320209598674>

Bertocchi, G., & Bozzano, M. (2020). Gender gaps in education (pp. 1-31). Springer International Publishing.

Bessant, J., Caffyn, S., & Gallagher, M. (2001). An evolutionary model of continuous improvement behaviour. *Technovation*, 21(2), 67-77.

Best, M., Knight, P., Lietz, P., Lockwood, C., Nugroho, D., & Tobin, M. (2013). The impact of national and international assessment programmes on education policy, particularly policies regarding resource allocation and teaching and learning practices in developing countries.

Betti, G., D'Agostino, A., & Neri, L. (2011). Educational mismatch of graduates: a multidimensional and fuzzy indicator. *Social Indicators Research*, 103, 465-480.

Bhattacharjee, A., & Ray, A. (2013). Possibilities of Developing Concept of Career Readiness among Indian Students at Post-Secondary Level; A Review Based Analysis. *Indian Journal of Higher Education*, 4(2).

Bingham, S., & Whitebread, D. (2012). School readiness. A critical review of perspectives and evidence.

Blankenship, T. L., Slough, M. A., Calkins, S. D., Deater-Deckard, K., Kim-Spoon, J., & Bell, M. A. (2019). Attention and executive functioning in infancy: Links to childhood executive function and reading achievement. *Developmental Science*, 22(6), e12824.

Bloom, D. E., & Canning, D. (2009). Population health and economic growth. *Health and growth*, 24.

Boix-Tomàs, R., Champollion, P., & Duarte, A. M. (2015). Teaching and learning in rural contexts. *Sisyphus-Journal of Education*, 3(2), 28-47.

Bong, M. (2009). Age-related differences in achievement goal differentiation. *Journal of educational psychology*, 101(4), 879.

- Booth, C. (2021). Poverty maps of London.
- Boshuizen, H. P. A., Jochems, W. M. G., Eraut, M., & Gijssels, W. H. (2003). Expertise development : the transition between school and work. Open Universiteit Nederland.
- Botwinick, J. (2013). Cognitive processes in maturity and old age. Springer.
- Boud , D. J & Lublin , J. (1983). Self-assessment in Professional Education. A Report to the Commonwealth Research and Development Committee. Tertiary Education Research Centre.
- Bowden, J. L. H., Tickle, L., & Naumann, K. (2021). The four pillars of tertiary student engagement and success: a holistic measurement approach. *Studies in Higher Education*, 46(6), 1207-1224.
- Bowman, B. T., Donovan, M. S., & Burns, M. S. (2001). *Eager To Learn: Educating Our Preschoolers*. [Full Report and Executive Summary.]. National Academy Press, 2101 Constitution Avenue, N. <https://eric.ed.gov/?id=ED447963>
- Braun, S. S., Roeser, R. W., Mashburn, A. J., & Skinner, E. (2019). Middle school teachers' mindfulness, occupational health and well-being, and the quality of teacher-student interactions. *Mindfulness*, 10, 245-255.
- Braun, V., & Wilkinson, S. (2005, November). Vagina equals woman? On genitals and gendered identity. In *Women's Studies International Forum* (Vol. 28, No. 6, pp. 509-522). Pergamon.
- Brock, L. L., Nishida, T. K., Chiong, C., Grimm, K. J., & Rimm-Kaufman, S. E. (2008). Children's perceptions of the classroom environment and social and academic performance: A longitudinal analysis of the contribution of the Responsive Classroom approach. *Journal of school psychology*, 46(2), 129-149.
- Brown, S., & Knight, P. (1994). *Assessing Learners in Higher Education*. Teaching and Learning in Higher Education Series. Kogan Page Ltd.
- Brundiers, K., Barth, M., Cebrián, G., Cohen, M., Diaz, L., Doucette-Remington, S., ... & Zint, M. (2021). Key competencies in sustainability in higher education—toward an agreed-upon reference framework. *Sustainability Science*, 16, 13-29.
- Burke, A. (2019). Student retention models in higher education: A literature review. *College and University*, 94(2), 12-21.
- Burke, J., & Maceli, M. (2020). Technology skills in the workplace: Information professionals' current use and future aspirations.

Butool, F. (2018). Occupational mobility among scheduled caste workers: A study in the Pachambha village of Kaisarganj block in Bahraich District, Uttar Pradesh. *Contemporary Voice of Dalit*, 10(2), 160-172.

Cahyanto, M. A. S., Ashadi, A., & Saputro, S. (2019). An analysis of gender difference on students' misconceptions in learning the material classification and its changes. *Jurnal Inovasi Pendidikan IPA*, 5(2), 157-167.

Cai, Y. (2013). China's new demographic reality: learning from the 2010 census. *Population and development review*, 39(3), 371-396.

Cai, Y., Ma, J., & Chen, Q. (2020). Higher Education in Innovation Ecosystems. *Sustainability*, 12(11), 4376. <https://doi.org/10.3390/su12114376>

Canter, L. (1989). Assertive discipline: More than names on the board and marbles in a jar. *Phi Delta Kappan*, 71(1), 57-61.

Cardichon, J., Darling-Hammond, L., Yang, M., Scott, C., Shields, P. M., & Burns, D. (2020). Inequitable Opportunity to Learn: Student Access to Certified and Experienced Teachers. Learning Policy Institute.

Carlile, P. R., & Reberich, E. S. (2003). Into the Black Box: The Knowledge Transformation Cycle. *Management Science*, 49(9).

Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of youth and adolescence*, 31, 31-44.

Carlton, M. P., & Winsler, A. (1999). School Readiness: The Need for a Paradigm Shift. *School Psychology Review*, 28(3), 338–352. <https://doi.org/10.1080/02796015.1999.12085969>

Caroline Sarojini Hart (2016) How Do Aspirations Matter? *Journal of Human Development and Capabilities*, 17:3, 324-341, DOI: 10.1080/19452829.2016.1199540

Caroline Sarojini Hart (2016) How Do Aspirations Matter?, *Journal of Human Development and Capabilities*, 17:3, 324-341, DOI: 10.1080/19452829.2016.1199540

Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science*, 312(5782), 1913-1915.

Carvacho, H., Zick, A., Haye, A., González, R., Manzi, J., Kocik, C., & Bertl, M. (2013). On the relation between social class and prejudice: The roles of education, income, and ideological attitudes. *European Journal of Social Psychology*, 43(4), 272-285.

Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in pharmacy teaching and learning*, 10(6), 807-815.

Chatterjee, E., Desai, S., & Vanneman, R. (2018). INDIAN PARADOX: RISING EDUCATION, DECLINING WOMENS'EMPLOYMENT. *Demographic research*, 38, 855.

Chavda, M. D., & Trivedi, B. S. (2015). Impact of age on skills development in different groups of students. *International Journal of Information and Education Technology*, 5(1), 55.

Chelysheva, I., & Mikhaleva, G. (2023). UNIVERSITY STUDENTS'READINESS FOR TEACHING MEDIA COMPETENCE. *Медиаобразование*, (1), 17-23.

Cheng, H., & Furnham, A. (2014). The associations between parental socio-economic conditions, childhood intelligence, adult personality traits, social status and mental well-being. *Social indicators research*, 117, 653-664, DOI: 10.1007/s11205-013-0364-1

Cheng, M., Adekola, O., Albia, J., & Cai, S. (2021). Employability in higher education: A review of key stakeholders' perspectives. *Higher Education Evaluation and Development*, 16(1), 16–31. <https://doi.org/10.1108/HEED-03-2021-0025>

Chernyshenko, O., M. Kankaraš and F. Drasgow (2018), "Social and emotional skills for student success and well-being: Conceptual framework for the OECD Study on Social and Emotional Skills", OECD Education Working Papers, No. 173, OECD Publishing, Paris, <http://dx.doi.org/10.1787/db1d8e59-en>.

Chervinska, I., Chervinskyi, A., Derevianko, O., & Haliuk, N. (2021). Implementation of multicultural ideas in the educational space of higher educational establishments.

Cheryl Holcomb-McCoy & Anita Young. (2011). *High School Counseling: Preparing Youth for College, Careers, and Other Alternatives*. In *Career Counseling* (2nd ed.). Routledge.

Child-Friendly Schools Manual | UNICEF. (2012). <https://www.unicef.org/documents/child-friendly-schools-manual> children from an Australian longitudinal community sample. *Educational Psychology*, 31

Choi, B. (2021). I'm Afraid of not succeeding in learning: Introducing an instrument to measure higher education students' fear of failure in learning. *Studies in Higher Education*, 46(11), 2107-2121.

Choudhury, P., Ganguli, I., & Gaulé, P. (2023). Top talent, elite colleges, and migration: Evidence from the Indian Institutes of technology. *Journal of Development Economics*, 103120.

Choy, S., & Le, A. H. (2023). Worklife learning: Contributions of tertiary education. In *Sustaining Employability Through Work-life Learning: Practices and Policies* (pp. 261-283). Singapore: Springer Nature Singapore.

Chudgar, A., Chandra, M., Iyengar, R., & Shanker, R. (2015). School resources and student achievement: Data from rural India. *Prospects*, 45(4), 515-531.

Coertjens, L., Brahm, T., Trautwein, C., & Lindblom-Ylänne, S. (2017). Students' transition into higher education from an international perspective. *Higher Education*, 73, 357-369.

Coertjens, L., Brahm, T., Trautwein, C., & Lindblom-Ylänne, S. (2017). Students' transition into higher education from an international perspective. *Higher Education*, 73, 357-369.

Cohen, J. E. (2008). Make secondary education universal. *Nature*, 456(7222), 572-573.

Conley, D. T. (2007). *Redefining College Readiness*.

Contreras, D., González, L., Láscar, S., & López, V. (2022). Negative teacher–student and student–student relationships are associated with school dropout: Evidence from a large-scale longitudinal study in Chile. *International Journal of Educational Development*, 91, 102576.

Cresswell, C., & Speelman, C. P. (2020). Does mathematics training lead to better logical thinking and reasoning? A cross-sectional assessment from students to professors. *PLOS ONE*, 15(7), e0236153. <https://doi.org/10.1371/journal.pone.0236153>

Cresswell, J., & Underwood, C. (2004). Location, location, location: Implications of geographic situation on Australian student performance in PISA 2000.

Croak, M. (2018). *The Effects of STEM Education on Economic Growth*.

Crouch, E., Radcliff, E., Hung, P., & Bennett, K. (2019). Challenges to school success and the role of adverse childhood experiences. *Academic Pediatrics*, 19(8), 899-907.

Crow, T. J., Crow, L. R., Done, D. J., & Leask, S. (1998). Relative hand skill predicts academic ability: global deficits at the point of hemispheric indecision. *Neuropsychologia*, 36(12), 1275-1282.

D'hondt, F., Maene, C., Vervaeet, R., Van Houtte, M., & Stevens, P. A. (2021). Ethnic discrimination in secondary education: Does the solution lie in multicultural education and the ethnic school composition?. *Social Psychology of Education*, 24(5), 1231-1258.

D'yachenko M.I., Kandybovich L.A.

Dacre Pool, L., & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. *Education + Training*, 49(4), 277–289. <https://doi.org/10.1108/00400910710754435>

Dandapat, A. K., & Sengupta, D. (2012). Higher education of women: Does gender stereotyping matter?. *International Journal of Sociology and Anthropology*, 4(8), 238.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>

Das, S., & Singh, A. (2013). The impact of temporary work guarantee programs on children's education: Evidence from the Mahatma Gandhi National Rural Guarantee Act from India. Available at SSRN 2368011.

Davies, L. (2000). Why kick the “L” out of “LEarning”? The development of students’ employability skills through part-time working. *Education+ Training*, 42(8), 436-445.

Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-methods research: A discussion on its types, challenges, and criticisms. *Journal of Practical Studies in Education*, 2(2), 25-36.

De Witte, K., & Rogge, N. (2013). Dropout from secondary education: All's well that begins well. *European journal of education*, 48(1), 131-149.

de Wolff, P., & van Slijpe, A. R. (1973). The relation between income, intelligence, education and social background. *European Economic Review*, 4(3), 235-264.

Deller, S. C., Tsai, T. H., Marcouiller, D. W., & English, D. B. (2001). The role of amenities and quality of life in rural economic growth. *American journal of agricultural economics*, 83(2), 352-365.

Deloitte. (2023a). Deloitte tech trends 2023 – India perspective. <https://www2.deloitte.com/in/en/pages/technology/articles/tech-trends-2023.html>

Deming, D. J., & Noray, K. (2020). Earnings dynamics, changing job skills, and STEM careers. *The Quarterly Journal of Economics*, 135(4), 1965-2005.

deyatel’nosti budushchikh pedagogov professional’nogo obucheniya v protsesse izucheniya

Di Stasio, M. R., Savage, R., & Burgos, G. (2016). Social comparison, competition and teacher–student relationships in junior high school classrooms predicts bullying and victimization. *Journal of Adolescence*, 53, 207-216.

Dobkin, C., & Ferreira, F. (2010). Do school entry laws affect educational attainment and labor market outcomes?. *Economics of education review*, 29(1), 40-54.

Doepke, M., & Tertilt, M. (2019). Does female empowerment promote economic development?. *Journal of Economic Growth*, 24, 309-343.

Dohm, A., & Shniper, L. (2007). Employment outlook: 2006–16. *Monthly Labor Review*, 86-125.

Dossi, G., Figlio, D., Giuliano, P., & Sapienza, P. (2021). Born in the family: Preferences for boys and the gender gap in math. *Journal of Economic Behavior & Organization*, 183, 175-188.

Duckworth, A. L., & Yeager, D. S. (2015). Measurement Matters: Assessing Personal Qualities Other Than Cognitive Ability for Educational Purposes. *Educational Researcher*, 44(4), 237–251. <https://doi.org/10.3102/0013189X15584327>

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087–1101. <https://doi.org/10.1037/0022-3514.92.6.1087>

Dumith, S. C., Gigante, D. P., Domingues, M. R., & Kohl III, H. W. (2011). Physical activity change during adolescence: a systematic review and a pooled analysis. *International journal of epidemiology*, 40(3), 685-698.

Dutt, S. (2010). Girls' education as freedom?. *Indian Journal of Gender Studies*, 17(1), 25-48.

Easterly, W., & Levine, R. (2016). The European origins of economic development. *Journal of Economic Growth*, 21, 225-257.

El Damaty, S., Darcey, V. L., McQuaid, G. A., Picci, G., Stoianova, M., Mucciarone, V., ... & VanMeter, A. S. (2022). Introducing an adolescent cognitive maturity index. *Frontiers in psychology*, 13, 1017317.

Ellemers, N. (2018). Gender stereotypes. *Annual review of psychology*, 69, 275-298.

Ettington, D. R., & Camp, R. R. (2002). Facilitating Transfer of Skills between Group Projects and Work Teams. *Journal of Management Education*, 26(4), 356–379. <https://doi.org/10.1177/105256290202600404>

Evans, D. K., Akmal, M., & Jakiela, P. (2020). Gender gaps in education: The long view. *IZA Journal of Development and Migration*, 12(1).

Evans, D., Borriello, G. A., & Field, A. P. (2018). A review of the academic and psychological impact of the transition to secondary education. *Frontiers in psychology*, 9, 1482.

Everwijn, S. E. M., Bomers, G. B. J., & Knubben, J. A. (1993). Ability- or competence-based education: Bridging the gap between knowledge acquisition and ability to apply. *Higher Education*, 25(4), 425–438. <https://doi.org/10.1007/BF01383845>

Fabregas, R., Kremer, M., & Schilbach, F. (2019). Realizing the potential of digital development: The case of agricultural advice. *Science*, 366(6471), eaay3038.

Fägerlind, I., & Saha, L. J. (2016). *Education and national development: A comparative perspective*. Elsevier.

Fahs, B. (2012). Breaking body hair boundaries: Classroom exercises for challenging social constructions of the body and sexuality. *Feminism & Psychology*, 22(4), 482-506.

Fajaryati, N., & Akhyar, M. (2021, March). Instrument Development For Evaluating Students' Employability Skills. In *Journal of Physics: Conference Series* (Vol. 1842, No. 1, p. 012035). IOP Publishing.

Farooq, M. S., Chaudhry, A. H., Shafiq, M., & Berhanu, G. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. *Journal of quality and technology management*, 7(2), 1-14.

Farquhar, J., Michels, N., & Robson, J. (2020). Triangulation in industrial qualitative case study research: Widening the scope. *Industrial Marketing Management*, 87, 160-170.

Felten, P., & Lambert, L. M. (2020). *Relationship-rich education: How human connections drive success in college*. Jhu Press.

Fennie, T., Mayman, Y., van Louw, C., Useh, E., & Kombora, M. (2020). Psychosocial factors impacting the college adjustment of undergraduate students: A scoping review. *Journal of Psychology in Africa*, 30(2), 96-105.

Ferguson Patrick, K., Macqueen, S., & Reynolds, R. (2014). Pre-service teacher perspectives on the importance of global education: World and classroom views. *Teachers and Teaching*, 20(4), 470-482.

Ferrante, F. (2009), Education, Aspirations and Life Satisfaction. *Kyklos*, 62: 542-562. <https://doi.org/10.1111/j.1467-6435.2009.00450.x>

Ferreira, M., Martinsone, B., & Talić, S. (2020). Promoting sustainable social emotional learning at school through relationship-centered learning environment, teaching methods and formative assessment. *Journal of Teacher Education for Sustainability*, 22(1), 21-36.

Ferrer, J., Ringer, A., Saville, K., A Parris, M., & Kashi, K. (2020). Students' motivation and engagement in higher education: The importance of attitude to online learning. *Higher Education*, 1-22.

Festinger, L. (1957). Social comparison theory. *Selective Exposure Theory*, 16, 401.

Figueroa, L. L., Lim, S., & Lee, J. (2016). Investigating the relationship between school facilities and academic achievements through geographically weighted regression. *Annals of GIS*, 22(4), 273-285.

Fischer, F., Schult, J., & Hell, B. (2013). Sex differences in secondary school success: why female students perform better. *European journal of psychology of education*, 28, 529-543.

Fleming, M. J., & Grace, D. M. (2014). Increasing participation of rural and regional students in higher education. *Journal of higher education policy and management*, 36(5), 483-495.

Flook, L., Repetti, R. L., & Ullman, J. B. (2005). Classroom social experiences as predictors of academic performance. *Developmental psychology*, 41(2), 319.

Folbre, N. (2019). Women on their own: global patterns of female headship. In *The women and international development annual* (pp. 89-126). Routledge.

Foley, K., Gallipoli, G., & Green, D. A. (2014). Ability, parental valuation of education, and the high school dropout decision. *Journal of Human Resources*, 49(4), 906-944.

Fong Boh, W., Nguyen, T. T., & Xu, Y. (2013). Knowledge transfer across dissimilar cultures. *Journal of Knowledge Management*, 17(1), 29-46. <https://doi.org/10.1108/13673271311300723>

Fook, C. Y., & Sidhu, G. K. (2015). Investigating learning challenges faced by students in higher education. *Procedia-social and behavioral sciences*, 186, 604-612.

Foote, K., Henderson, C., Knaub, A., Dancy, M., & Beichner, R. (2019). Try, try again: the power of timing and perseverance in higher education reform. *Change: The Magazine of Higher Learning*, 51(1), 50-57.

for Activity]. Minsk, BGU Publ., 1976. 383 p.

Fortin, L., Marcotte, D., Diallo, T., Potvin, P., & Royer, É. (2013). A multidimensional model of school dropout from an 8-year longitudinal study in a general high school population. *European journal of psychology of education*, 28, 563-583.

Fragoso, R., Rocha-Junior, W., & Xavier, A. (2020). Determinant factors of entrepreneurial intention among university students in Brazil and Portugal. *Journal of Small Business & Entrepreneurship*, 32(1), 33-57.

Gaertner, M. N., & McClarty, K. L. (2015). Performance, perseverance, and the full picture of college readiness. *Educational Measurement: Issues and Practice*, 34(2), 20-33.

Ganguly, S., Kulkarni, M., & Gupta, M. (2017). Predictors of academic performance among Indian students. *Social Psychology of Education*, 20, 139-157.

Gathercole, S. E., Pickering, S. J., Knight, C., & Stegmann, Z. (2004). Working memory skills and educational attainment: Evidence from national curriculum assessments at 7 and 14 years of age. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 18(1), 1-16.

Gay, A. S., Carter, C. W., & La Voy, C. L. (2020). An Innovative Approach to Improve College Readiness in Mathematics. *Invested Stayers: How Teachers Thrive in Challenging Times*, 121.

Geller, L. L., & Greenberg, M. (2009). Managing the transition process from high school to college and beyond: Challenges for individuals, families, and society. *Social Work in Mental Health*, 8(1), 92-116.

Geribo, T. B. (2012). *Gender and Education*. GRIN Verlag.

Gerstorff, D., Herlitz, A., & Smith, J. (2006). Stability of sex differences in cognition in advanced old age: the role of education and attrition. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 61(4), P245-P249.

Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. *Cogent Education*, 7(1), 1738184.

Ghosh, S. (2019). Inequalities in demand and access to early childhood education in India. *International Journal of Early Childhood*, 51(2), 145-161.

Gibb, S. J., Fergusson, D. M., & Horwood, L. J. (2008). Gender differences in educational achievement to age 25. *Australian Journal of Education*, 52(1), 63-80.

Gibbs, R. (2005). Education as a rural development strategy. *Amber Waves: The Economics of Food, Farming, Natural Resources, and Rural America*, 20-25.

Gibson, D. E. (2004). Role models in career development: New directions for theory and research. *Journal of Vocational Behavior*, 65(1), 134–156. [https://doi.org/10.1016/S0001-8791\(03\)00051-4](https://doi.org/10.1016/S0001-8791(03)00051-4)

Gifford, R., & Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A review. *International journal of psychology*, 49(3), 141-157.

Giuliano, P. (2017). *Gender: An historical perspective*.

Goldstein, S. E., Boxer, P., & Rudolph, E. (2015). Middle school transition stress: Links with academic performance, motivation, and school experiences. *Contemporary School Psychology*, 19, 21-29.

Golsteyn, B. H., & Schils, T. (2014). Gender gaps in primary school achievement: a decomposition into endowments and returns to IQ and non-cognitive factors. *Economics of Education Review*, 41, 176-187.

Goretzko, D., Pham, T. T. H., & Bühner, M. (2021). Exploratory factor analysis: Current use, methodological developments and recommendations for good practice. *Current psychology*, 40, 3510-3521.

Graber, R., Pichon, F., & Carabine, E. (2015). Psychological Resilience—State of knowledge and future research agendas.

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: Time for a map? *The Journal of Continuing Education in the Health Professions*, 26(1), 13–24. <https://doi.org/10.1002/chp.47>

Greene, J. P., & Forster, G. (2003). Public High School Graduation and College Readiness Rates in the United States. Education Working Paper No. 3. Center for Civic Innovation.

Griffith, D. (2017). *Teacher Absenteeism in Charter and Traditional Public Schools*. Thomas B. Fordham Institute.

Grossman, H., & Grossman, S. H. (1994). *Gender issues in education*. Allyn and Bacon, A Division of Simon & Schuster, Inc., 160 Gould Street, Needham Heights, MA 02194.

Guenther, J., Halsey, J., & Osborne, S. (2015). From paradise to beyond: Geographical constructs and how they shape education in the 'bush'. *Australian and International Journal of Rural Education*, 25(3), 62-79.

Guerin, D. W., Gottfried, A. W., Oliver, P. H., & Thomas, C. W. (1994). Temperament and school functioning during early adolescence. *The Journal of Early Adolescence*, 14(2), 200-225.

Guha, P. (2022). The effects of school-based management on Indian government schools. *Review of Development Economics*, 26(4), 2090-2108.

Guo, L., Huang, J., & Zhang, Y. (2019). Education development in China: Education return, quality, and equity. *Sustainability*, 11(13), 3750.

Gupta, A. (2008). International trends and private higher education in India. *International Journal of Educational Management*, 22(6), 565-594.

Gupta, K., & Hall, R. P. (2020). Understanding the what, why, and how of becoming a smart city: Experiences from Kakinada and Kanpur. *Smart Cities*, 3(2), 232-247.

Gutkina, N.I. (2006). *Psikhologicheskaya gotovnost' k shkole* [Psychological readiness for school].

Gutman, L. M., & Schoon, I. (2012). Correlates and consequences of uncertainty in career aspirations: Gender differences among adolescents in England. *Journal of Vocational Behavior*, 80(3), 608–618. <https://doi.org/10.1016/j.jvb.2012.02.002>

Haghighi, M., & Gerber, M. (2019). Does mental toughness buffer the relationship between perceived stress, depression, burnout, anxiety, and sleep? *International Journal of Stress Management*, 26(3), 297–305. <https://doi.org/10.1037/str0000106>

Hajovsky, D. B., Chesnut, S. R., & Jensen, K. M. (2020). The role of teachers' self-efficacy beliefs in the development of teacher-student relationships. *Journal of school psychology*, 82, 141-158.

Hakel M. & D. Halpern. (2005). *How Far Can Transfer Go: Making Transfer Happen across Physical, Temporal and Conceptual Space*. In J Mestre (Ed.), *Transfer of Learning from a Modern Multidisciplinary Perspective*. CT: Information Age Publishing.

Halcomb, E. J., & Hickman, L. (2015). *Mixed methods research*.

Hamm, J. V., Lambert, K., Agger, C. A., & Farmer, T. W. (2013). Promotive peer contexts of academic and social adjustment among rural African American early adolescent boys. *American Journal of Orthopsychiatry*, 83(2-3), 278.

Hannover, B., & Kessels, U. (2004). Self-to-prototype matching as a strategy for making academic choices. Why high school students do not like math and science. *Learning and instruction*, 14(1), 51-67.

Hanushek, E. A. (2016). Will more higher education improve economic growth?. *Oxford Review of Economic Policy*, 32(4), 538-552.

Hanushek, E. A., & Woessmann, L. (2010). The cost of low educational achievement in the European Union. European Expert Network on Economics of Education.

Hanushek, E. A., & Woessmann, L. (2019). The economic benefits of improving educational achievement in the European Union: An update and extension. Publications Office of the European Union.

Harcourt, W. (2009). *Body politics in development: Critical debates in gender and development*. Bloomsbury Publishing.

Hart, S. A. (2016). Precision Education Initiative: Moving Toward Personalized Education. *Mind, Brain, and Education*, 10(4), 209–211. <https://doi.org/10.1111/mbe.12109>

Healy, A., & Morgan, K. (2012). Spaces of innovation: Learning, proximity and the ecological turn. *Regional Studies*, 46(8), 1041-1053.

Herman, K. C., Reinke, W. M., Dong, N., & Bradshaw, C. P. (2022). Can effective classroom behavior management increase student achievement in middle school? Findings from a group randomized trial. *Journal of Educational Psychology*, 114(1), 144.

High, P. C. (2008). School Readiness. *Pediatrics*, 121(4), e1008–e1015. <https://doi.org/10.1542/peds.2008-0079>

Hiver, P., Al-Hoorie, A. H., & Mercer, S. (Eds.). (2020). Student engagement in the language classroom (Vol. 11). *Multilingual Matters*.

Hoxby, C. M., & Stange, K. (Eds.). (2020). *Productivity in higher education*. University of Chicago Press.

https://ncert.nic.in/pdf/programmes/AISES/8th_AISES_Concise_Report.pdf

Hughes, D., Mann, A., Barnes, S. A., Baldauf, B., & McKeown, R. (2016). Careers education: International literature review.

Humphreys, P., Greenan, K., & McIlveen, H. (1997). Developing work-based transferable skills in a university environment. *Journal of European Industrial Training*, 21(2), 63–69. <https://doi.org/10.1108/03090599710161739>

- Hyman, H. H. (1942). The psychology of status. *Archives of psychology*, 269
- Hystad, S. W., Eid, J., & Brevik, J. I. (2011). Effects of psychological hardiness, job demands, and job control on sickness absence: A prospective study. *Journal of Occupational Health Psychology*, 16(3), 265–278. <https://doi.org/10.1037/a0022904>
- Irvin, M. J., Meece, J. L., Byun, S. Y., Farmer, T. W., & Hutchins, B. C. (2011). Relationship of school context to rural youth's educational achievement and aspirations. *Journal of youth and adolescence*, 40, 1225-1242.
- Jackson, J. E. (2005). Varimax rotation. *Encyclopedia of biostatistics*, 8.
- Jain, C., & Prasad, N. (2018). Quality of secondary education in India. *Quality of Secondary Education in India*.
- Jamwal, A., Agrawal, R., Sharma, M., Kumar, V., & Kumar, S. (2021). Developing A sustainability framework for Industry 4.0. *Procedia CIRP*, 98, 430-435.
- Jana, S. K. (2020). Education in India: Goals and achievements. *Sustainable Development Goals: An Indian Perspective*, 57-77.
- Jansen, E. P., & van der Meer, J. (2012). Ready for university? A cross-national study of students' perceived preparedness for university. *The Australian Educational Researcher*, 39, 1-16.
- Jayachandran, S. (2021). Social norms as a barrier to women's employment in developing countries. *IMF Economic Review*, 69(3), 576-595.
- Jensen, M. (2015). Personality traits, learning and academic achievements. *Journal of Education and Learning*, 4(4), 91-118.
- Jo, Y., & Armstrong, T. (2018). The development of self-control in late adolescence: An analysis of trajectories and predictors of change within trajectories. *International journal of offender therapy and comparative criminology*, 62(1), 50-72.
- John Henry Newman. (1852). *The idea of a university*. University of Notre Dame Press.
- John Wang, C. K., Sproule, J., McNeill, M., Martindale, R. J., & Lee, K. S. (2011). Impact of the talent development environment on achievement goals and life aspirations in Singapore. *Journal of Applied Sport Psychology*, 23(3), 263-276.
- Jokela, M., Bleidorn, W., Lamb, M. E., Gosling, S. D., & Rentfrow, P. J. (2015). Geographically varying associations between personality and life satisfaction in the London metropolitan area. *Proceedings of the National Academy of Sciences*, 112(3), 725-730.

Jones, E. A., & Voorhees, R. A. (2002). *Defining and Assessing Learning: Exploring Competency-Based Initiatives*. National Center for Education Statistics.

Joseph Jeyaraj, J., Wald, N., & Harland, T. (2021). Higher education teachers' experiences of becoming research active: Striving for university status in the Global South. *Asia Pacific Education Review*, 22(3), 417–425. <https://doi.org/10.1007/s12564-021-09688-8>

Jovinius, J. (2015). *An investigation of the effect of geographical location of schools to the students' academic performance: A case of public secondary schools in Muleba District* (Doctoral dissertation, The Open University Of Tanzania).

Juma, A. A., & Stonier, F. (2023). Teacher Absenteeism and Poor Learning Outcome in Tanzania: Rethinking an Incentive Scheme as a Strategic Solution to the Problem. *The African Review*, 1(aop), 1-26.

Kamtsios, S., & Karagiannopoulou, E. (2012). Conceptualizing students' academic hardiness dimensions: A qualitative study. *European Journal of Psychology of Education*, 28. <https://doi.org/10.1007/s10212-012-0141-6>

kand. diss. [Formation of Readiness for SelfControl in Educational and Professional Activity

Kasen, S., Berenson, K., Cohen, P., & Johnson, J. G. (2004). The effects of school climate on changes in aggressive and other behaviors related to bullying. In *Bullying in American schools* (pp. 209-232). Routledge.

Kawaguchi, D. (2011). Actual age at school entry, educational outcomes, and earnings. *Journal of the Japanese and International Economies*, 25(2), 64-80.

Kelle, U., Kühberger, C., & Bernhard, R. (2019). How to use mixed-methods and triangulation designs: An introduction to history education research. *History Education Research Journal*.

Keresztes, A., Bender, A. R., Bodammer, N. C., Lindenberger, U., Shing, Y. L., & Werkle-Bergner, M. (2017). Hippocampal maturity promotes memory distinctiveness in childhood and adolescence. *Proceedings of the National Academy of Sciences*, 114(34), 9212-9217.

Kezar, A. J. (Ed.). (2023). *Rethinking leadership in a complex, multicultural, and global environment: New concepts and models for higher education*. Taylor & Francis.

Khan, N., Raza, M., Shakoor, M. S. A., Biswas, F., & Rahaman, M. (2023). Dynamic of population growth and its effect on land use/land cover of bahraich district in Uttar Pradesh. *Journal of Environmental Studies and Sciences*, 13(1), 124-140.

Khanna, S. (2002). Problem Areas and Solutions for Human Resource Planning in the Municipal Sector (based on a survey at the Bahraich Municipal Board). *Dynamics of Public Administration*, 11(1and2), 69-78.

Khare, M. (2014). Employment, employability and higher education in India: The missing links. *Higher Education for the Future*, 1(1), 39-62.

Khattari, P. (2017). Rural Livelihoods and Natural Disasters: Observations from Flood Affected Bahraich District of Uttar Pradesh. *Indian Anthropologist*, 47(2), 17-33.

Kim, S., Choe, I., & Kaufman, J. C. (2019). The development and evaluation of the effect of creative problem-solving program on young children's creativity and character. *Thinking Skills and Creativity*, 33, 100590.

Kingdon, G. G. (2006). Teacher characteristics and student performance in India: A pupil fixed effects approach.

Kirk, C. M., Lewis, R. K., Scott, A., Wren, D., Nilsen, C., & Colvin, D. Q. (2012). Exploring the educational aspirations–expectations gap in eighth grade students: Implications for educational interventions and school reform. *Educational Studies*, 38(5), 507-519.

Kirsch, I., Yamamoto, K., & Khorramdel, L. (2020). Design and key features of the PIAAC Survey of Adults. *Large-Scale Cognitive Assessment: Analyzing PIAAC data*, 7-26.

Kline, R. (2013). Exploratory and confirmatory factor analysis. *Applied quantitative analysis in the social sciences*, 171-207.

Knight, D. S. (2019). Are school districts allocating resources equitably? The Every Student Succeeds Act, teacher experience gaps, and equitable resource allocation. *Educational Policy*, 33(4), 615-649.

Komarraju, M., Ramsey, A., & Rinella, V. (2013). Cognitive and non-cognitive predictors of college readiness and performance: Role of academic discipline. *Learning and Individual Differences*, 24, 103-109.

Kondrashova L.V. Vospitanie npravstvenno-psihologicheskoy gotovnosti studentov k pedagogicheskoy deyatelnosti [Education of Moral

Korhonen, J., Linnanmäki, K., & Aunio, P. (2014). Learning difficulties, academic well-being and educational dropout: A person-centred approach. *Learning and individual differences*, 31, 1-10.

Kormos, E., & Wisdom, K. (2021). Rural schools and the digital divide: Technology in the learning experience. *Theory & Practice in Rural Education*, 11(1), 25-39.

Kosine, N. R., & Lewis, M. V. (2008). Growth and Exploration: Career Development Theory and Programs of Study. *Career and Technical Education Research*, 33(3), 227–243. <https://doi.org/10.5328/CTER33.3.227>

Košir, S., & Lakshminarayanan, R. (2023). Do visual constructs in social science textbooks evince gender stereotypes and bias? A case study from India. *Gender and Education*, 35(1), 69-88.

Kotásková, S. K., Procházka, P., Smutka, L., Maitah, M., Kuzmenko, E., Kopecká, M., & Hönig, V. (2018). The Impact of Education on Economic Growth: The Case of India. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 66(1).

Kreshpaj, B., Orellana, C., Burström, B., Davis, L., Hemmingsson, T., Johansson, G., ... & Bodin, T. (2020). What is precarious employment? A systematic review of definitions and operationalizations from quantitative and qualitative studies. *Scandinavian journal of work, environment & health*, 46(3), 235-247.

Krishnamurthi, M. (2003). Assessing multicultural initiatives in higher education institutions. *Assessment & Evaluation in Higher Education*, 28(3), 263-277.

Kropf, D. C. (2013). Connectivism: 21st Century's New Learning Theory. *European Journal of Open, Distance and E-Learning*, 16(2), 13-24.

Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., García-Elorrio, E., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E., Lemango, E. T., Liljestrang, J., ... Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, 6(11), e1196–e1252. [https://doi.org/10.1016/S2214-109X\(18\)30386-3](https://doi.org/10.1016/S2214-109X(18)30386-3)

Kruss, G., McGrath, S., Petersen, I. H., & Gastrow, M. (2015). Higher education and economic development: The importance of building technological capabilities. *International Journal of Educational Development*, 43, 22-31.

Kucuker, E. (2016). A comparison of the academic achievements of students with different primary school entrance age. *Education*, 137(1), 46-58.

Kuh, G. D., Kinzie, J., & Buckley, J. A. (2006). What Matters to Student Success: A Review of the Literature.

Kumar, P., Nuken, A., Datta, N., & Vyas, A. (2021). Impact of an empowerment and employability program for adolescent girls: Evidence from India. *Journal of Youth Development*, 16(2-3), 255-277.

Kundu, A., Bej, T., & Rice, M. (2021). Time to engage: Implementing math and literacy blended learning routines in an Indian elementary classroom. *Education and Information Technologies*, 26(1), 1201-1220.

Kupers, E., Lehmann-Wermser, A., McPherson, G., & Van Geert, P. (2019). Children's creativity: A theoretical framework and systematic review. *Review of Educational Research*, 89(1), 93-124.

Labianca, G., Fairbank, J. F., Thomas, J. B., Gioia, D. A., & Umphress, E. E. (2001). Emulation in academia: Balancing structure and identity. *Organization Science*, 12(3), 312-330.

Lam, S. F., Jimerson, S., Kikas, E., Cefai, C., Veiga, F. H., Nelson, B., ... & Zollneritsch, J. (2012). Do girls and boys perceive themselves as equally engaged in school? The results of an international study from 12 countries. *Journal of school psychology*, 50(1), 77-94.

Lance, L. M. (1970). *Industrialization and Urbanization of Kanpur: An Ecological and Demographic Analysis*. Purdue University.

Lauder, H., & Mayhew, K. (2020). Higher education and the labour market: an introduction. *Oxford Review of Education*, 46(1), 1-9.

Lauermann, F., Chow, A., & Eccles, J. S. (2015). Differential effects of adolescents' expectancy and value beliefs about math and English on math/science-related and human services-related career plans. *International Journal of Gender, Science and Technology*, 7(2), 205-228.

Lavy, V., & Sand, E. (2018). On the origins of gender gaps in human capital: Short-and long-term consequences of teachers' biases. *Journal of Public Economics*, 167, 263-279.

Law, K. M., Geng, S., & Li, T. (2019). Student enrollment, motivation and learning performance in a blended learning environment: The mediating effects of social, teaching, and cognitive presence. *Computers & Education*, 136, 1-12.

Laz, C. (1998, March). Act your age. In *Sociological forum* (Vol. 13, pp. 85-113). Kluwer Academic Publishers-Plenum Publishers.

Leberman, S., McDonald, L., & Doyle, S. (2006). *The transfer of learning: Participants' perspectives of adult education and training*. Gower.

Lechner, C. M., Anger, S., & Rammstedt, B. (2019). Socio-emotional skills in education and beyond: recent evidence and future research avenues. *Research handbook on the sociology of education*, 1(1), 427-453.

Lechner, C. M., Anger, S., & Rammstedt, B. (2019). Socio-emotional skills in education and beyond: recent evidence and future research avenues. *Research handbook on the sociology of education*, 1(1), 427-453.

Lee, J. F., & Chin, A. C. (2019). Are females and males equitably represented? A study of early readers. *Linguistics and Education*, 49, 52-61.

Lee, M., & Louis, K. S. (2019). Mapping a strong school culture and linking it to sustainable school improvement. *Teaching and Teacher Education*, 81, 84-96.

Lemmens, J. C., Du Plessis, G. I., & Maree, D. J. (2011). Measuring readiness and success at a higher education institution. *Journal of Psychology in Africa*, 21(4), 615-621.

Lemos, R., Muralidharan, K., & Scur, D. (2021). Personnel management and school productivity: Evidence from india (No. w28336). National Bureau of Economic Research.

Lepik, K.-L., & Krigul, M. (2016). Knowledge sharing in the process of developing a cross-border knowledge region. *Knowledge Management Research & Practice*, 14(3), 329–337. <https://doi.org/10.1057/kmrp.2014.36>

Lesaux, N. K., Vukovic, R. K., Hertzman, C., & Siegel, L. S. (2007). Context matters: The interrelatedness of early literacy skills, developmental health, and community demographics. *Early education and development*, 18(3), 497-518.

Leveson, L. (2000). Disparities in Perceptions of Generic Skills: Academics and Employers. *Industry and Higher Education*, 14(3), 157–164. <https://doi.org/10.5367/000000000101295002>

Lewin, K., & Caillods, F. (2001). Financing secondary education in developing countries: Strategies for sustainable growth (Vol. 10). France: UNESCO, International Institute for Educational Planning.

Li, Q., Xiang, G., Song, S., Xiao, M., & Chen, H. (2021). Trait self-control mediates the association between resting-state neural correlates and emotional well-being in late adolescence. *Social Cognitive and Affective Neuroscience*, 16(6), 632-641.

Lin, M., Liu, L. Y. J., & Pham, T. N. (2023). Towards developing a critical learning skills framework for master's students: Evidence from a UK university. *Thinking Skills and Creativity*, 48, 101267. <https://doi.org/10.1016/j.tsc.2023.101267>

Lipton, M. (1980). Migration from rural areas of poor countries: the impact on rural productivity and income distribution. *World development*, 8(1), 1-24.

Liu, O. L., & Wilson, M. (2009). Gender differences in large-scale math assessments: PISA trend 2000 and 2003. *Applied Measurement in Education*, 22(2), 164-184.

Lloret, S., Ferreres, A., Hernández, A., & Tomás, I. (2017). The exploratory factor analysis of items: guided analysis based on empirical data and software. *Anales de psicología*, 33(2), 417-432.

Lockett, N., Cave, F., Kerr, R., & Robinson, S. (2009). The influence of co-location in higher education institutions on small firms' perspectives of knowledge transfer. *Entrepreneurship & Regional Development*, 21(3), 265–283. <https://doi.org/10.1080/08985620802279973>

Long, D. (2012). Theories and models of student development.

Lovejoy, M., & Stone, P. (2012). Opting back in: The influence of time at home on professional women's career redirection after opting out. *Gender, Work & Organization*, 19(6), 631-653.

Luca, D., Terrero-Davila, J., Stein, J., & Lee, N. (2023). Progressive cities: Urban–rural polarisation of social values and economic development around the world. *Urban Studies*, 00420980221148388.

Luvalo, L. M. (2014). The role of higher education in social transformation and rural development. *Mediterranean Journal of Social Sciences*, 5(23), 1206.

MacJessie-Mbewe, S. (2004). Rural Communities-Education Relationship in Developing Countries: The Case of Malawi. *International Education Journal*, 5(3), 308-330.

Maclean, R. (2001). Overview: Secondary education at the crossroads. *Prospects*, 31(1), 39-45.

Madara, D. S., & Cherotich, S. (2016). Challenges Faced by Female-Students in Engineering-Education. *Journal of Education and Practice*, 7(25), 8-22.

Maddi, S. R. (2002). The story of hardiness: Twenty years of theorizing, research, and practice. *Consulting Psychology Journal: Practice and Research*, 54(3), 173–185. <https://doi.org/10.1037/1061-4087.54.3.173>

Maddi, S. R., Matthews, M. D., Kelly, D. R., Villarreal, B., & White, M. (2012). The Role of Hardiness and Grit in Predicting Performance and Retention of USMA Cadets. *Military Psychology*, 24(1), 19–28. <https://doi.org/10.1080/08995605.2012.639672>

Makina, A. (2016). The Theory of Connectivism in Enhancing Leadership/Management Competences in E-Learning in Higher Education. *African Educational Research Journal*, 4(4), 152-159.

Malmberg, L.-E., Hall, J., & Martin, A. J. (2013). Academic buoyancy in secondary school: Exploring patterns of convergence in English, mathematics, science, and physical education. *Learning and Individual Differences*, 23, 262–266. <https://doi.org/10.1016/j.lindif.2012.07.014>

Marciniak, J., Johnston, C. S., Steiner, R. S., & Hirschi, A. (2022). Career preparedness among adolescents: A review of key components and directions for future research. *Journal of Career Development*, 49(1), 18-40.

Marcos, R. I. S., Fernández, V. L., González, M. T. D., & Phillips-Silver, J. (2020). Promoting children's creative thinking through reading and writing in a cooperative learning classroom. *Thinking Skills and Creativity*, 36, 100663.

Markee, N. (2019). *The handbook of classroom discourse and interaction*. John Wiley & Sons.

Martens, K., Nagel, A., Windzio, M., & Weymann, A. (Eds.). (2010). *Transformation of education policy*. Springer.

Martin, A. J., & Collie, R. J. (2019). Teacher–student relationships and students' engagement in high school: Does the number of negative and positive relationships with teachers matter?. *Journal of Educational Psychology*, 111(5), 861.

Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology*, 46(1), 53–83. <https://doi.org/10.1016/j.jsp.2007.01.002>

Martin, S. P. (2010). A Supersymmetry Primer. In G. L. Kane, *Advanced Series on Directions in High Energy Physics* (Vol. 21, pp. 1–153). WORLD SCIENTIFIC. https://doi.org/10.1142/9789814307505_0001

Matud, M. P., López-Curbelo, M., & Fortes, D. (2019). Gender and psychological well-being. *International journal of environmental research and public health*, 16(19), 3531.

Mazzotti, V. L., Rowe, D. A., Kwiatek, S., Voggt, A., Chang, W. H., Fowler, C. H., ... & Test, D. W. (2021). Secondary transition predictors of postschool success: An update to the research base. *Career Development and Transition for Exceptional Individuals*, 44(1), 47-64.

Mbukanma, I., & Goswami, T. G. (2023). Role of creativity and technological innovation in achieving entrepreneurial success. *Indian Journal of Commerce and Management Studies*, 14(2), 22-28.

Medved, E. I., Kiseleva, O. I., Levina, I. D., Kaytandzhyan, M. G., & Gribkova, G. I. (2018). The industry of creative leisure in the urban space of the metropolis. *Journal of advanced Research in Law and Economics*, 9(6 (36)), 2072-2078.

Mehrotra, S., & Parida, J. K. (2019). India's employment crisis: Rising education levels and falling non-agricultural job growth.

Mehrotra, S., & Sinha, S. (2019). Towards higher female work participation in India: what can be done?. Centre for Sustainable Employment, Azim Premji University.

Meinck, S., & Brese, F. (2019). Trends in gender gaps: Using 20 years of evidence from TIMSS. *Large-Scale Assessments in Education*, 7(1), 1-23.

Merton, R. K. (1957). *Social Theory and Social Structure* (2nd ed.). Glencoe, IL: Free Press.

Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'underrepresented' students. *Educational Research Review*, 29, 100307.

Moccia, S. (2016). Managing educational reforms during times of transition: The role of leadership. *Higher Education for the Future*, 3(1), 26-37.

Mokher, C. G., Lee, S., & Sun, C. (2019). Evaluating innovations for improving college and career readiness in rural schools. *Research in the Schools*, 26(1), 48-63.

Momsen, J. (2019). *Gender and development*. Routledge.

Mondolo, J. (2022). The composite link between technological change and employment: A survey of the literature. *Journal of Economic Surveys*, 36(4), 1027-1068.

Moore, G. W., Slate, J. R., Edmonson, S. L., Combs, J. P., Bustamante, R., & Onwuegbuzie, A. J. (2010). High school students and their lack of preparedness for college: A statewide study. *Education and Urban Society*, 42(7), 817-838.

Morales, E. E. (2000). A Contextual Understanding of the Process of Educational Resilience: High Achieving Dominican American Students and the "Resilience Cycle." *Innovative Higher Education*, 25(1), 7-22. <https://doi.org/10.1023/A:1007580217973>

Morse, S., & Gergen, K. J. (1970). Social comparison, self-consistency, and the concept of self. *Journal of personality and social psychology*, 16(1), 148.

Mortimer, J. T. (2010). The benefits and risks of adolescent employment. *The prevention researcher*, 17(2), 8.

Mulligan, C. B., & Rubinstein, Y. (2008). Selection, investment, and women's relative wages over time. *The Quarterly Journal of Economics*, 123(3), 1061-1110.

Mungas, D., Reed, B. R., Farias, S. T., & DeCarli, C. (2009). Age and education effects on relationships of cognitive test scores with brain structure in demographically diverse older persons. *Psychology and aging*, 24(1), 116.

Muralidharan, K., & Sheth, K. (2016). Bridging education gender gaps in developing countries: The role of female teachers. *Journal of Human Resources*, 51(2), 269-297.

Murillo, F. J., & Román, M. (2011). School infrastructure and resources do matter: analysis of the incidence of school resources on the performance of Latin American students. *School effectiveness and school improvement*, 22(1), 29-50.

Murphey, D. A. & C. E. Burns. (2002). Development of a Comprehensive Community Assessment of School Readiness. *Early Childhood Research & Practice: An Internet Journal on the Development, Care, and Education of Young Children*,.

Nachbauer, M., & Kyriakides, L. (2020). A review and evaluation of approaches to measure equity in educational outcomes. *School effectiveness and school improvement*, 31(2), 306-331.

Nambiar, D. (2013). Creating enterprising subjects through skill development: The network state, network enterprises, and youth aspirations in India. In *Enterprise Culture in Neoliberal India* (pp. 57-72). Routledge.

Nanda, P., Das, P., & Datta, N. (2022). Education, Sexuality, and Marriageability: Overlapping Tropes in the Lives of Adolescent Girls in Haryana, India. *Journal of Adolescent Health*, 70(3), S28-S35.

Narahara, M. M. (1998). *Gender Stereotypes in Children's Picture Books*.

National School Readiness Indicators Initiative (February 2005). <http://www.rikidscount.org/>

Navarro J-J, García-Rubio J, Olivares PR (2015) The Relative Age Effect and Its Influence on Academic Performance. PLoS ONE 10(10): e0141895. <https://doi.org/10.1371/journal.pone.0141895>

Nemtcan, E., Sæle, R. G., Gamst-Klaussen, T., & Svartdal, F. (2020, December). Drop-out and transfer-out intentions: The role of socio-cognitive factors. In *Frontiers in Education* (Vol. 5, p. 606291). Frontiers Media SA.

Nersesyan L.S., Pushkin V.N. Psihologicheskaya struktura gotovnosti operatora k ehkstreml'nym dejstviyam [Psychological Structure of

Nessipbayeva, O. (2012). THE COMPETENCIES OF THE MODERN TEACHER. Department of Education, ERIC.

Neumann, W. P., Winkelhaus, S., Grosse, E. H., & Glock, C. H. (2021). Industry 4.0 and the human factor—A systems framework and analysis methodology for successful development. *International journal of production economics*, 233, 107992.

Nevo, D., & Wand, Y. (2005). Organizational memory information systems: A transactive memory approach. *Decision Support Systems*, 39(4), 549–562. <https://doi.org/10.1016/j.dss.2004.03.002>

Nilsson, S., & Rubenson, K. (2014). On the determinants of employment-related organised education and informal learning. *Studies in Continuing Education*, 36(3), 304-321.

Nisskaya, A. K. (2018). School readiness outcomes of different preschool educational approaches. *Psychology in Russia: State of the art*, 11(1), 43-60.

Nisskaya, A. K. (2018). School readiness outcomes of different preschool educational approaches. *Psychology in Russia: State of the Art*, 11(1), 43–60.

Nodine, T. (2009). Innovations in college readiness. Report for Jobs for the Future. Retrieved.

Nomaguchi, K., & Milkie, M. A. (2020). Parenthood and well-being: A decade in review. *Journal of Marriage and Family*, 82(1), 198-223.

Obeng-Denteh, W., Yeboah, E. A., Sam, C., & Monkah, J. E. (2011). The impact of student and teacher absenteeism on student performance at the junior high school: the case of the Kumasi-metro school district. *Cont J Educ Res*, 4(1), 7-17.

of Future Vocational Training Teachers in the

Osiobe, E. U. (2019). A literature review of human capital and economic growth. *Business and Economic Research*, 9(4), 179-196.

Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, 52(4), 414-420.

Ozkan, G., & Umdu Topsakal, U. (2021). Exploring the effectiveness of STEAM design processes on middle school students' creativity. *International Journal of Technology and Design Education*, 31, 95-116.

Pahwa, N., & Indira, M. (2021). Performance evaluation of Sarva Shiksha Abhiyan (SSA): A comparative study of two states in India. *International Journal of Research in Social Sciences*, 11(05).

Pal, P., & Singh, S. (2022). A Spatio-Temporal Analysis of Gender Related Educational Development Index of Uttar Pradesh. *National Geographical Journal of India*, 66(1), 32-40.

Pandey, B. (2018). Achieving SDG 4 in India: moving from quantity to quality education for all. *Research and Information System for Developing Countries*.

Pandey, D. (2018). Impact of MGNREGA on Rural Wages in India: Findings from the Rural Price Collection (RPC) Surveys (2001-2011).

Pantelopoulos, G. (2022). Higher education, gender, and foreign direct investment: evidence from OECD countries. *Industry and Higher Education*, 36(1), 86-93.

Papadakis, N. (2020). Education, Training, LLL and Youth Employability in Europe, today: Trends, political priorities, benchmarks, challenges and the state of play. *Education Sciences*, 2020, 217–233. <https://doi.org/10.26248/v2020i0.790>

Park, R. E. (1952). *Human communities: The city and human ecology*.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students* (First edition). Jossey-Bass Publishers.

Pascarella, E. T., & Terenzini, P. T. (2005). *How College Affects Students: A Third Decade of Research. Volume 2*. Jossey-Bass, An Imprint of Wiley. 10475 Crosspoint Blvd, Indianapolis, IN 46256.

Patel, I. (1998). The contemporary women's movement and women's education in India. *International Review of Education*, 44, 155-175.

Patrick, B. C., Stockbridge, S., Roosa, H. V., & Edelson, J. S. (2019). Self-silencing in school: failures in student autonomy and teacher-student relatedness. *Social Psychology of Education, 22*, 943-967.

Patton, W., & Creed, P. (2007). The Relationship Between Career Variables and Occupational Aspirations and Expectations for Australian High School Adolescents. *Journal of Career Development, 34*(2), 127–148. <https://doi.org/10.1177/0894845307307471>

Paul Croll (2008) Occupational choice, socio-economic status and educational attainment: a study of the occupational choices and destinations of young people in the British Household Panel Survey, *Research Papers in Education, 23*:3, 243-268, DOI: 10.1080/02671520701755424

Pavlova, M., & Maclean, R. (2013). Vocationalisation of Secondary and Tertiary Education: Challenges and Possible Future Directions. In R. Maclean, S. Jagannathan, & J. Sarvi (Eds.), *Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific* (Vol. 19, pp. 43–66). Springer Netherlands. https://doi.org/10.1007/978-94-007-5937-4_3

Pegg, A., Waldoock, J., Hendy-Isaac, S., & Lawton, R. (2012). *Pedagogy for employability*.

Petersburg, Piter Publ., 2001. 288 p.

Peterson, E. W. F. (2017). The role of population in economic growth. *Sage Open, 7*(4), 2158244017736094.

Piccardi, L., Risetti, M., Nori, R., Tanzilli, A., Bernardi, L., & Guariglia, C. (2011). Perspective changing in primary and secondary learning: a gender difference study. *Learning and Individual Differences, 21*(1), 114-118.

Pinquart, M., & Ebeling, M. (2020). Parental educational expectations and academic achievement in children and adolescents—a meta-analysis. *Educational Psychology Review, 32*, 463-480.

Portals/0/Uploads/Documents/early%20Learning/Getting%20Ready/executive%20Summary.pdf

Porter, M. E., Ketels, C. H., Miller, K., & Bryden, R. (2004). Competitiveness in rural US regions: Learning and research agenda. Institute for Strategy and Competitiveness, Harvard Business School, 1-17.

pp. 75–79. (in Russ.)

Prewett, S. L., Bergin, D. A., & Huang, F. L. (2019). Student and teacher perceptions on student-teacher relationship quality: A middle school perspective. *School Psychology International*, 40(1), 66-87.

Prince, M. (2004). Does active learning work? A review of the research. *Journal of engineering education*, 93(3), 223-231.

Prior, M., Bavin, e., & Ong, B. (2011). Predictors of school readiness in five- to six-year-old

Prior, M., Bavin, E., & Ong, B. (2011). Predictors of school readiness in five- to six-year-old children from an Australian longitudinal community sample. *Educational Psychology*, 31(1), 3–16. <https://doi.org/10.1080/01443410.2010.541048>

Process of Studying Psychological and Pedagogical Disciplines. Abstract of Cand. Diss.]. Chelyabinsk, 2009. 27 p.

Psikhologicheskie problemy gotovnosti k deyatel'nosti [Psychological Problems of Readiness

psikhologo-pedagogicheskikh distsiplin. Avtoref.

Pugni A.Ts. Psikhologicheskaya podgotovka k sorevnovaniyu v sporte [Psychological Question of Psychology, 1969, no. 5, pp. 24–31.

Quillian, L. (2014). Does segregation create winners and losers? Residential segregation and inequality in educational attainment. *Social Problems*, 61(3), 402-426.

Raminder, S. (2016). STRESS AMONG SCHOOL-GOING ADOLESCENTS IN RELATION TO PSYCHOLOGICAL HARDINESS. *I-Manager's Journal on Educational Psychology*, 9(4), 8. <https://doi.org/10.26634/jpsy.9.4.5971>

Ranjeeth, S., Latchoumi, T. P., & Paul, P. V. (2020). Role of gender on academic performance based on different parameters: Data from secondary school education. *Data in brief*, 29, 105257.

Rashmi, R., Malik, B. K., Mohanty, S. K., Mishra, U. S., & Subramanian, S. V. (2022). Predictors of the gender gap in household educational spending among school and college-going children in India. *Humanities and Social Sciences Communications*, 9(1), 1-11.

Reardon, S. F., Fahle, E. M., Kalogrides, D., Podolsky, A., & Zárate, R. C. (2019). Gender achievement gaps in US school districts. *American Educational Research Journal*, 56(6), 2474-2508.

Reiffenstein, T. (2017). Concentric Zone Theory. *The Wiley-Blackwell Encyclopedia of Social Theory*, 1-2.

Reilly, D., Neumann, D. L., & Andrews, G. (2019). Gender differences in reading and writing achievement: Evidence from the National Assessment of Educational Progress (NAEP). *American Psychologist*, 74(4), 445.

Reilly, D., Neumann, D. L., & Andrews, G. (2019). Investigating gender differences in mathematics and science: Results from the 2011 Trends in Mathematics and Science Survey. *Research in Science Education*, 49(1), 25-50.

Repetueva G.N. Formirovaniya gotovnosti k samokontrolyu uchebno-professional'noy

Riley, M. W. (1987). On the significance of age in sociology. *American Sociological Review*, 1-14.

Rivkin, S. G., & Schiman, J. C. (2015). Instruction time, classroom quality, and academic achievement. *The Economic Journal*, 125(588), F425-F448.

Rizvi, F., & Gorur, R. (2011). Challenges Facing Indian Higher Education. *The Fearless Nadia Occasional Papers on India–Australia Relations*, Australia India Institute, Melbourne, 34-56.

Roche, K. M., Ahmed, S., & Blum, R. W. (2008). Enduring consequences of parenting for risk behaviors from adolescence into early adulthood. *Social science & medicine*, 66(9), 2023-2034.

Rodriguez, S., Rigueiro, B., Piñeiro, I., Estévez, I., & Valle, A. (2020). Gender differences in mathematics motivation: Differential effects on performance in primary education. *Frontiers in psychology*, 10, 3050.

Rogers, C. (2017). *A social psychology of schooling: The expectancy process*. Routledge.

Roksa, J., & Kinsley, P. (2019). The role of family support in facilitating academic success of low-income students. *Research in Higher Education*, 60, 415-436.

Ronsivalle, D. (2018, September). Cities and skills for integration: what can urban planning do? Experiences and reflections between public spaces and collective interest for urban and community (smart) resilience. In *2018 IEEE 4th International Forum on Research and Technology for Society and Industry (RTSI)* (pp. 1-6). IEEE.

Rosenholtz, S. J., & Simpson, C. (1984). The formation of ability conceptions: Developmental trend or social construction?. *Review of Educational Research*, 54(1), 31-63.

Rostow, W. W. (2013). The stages of economic growth. In *Sociological Worlds* (pp. 130-134). Routledge.

Rourke, L., & Anderson, T. (2004). Validity in quantitative content analysis. *Educational technology research and development*, 52(1), 5-18.

Rowan-Kenyon, H. T., Perna, L. W., & Swan, A. K. (2011). Structuring Opportunity: The Role of School Context in Shaping High School Students' Occupational Aspirations. *The Career Development Quarterly*, 59(4), 330–344. <https://doi.org/10.1002/j.2161-0045.2011.tb00073.x>

Rowntree, B. S. (1941). *Poverty and progress. A second social survey of York. Poverty and progress. A second social survey of York.*

Roy, R., & Pandey, S. R. (2012). Impact of NREGA on Wage Rates, Food Security and Rural Urban Migration in UP.

Sachs, J. D. (2012). From millennium development goals to sustainable development goals. *The lancet*, 379(9832), 2206-2211.

Sadolikar Urmila. (2016). Positive Parent-Child Relations and Girls' Vocational Aspiration—ProQuest. *Journal of Psychosocial Research*, 11(1), 177–182.

Sahin, M. D., & Öztürk, G. (2019). Mixed Method Research: Theoretical Foundations, Designs and Its Use in Educational Research. *International Journal of Contemporary Educational Research*, 6(2), 301-310.

Saini, V. (2015). Skill development in India: Need, challenges and ways forward. *Abhinav National Monthly Refereed Journal of Research in Arts & Education*, 4(4), 1-9.

Salmi, J. (2017). *The tertiary education imperative: Knowledge, skills and values for development.* Springer.

Sampermans, D., & Claes, E. (2018). Teachers as role models in the political socialization process: How a good student–teacher relationship can compensate for gender differences in students' gender equality attitudes. *Citizenship Teaching & Learning*, 13(1), 105-125.

Santos-Trigo, M. (2020). Problem-solving in mathematics education. *Encyclopedia of mathematics education*, 686-693.

Sarama, J., & Clements, D. H. (2009). *Early childhood mathematics education research: Learning trajectories for young children.* Routledge.

Savin-Williams, R. C. (1980). Dominance hierarchies in groups of middle to late adolescent males. *Journal of Youth and Adolescence*, 9(1), 75-85.

Sawyer, K. (2019). *The creative classroom: Innovative teaching for 21st-century learners*. Teachers College Press.

Scales, P. C., Pekel, K., Sethi, J., Chamberlain, R., & Van Boekel, M. (2020). Academic year changes in student-teacher developmental relationships and their linkage to middle and high school students' motivation: A mixed methods study. *The Journal of Early Adolescence*, 40(4), 499-536.

Schaap, H., Baartman, L., & de Bruijn, E. (2012). Students' Learning Processes during School-Based Learning and Workplace Learning in Vocational Education: A Review. *Vocations and Learning*, 5(2), 99–117. <https://doi.org/10.1007/s12186-011-9069-2>

Schafft, K. A. (2016). Rural education as rural development: Understanding the rural school–community well-being linkage in a 21st-century policy context. *Peabody Journal of Education*, 91(2), 137-154.

Schalock, R. L. (2001). *Outcome-based evaluation*. Springer Science & Business Media.

Schlechty, P. C. (2018). On the frontier of school reform with trailblazers, pioneers, and settlers. In *Thinking About Schools: A Foundations of Education Reader* (pp. 191-199). Routledge.

Schleicher, A. (2009). Securing quality and equity in education: Lessons from PISA. *Prospects*, 39(3), 251-263.

Schmitt, D. P., Allik, J., McCrae, R. R., & Benet-Martínez, V. (2007). The geographic distribution of Big Five personality traits: Patterns and profiles of human self-description across 56 nations. *Journal of cross-cultural psychology*, 38(2), 173-212.

Schoon, I. (2001). Teenage job aspirations and career attainment in adulthood: A 17-year follow-up study of teenagers who aspired to become scientists, health professionals, or engineers. *International Journal of Behavioral Development*, 25(2), 124–132. <https://doi.org/10.1080/01650250042000186>

Sefton-Green, J., Watkins, S. C., & Kirshner, B. (2019). Young people's journeys into creative work: Challenges and transitions into the workforce. In *Young People's Transitions into Creative Work* (pp. 1-26). Routledge.

Sempruch, J. (2008). *Intercultural dialogues on gender, marginality and higher education*.

Seryapina, Y. S. (2018). The concept of “readiness for pedagogical activity”: motivational readiness, psychological readiness, readiness to innovative activity. *Вестник Южно-*

Уральского государственного университета. Серия: Образование. Педагогические науки, 10(4), 77-86.

Seryapina, Y. S. (2018). THE CONCEPT OF “READINESS FOR PEDAGOGICAL ACTIVITY”: MOTIVATIONAL READINESS, PSYCHOLOGICAL READINESS, READINESS TO INNOVATIVE ACTIVITY. *Bulletin of the South Ural State University Series “Education. Educational Sciences,”* 10(4), 77–86. <https://doi.org/10.14529/ped180410>

Sharma Jyotika & Tankha Geetika. (2015). Perceived parenting style and hardiness in rural and urban adolescents. *Indian Journal of Health and Wellbeing*, 6(10), 958–962.

Shaunessy, B. A. (1992). The relationship between hardiness, ego strength, stressors, academic performance and social competence in an adolescent population. ETD Collection for Pace University, 1–114.

Sheikh, Y. A. (2017). Higher education in India: Challenges and opportunities. *Journal of Education and Practice*, 8(1), 39-42.

Shi, L. P., & Wang, S. (2022). Demand-side consequences of unemployment and horizontal skill mismatches across national contexts: An employer-based factorial survey experiment. *Social Science Research*, 104, 102668.

Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11.

Simon, F., Małgorzata, K., & Beatriz, P. O. N. T. (2007). Education and training policy no more failures ten steps to equity in education: Ten steps to equity in education. oecd Publishing.

Simonova, M. V., Ilyukhina, L. A., Romantsev, G. M., Zeer, E. F., & Khamaturov, F. T. (2016). Approaches to Monitoring of Competences and Qualifications. *MATHEMATICS EDUCATION*, 11, 2745–2760.

Singer, E. (2017). Reference groups and social evaluations. *Social psychology*, 66-93.

Singh, A., & Krutikova, S. (2017). Starting together, growing apart: Gender gaps in learning from preschool to adulthood in four developing countries.

Singh, S. S., & Sarkar, B. (2022). Cumulative opportunity-based accessibility measurement framework in rural India. *Transport policy*, 117, 138-151.

Singh, S. S., & Sarkar, B. (2023, April). Accessibility as the determinant of attending educational opportunities in rural India. In *Proceedings of the Institution of Civil Engineers- Municipal Engineer* (pp. 1-16). Thomas Telford Ltd.

Sitti, S., Sopeerak, S., & Sompong, N. (2013). Development of instructional model based on connectivism learning theory to enhance problem-solving skill in ICT for daily life of higher education students. *Procedia-Social and Behavioral Sciences*, 103, 315-322.

Sjursø, I. R., Fandrem, H., O'Higgins Norman, J., & Roland, E. (2019). Teacher authority in long-lasting cases of bullying: A qualitative study from Norway and Ireland. *International journal of environmental research and public health*, 16(7), 1163.

Skelton, C., Francis, B., & Read, B. (2010). "Brains before 'beauty'?" High achieving girls, school and gender identities. *Educational Studies*, 36(2), 185-194.

Slaten, C. D., & Baskin, T. W. (2014). Examining the impact of peer and family belongingness on the career decision-making difficulties of young adults: A path analytic approach. *Journal of Career Assessment*, 22(1), 59-74.

Smith, W. C., Fraser, P., Chykina, V., Ikoma, S., Levitan, J., Liu, J., & Mahfouz, J. (2017). Global citizenship and the importance of education in a globally integrated world. *Globalisation, Societies and Education*, 15(5), 648-665.

Snow, K. L. (2006). Measuring school readiness: Conceptual and practical considerations. *Early education and development*, 17(1), 7-41.

Snow, K. L. (2006). Measuring School Readiness: Conceptual and Practical Considerations. *Early Education and Development*, 17(1), 7-41. https://doi.org/10.1207/s15566935eed1701_2

Sohel-Uz-Zaman, A. S. M. (2016). Implementing total quality management in education: Compatibility and challenges. *Open Journal of Social Sciences*, 4(11), 207.

Spaull, N., & Makaluza, N. (2019). Girls Do Better: The pro-female gender gap in learning outcomes in South Africa 1995–2018. *Agenda*, 33(4), 11-28.

Sridhar, K. S. (2010, March). Determinants of city growth and output in India. In *Review of Urban & Regional Development Studies: Journal of the Applied Regional Science Conference* (Vol. 22, No. 1, pp. 22-38). Melbourne, Australia: Blackwell Publishing Asia.

Sriprakash, A., Maithreyi, R., Kumar, A., Sinha, P., & Prabha, K. (2020). Normative development in rural India: 'school readiness' and early childhood care and education. *Comparative Education*, 56(3), 331-348.

Sriprakash, A., Maithreyi, R., Kumar, A., Sinha, P., & Prabha, K. (2020). Normative development in rural India: 'School readiness' and early childhood care and education. *Comparative Education*, 56(3), 331-348. <https://doi.org/10.1080/03050068.2020.1725350>

Srivastava, R. (2012). Changing employment conditions of the Indian workforce and implications for decent work. *Global labour journal*, 3(1).

St. Petersburg: Piter.

Sternberg, R. J. (2020). What's wrong with creativity testing?. *The Journal of Creative Behavior*, 54(1), 20-36.

Stewart, S., Lim, D. H., & Kim, J. (2015). Factors influencing college persistence for first-time students. *Journal of Developmental Education*, 12-20.

Stoet, G., & Geary, D. C. (2018). The gender-equality paradox in science, technology, engineering, and mathematics education. *Psychological science*, 29(4), 581-593.

Stone, A. (2017). Texas Education Review, Volume 5, Issue 1: rural students and higher education: an overview of challenges and opportunities. *Texas Education Review*.

SUB and Spatial Ref effect HER

Suleman, F. (2018). The employability skills of higher education graduates: Insights into conceptual frameworks and methodological options. *Higher Education*, 76(2), 263–278. <https://doi.org/10.1007/s10734-017-0207-0>

Supena, I., Darmuki, A., & Hariyadi, A. (2021). The Influence of 4C (Constructive, Critical, Creativity, Collaborative) Learning Model on Students' Learning Outcomes. *International Journal of Instruction*, 14(3), 873-892.

Sykes, R. E. (1977). A theory of proximity and attraction.

Takeuchi, D. T., Dearing, T. C., Bartholomew, M. W., & McRoy, R. G. (2018). Equality and equity: Expanding opportunities to remedy disadvantage. *Generations*, 42(2), 13-19.

Tan, C. Y., Lyu, M., & Peng, B. (2020). Academic benefits from parental involvement are stratified by parental socioeconomic status: A meta-analysis. *Parenting*, 20(4), 241-287.

Taylor, C. (2009). Towards a geography of education. *Oxford Review of Education*, 35(5), 651-669.

the Operator's Readiness for Extreme Actions].

Thomson, S. (2018). Achievement at school and socioeconomic background—an educational perspective. *npj Science of Learning*, 3(1), 5.

Tien, H.-L. S., Wang, Y.-F., & Liu, L.-C. (2009). The Role of Career Barriers in High School Students' Career Choice Behavior in Taiwan. *The Career Development Quarterly*, 57(3), 274–288. <https://doi.org/10.1002/j.2161-0045.2009.tb00112.x>

Tilak, J. B. (2020). Dilemmas in reforming higher education in India. *Higher Education for the Future*, 7(1), 54-66.

Tilak, J. B., & Biswal, K. (2013). Transition to higher education in India.

Tilak, J. B., & Choudhury, P. K. (2019). Inequality in Access to Higher Education in India between the Poor and the Rich An Analysis of 64th and 71st Rounds of NSSO Data (2007-08 and 2013-14). <https://papers.ssrn.com/abstract=3881015>

Tilak, J.B.G. (2020). Universal Secondary Education in India: An Introductory Overview of Issues, Challenges and Prospects. In: Tilak, J. (eds) *Universal Secondary Education in India*. Springer, Singapore. https://doi.org/10.1007/978-981-15-5366-0_1

Tolstova, O., & Levasheva, Y. (2019). Humanistic trend in education in a global context. *SHS Web of Conferences*, 69, 00121. <https://doi.org/10.1051/shsconf/20196900121>

Training for Competition in Sport]. Moscow,

Trott, P., Cordey-Hayes, M., & Seaton, R. A. F. (1995). Inward technology transfer as an interactive process. *Technovation*, 15(1), 25–43. [https://doi.org/10.1016/0166-4972\(95\)96609W](https://doi.org/10.1016/0166-4972(95)96609W)

Turner, K., & Lehning, A. J. (2007). Psychological theories of poverty. *Journal of Human Behavior in the Social Environment*, 16(1-2), 57-72.

Turner, S. F., Cardinal, L. B., & Burton, R. M. (2017). Research design for mixed methods: A triangulation-based framework and roadmap. *Organizational Research Methods*, 20(2), 243-267.

UNICEF. (2020). *Towards an equal future: Reimagining girls' education through STEM*.

Valentine, G. (2017). *Public space and the culture of childhood*. Routledge.

Van Garst, T. (2022). *The Mediating Effect of Parental Involvement on Peer Influence and Belongingness on Adolescent Educational Aspirations* (Doctoral dissertation, University of the Pacific).

van Sluijs, E. M., Ekelund, U., Crochemore-Silva, I., Guthold, R., Ha, A., Lubans, D., ... & Katzmarzyk, P. T. (2021). Physical activity behaviours in adolescence: current evidence and opportunities for intervention. *The Lancet*, 398(10298), 429-442.

Van Zanden, J. L., De Moor, T., & Carmichael, S. (2019). *Capital women: The European marriage pattern, female empowerment and economic development in Western Europe 1300-1800*. Oxford University Press.

Vannucci, A., Simpson, E. G., Gagnon, S., & Ohannessian, C. M. (2020). Social media use and risky behaviors in adolescents: A meta-analysis. *Journal of Adolescence*, 79, 258-274.

Vantieghem, W., & Van Houtte, M. (2015). Are girls more resilient to gender-conformity pressure? The association between gender-conformity pressure and academic self-efficacy. *Sex Roles*, 73, 1-15.

Varghese, N. V. (2015). Challenges of massification of higher education in India. *CPRHE research papers*, 1, 1-52.

Vasquez, J. A., Cary, Sneider, & Comer, Michael. (2013). *STEM lesson essentials, grades 3-8: Integrating science, technology, engineering, and mathematics*. Heinemann.

Vetter, N. C., Leipold, K., Kliegel, M., Phillips, L. H., & Altgassen, M. (2013). Ongoing development of social cognition in adolescence. *Child Neuropsychology*, 19(6), 615-629.

Vijayakumar, G. (2013). "I'll Be Like Water" gender, class, and flexible aspirations at the edge of India's knowledge economy. *Gender & Society*, 27(6), 777-798.

Vrana, V., Das, S. (2023). *Dynamic Restructuring of Digital Media and Entertainment Sector: Role of Urbanization, Industrial Innovation, and Technological Evolution*. In: Das, S., Gochhait, S. (eds) *Digital Entertainment as Next Evolution in Service Sector*. Palgrave Macmillan, Singapore. https://doi.org/10.1007/978-981-19-8121-0_2

Vygotsky, L. S. (1963). Learning and mental development at school age. *Educational psychology in the USSR*, 1, 21-34.

Vygotsky, L., & Cole, M. (2018). *Lev Vygotsky: Learning and social constructivism*. *Learning theories for early years practice*, 66, 58.

Waldrip, A. M., Malcolm, K. T., & Jensen-Campbell, L. A. (2008). With a little help from your friends: The importance of high-quality friendships on early adolescent adjustment. *Social development*, 17(4), 832-852.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American educational research journal*, 47(3), 633-662.

Wani, I. A., & Mehraj, H. K. (2014). Total quality management in education: An analysis. *International Journal of Humanities and Social Science Invention*, 3(6), 71-78.

Ward, P., & O'Sullivan, M. (2006). The contexts of urban settings. *Journal of Teaching in Physical Education*, 25(4), 348-362.

Weber, A. (2006). Feminist peace and conflict theory. *Encyclopaedia on Peace and Conflict Theory*, 2-13.

Wentzel, K. R. (2017). Peer relationships, motivation, and academic performance at school.

West, M., Kraut, R., & Ei Chew, H. (2019). I'd blush if I could: closing gender divides in digital skills through education.

Westman, M. (1990). The relationship between stress and performance: The moderating effect of hardiness. *Human Performance*, 3(3), 141–155. https://doi.org/10.1207/s15327043hup0303_1

Weybright, E. H., Caldwell, L. L., Xie, H., Wegner, L., & Smith, E. A. (2017). Predicting secondary school dropout among South African adolescents: A survival analysis approach. *South African journal of education*, 37(2), 1-11.

White, G., Ruther, M., & Kahn, J. (2016). Educational inequality in India: An analysis of gender differences in reading and mathematics. *Journal of Research in Gender Studies*, 6(2), 153-82.

Wiggins, S., & Proctor, S. (2001). How special are rural areas? The economic implications of location for rural development. *Development policy review*, 19(4), 427-436.

Wilkins-Yel, K. G., Roach, C. M. L., Tracey, T. J. G., & Yel, N. (2018). The effects of career adaptability on intended academic persistence: The mediating role of academic satisfaction. *Journal of Vocational Behavior*, 108, 67–77. <https://doi.org/10.1016/j.jvb.2018.06.006>

Williams, B., Onsmann, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian journal of paramedicine*, 8, 1-13.

WIPO (2021). *Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis*. Geneva: World Intellectual Property Organization

World Bank. (2018). *World development report 2019: The changing nature of work*. The World Bank.

Wu, W. L., & Lee, Y. C. (2015). Knowledge transfer and creation in international strategic alliances: A multi-level perspective. *International Journal of Knowledge Management Studies*, 6(1), 1. <https://doi.org/10.1504/IJKMS.2015.071649>

Yang, C., Sharkey, J. D., Reed, L. A., Chen, C., & Dowdy, E. (2018). Bullying victimization and student engagement in elementary, middle, and high schools: Moderating role of school climate. *School psychology quarterly*, 33(1), 54.

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, 9(2), 79-94.

Yorke, M., & Knight, P. T. (2004). *Embedding Employability*.

Young, M. (2009). Education, globalisation and the 'voice of knowledge.' *Journal of Education and Work*, 22(3), 193–204. <https://doi.org/10.1080/13639080902957848>

Yusnandar, Y., Masbar, R., Nazamuddin, B. S., & Jamal, A. (2019, January). High-skilled workforce and productivity growth: The knowledge-based economics perspective. In 1st Aceh Global Conference (AGC 2018) (pp. 549-552). Atlantis Press.

Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Education in Medicine Journal*, 11(2), 49-54.

Zahra, F. (2020). High hopes, low dropout: Gender differences in aspirations for education and marriage, and educational outcomes in rural Malawi. *Comparative Education Review*, 64(4), 670-702.

Žalėnienė, I., & Pereira, P. (2021). Higher education for sustainability: A global perspective. *Geography and Sustainability*, 2(2), 99-106.

Zapata Cantú, L., Rialp Criado, J., & Rialp Criado, A. (2009). Generation and transfer of knowledge in IT-related SMEs. *Journal of Knowledge Management*, 13(5), 243–256. <https://doi.org/10.1108/13673270910988088>

Zhang, F., Jiang, Y., Ming, H., Ren, Y., Wang, L., & Huang, S. (2020). Family socio-economic status and children's academic achievement: The different roles of parental academic involvement and subjective social mobility. *British Journal of Educational Psychology*, 90(3), 561-579.

Zhang, M. (2021). EFL/ESL Teacher's Resilience, Academic Buoyancy, Care, and Their Impact on Students' Engagement: A Theoretical Review. *Frontiers in Psychology*, 12, 731859. <https://doi.org/10.3389/fpsyg.2021.731859>

Ziebell, C., & Louise, J. (2010). Promoting viable career choice goals through career decision-making self-efficacy and career maturity in inner-city high school students: A test of social cognitive career theory. <http://conservancy.umn.edu/handle/11299/96093>

APPENDICES

APPENDIX A - Educational Attainment Test

सूचित सहमति प्रपत्र

बिड़ला प्रौद्योगिकी और विज्ञान संस्थान

मानविकी और सामाजिक विज्ञान विभाग

शोधार्थी सुश्री दीपांजना चक्रवर्ती, एचएसएस विभाग, बिट्स पिलानी, राजस्थान

कृपया हस्ताक्षर करने से पहले निम्नलिखित बिन्दुओं पर विचार करें:-

इस शोध अध्ययन में भाग लेने के लिए यह आवश्यक है कि आप अपनी सूचित सहमति दें। इस सूचित सहमति कथन पर हस्ताक्षर करके, आप संकेत दे रहे हैं कि आप शोध अध्ययन की प्रकृति, उस शोध में आपकी भूमिका और आप अनुसंधान में भाग लेने के लिए सहमत हैं।

जब आप प्रश्नावली भर रहे हैं या पूछे गए सवालों के जवाब दे रहे हैं, तो आपको कुछ प्रश्न या उत्तर पसंद, नापसंद, विचलित करने वाले या अन्य रूप से आपत्तिजनक होना अनुभव कर सकते हैं। आपको यह भी महसूस हो सकता है कि आपने खराब प्रदर्शन किया है, लेकिन कोई सही या गलत जवाब नहीं हैं। हम प्रश्नों के प्रति आपकी ईमानदार प्रतिक्रिया चाहते हैं। आपकी पहचान और प्रतिक्रियाओं को कड़ाई से गोपनीय रखा जाएगा और केवल अनुसंधान उद्देश्यों के लिए उपयोग किया जाएगा। आप अध्ययन में भाग लेने से कोई सीधा लाभ नहीं लेंगे, फिर भी आपका भाग लेना, अनुसंधान के लिए आपका योगदान होगा।

- मैं समझता/समझती हूँ कि मैं मनोवैज्ञानिक अनुसंधान में भाग ले रहा/रही हूँ।
- मैं समझता/समझती हूँ कि मेरी पहचान मेरे डेटा के साथ नहीं जुड़ी होगी, और मैं जो भी जानकारी प्रदान करता/करती हूँ, वह गोपनीय रहेगी।

मैं समझता/समझती हूँ कि अनुसंधान में भागीदारी स्वैच्छिक है। अगर मैं अभी या किसी भी बिंदु पर इस सहमति को वापस लेने या भाग लेने से रोकने का फैसला करता/करती हूँ, तो मैं खुद को बिना किसी दंड के ऐसा करने के लिए स्वतंत्र हूँ।

मैं स्वेच्छा से इस प्रपत्र पर हस्ताक्षर करके, मैं घोषणा करता/करती हूँ कि मैंने उपरोक्त जानकारी को समझ लिया है और अध्ययन में भाग लेने के लिए सहमति देता/देती हूँ।

किसी भी प्रकार की सूचना / स्पष्टीकरण के लिए संपर्क किया जा सकता है:-

INFORMED CONSENT FORM

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCE

Research Investigator: Miss Deepanjana Chakraborty, Dept. Of HSS, BITS Pilani, Rajasthan

In order to participate in this research study, it is necessary that you give your informed consent. By signing this informed consent statement, you are indicating that you understand the nature of the research study, your role in that research, and that you agree to participate in the research.

When filling out questionnaires or answering the questions asked, you may come across a question or answer choice that you find unpleasant, upsetting or otherwise objectionable. You may also feel that you have performed poorly, but there are no right or wrong answers. We seek your honest responses to the questions. Your identity and responses will be kept strictly confidential and will be used for research purposes only. You will not reap any direct benefit from participating in the study, however, your participation will contribute to research.

Please consider the following points before signing:

- I understand that I am participating in psychological research
- I understand that my identity will not be linked with my data, and that all information I provide will remain confidential
- I understand that the participation in research is voluntary. If I decide now or at any point to withdraw this consent or stop participating, I am free to do so at no penalty to myself

By voluntarily signing this form, I state that I understand the above information and consent to participate in this study.

Person to be contacted in case of any clarification/information:

Deepanjana Chakraborty
Research Investigator

Signature of participant

with date

Email: deepachakraborty1234@gmail.com

About You/आपके बारे में:-

NAME /नाम:- _____

1. What class are you in/ आप किस कक्षा में हैं? -----

2. Please mention your Date of Birth /कृपया अपनी जन्मतिथि का उल्लेख करें -----

3. Are you female or male/ क्या आप लड़की या लड़का हैं? -----

4. School Name/ विद्यालय का नाम :- -----

5. Where is your school situated

आपका स्कूल कहाँ स्थित है :-

- (a) Rural/ ग्रामीण क्षेत्र
(b) Urban/ शहरी क्षेत्र
(c) I do not know/ मुझे नहीं पता

6. How is your Socio-Economic Status :-
आपकी सामाजिक-आर्थिक स्थिति कैसी है

- (a) Affluent/ संपन्न वर्ग [18-36L p.a.]
(b) Upper/ उच्च वर्ग [9-17L p.a.]
(c) Middle/ मध्यम वर्ग [6-8L p.a.]
(d) Lower/ निम्न वर्ग [51,000- 4L p.a.]
(e) BPL/ गरीबी रेखा के नीचे [below 50,000]

7. Did you attend kindergarten/pre-primary school :-

क्या आपने किंडरगार्टन / प्री-प्राइमरी स्कूल में दाखिला लिया था :-

- (a) Yes हाँ (b) No नहीं

8. Grade/Marks obtained in Half Yearly exams in :-

अर्धवार्षिक परीक्षा में प्राप्त ग्रेड / अंक :-

- (a) Science/ विज्ञान : _____
(b) Maths/ गणित : _____

9. Have you ever repeated a class/classes

क्या आपने कभी एक कक्षा / कक्षाओं को दोहराया है :-

If yes, which class/ यदि हाँ, तो कौन सा कक्षा:-

-

10. Your favorite subject / आपका पसंदीदा विषय :-

-

11. What do you want to be after completing your 12th class/

12^{वीं} पास करने के बाद आप क्या बनना चाहते हैं?

-

12. Are you enrolled in any coaching/tuition class :-

क्या आप किसी कोचिंग / ट्यूशन क्लास में नामांकित हैं : -

If yes/ अगर हाँ,

(a) subjects you take coaching/tuition in

जिन विषयों में आप कोचिंग / ट्यूशन लेते हैं

--

13. Do you want to pursue higher education/

Yes/ No

क्या आप उच्च शिक्षा प्राप्त करना चाहते हैं ?

हां/नहीं

MATHEMATICS / अंक शास्त्र:

Level 1/ स्तर 1:

| | |
|----|--|
| 1. | <p>Ramesh found out that the exchange rate between US dollars (USD) and Indian rupees (INR) was:</p> <p>1 USD = 70 INR</p> <p>Ramesh changed 1100 US dollars into INR at this exchange rate. How much money in Indian rupees did Ramesh get?</p> <p>रमेश ने पाया कि अमेरिकी डॉलर (USD) और भारतीय रुपए (INR) के बीच विनिमय दर थी:</p> <p>1 USD = 70 INR</p> <p>रमेश ने इस विनिमय दर पर 1100 अमेरिकी डॉलर को भारतीय रुपए में बदल दिया। रमेश को भारतीय रुपए में कितना पैसा मिला?</p> <p>Answer/ उत्तर:.....</p> |
|----|--|

| | |
|----|---|
| 1. | <p>A plastic box 1.5 m long, 1.25 m wide and 65 cm deep is to be made. It is open on the top. Ignoring the thickness of the box, determine the area of the sheet required to make the box.</p> <p>एक प्लास्टिक बॉक्स 1.5 मीटर लंबा, 1.25 मीटर चौड़ा और 65 सेमी गहरा बनाया जाना है। यह शीर्ष पर खुला है। बॉक्स की मोटाई को अनदेखा करते हुए, बॉक्स बनाने के लिए कितने मीटर शीट की आवश्यकता होगी।</p> <p>Answer/ उत्तर:- मीटर/m ।</p> |
| 2. | <p>Preeti deposits an amount of Rs 35000 in a bank, at 5% per year simple interest. What will be her total amount after 4 years?</p> <p>प्रीति एक बैंक में 35000 रुपये की राशि जमा करती है, जिस पर प्रतिवर्ष 5% साधारण ब्याज पर मिलता है। 4 साल बाद उसकी कुल राशि कितनी होगी ।</p> <ul style="list-style-type: none"> • Rs.40000/ 40000 रु • Rs.42000/ 42000 रु • Rs.45000/ 45000 रु • Rs.50000/ 50000 रु |

Level 4/ स्तर 4:

| | |
|----|---|
| 1. | <p>During these 3 months the exchange rate of USD and INR had changed from 70 to 72 INR.</p> <p>Was it in Ramesh favour that the exchange rate now was 72 INR instead of 70 INR, when he changed his USD back to Indian rupees (Yes or No)?</p> <p>इन 3 महीनों के दौरान USD और INR की विनिमय दर 70 से 72 INR में बदल गई थी।</p> <p>क्या यह रमेश के पक्ष में था कि अब विनिमय दर 70 INR के बजाय 72 INR होने पर, जब उसने अपने USD को भारतीय रुपये में वापस बदल दिया? (हाँ या नहीं)</p> <p>Answer/ उत्तर:</p> |
|----|---|

| | |
|----|---|
| 2. | <p>In a mixture of 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is:</p> <p>एक मिश्रण 60 लीटर है, जिसमें दूध और पानी का अनुपात 2: 1 है यदि यह अनुपात 1: 2 हो , तो मिश्रण में जोड़े जाने वाले पानी की मात्रा होगी :</p> <ul style="list-style-type: none"> • 20 L / 20 लीटर • 30 L / 30 लीटर • 40L / 40 लीटर • 60 L / 60 लीटर |
|----|---|

Level 5/ स्तर 5:

| | |
|----|---|
| 1. | <p>A documentary was broadcast about earthquakes and how often earthquakes occur. It included a discussion about the predictability of earthquakes. A geologist stated: "In the next twenty years, the chance that an earthquake will occur in Zed City is two out of three".</p> <p>Which of the following best reflects the meaning of the geologist's statement?</p> <p>भूकंप के बारे में एक डॉक्यूमेंट्री प्रसारित की गई थी और कितनी बार भूकंप आते हैं। इसमें भूकंप की भविष्यवाणी के बारे में चर्चा शामिल थी। एक भूविज्ञानी ने कहा: "अगले बीस वर्षों में, जेड सिटी में भूकंप आने की संभावना तीन में से दो है।" निम्नलिखित में से कौन भूविज्ञानी के कथन का अर्थ दर्शाता है?</p> <p>1) $\frac{2}{3} \times 20 = 13.3$, so between 13 and 14 years from now there will be an earthquake in Zed City. $\frac{2}{3} \times 20 = 13.3$ है, इसलिए अब से 13 और 14 साल के बीच जेड शहर में भूकंप आएगा।</p> <p>2) $\frac{2}{3}$ is more than $\frac{1}{2}$, so you can be sure there will be an earthquake in Zed City at some time during the next 20 years.</p> |
|----|---|

$\frac{2}{3}$, $\frac{1}{2}$ से अधिक है, इसलिए आप यह सुनिश्चित कर सकते हैं कि अगले 20 वर्षों के दौरान किसी समय जेड शहर में भूकंप आएगा।

3) The likelihood that there will be an earthquake in Zed City at some time during the next 20 years is higher than the likelihood of no earthquake.

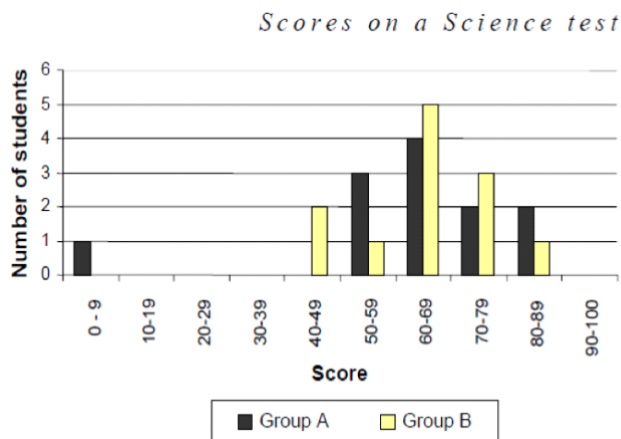
संभावना है कि अगले 20 वर्षों के दौरान किसी समय जेड सिटी में भूकंप आएगा, भूकंपनहीं आने की संभावना की तुलना में अधिक है।

4) You cannot tell what will happen, because nobody can be sure when an earthquake will occur.

आप नहीं बता सकते कि क्या होगा, क्योंकि कोई भी भूकंप आने के सम्बन्ध में यकीनन नहीं कह सकता है।

2. The diagram below shows the results on a Science test for two groups, labelled as Group A and Group B. The mean score for Group A is 62.0 and the mean for Group B is 64.5. Students pass this test when their score is 50 or above.

नीचे दिए गए आरेख समूह(GROUP) ए और समूह(GROUP) बी के रूप में लेबल किए गए दो समूहों के लिए एक विज्ञान परीक्षण पर परिणाम दिखाता है। समूह ए के लिए औसत स्कोर 62.0 है और समूह बी के लिए औसत 64.5 है। छात्र इस परीक्षा में उत्तीर्ण होते हैं जब उनका स्कोर 50 या उससे अधिक होता है।



Looking at the diagram, the teacher claims that Group B did better than Group A in this test. The students in Group A don't agree with their teacher. They try to convince the

teacher that Group B may not necessarily have done better. What could be the one of the reasons that group A students said this?

आरेख को देखते हुए, शिक्षक का दावा है कि समूह बी ने इस परीक्षा में समूह ए से बेहतर किया है। समूह A के छात्र अपने शिक्षक से सहमत नहीं हैं। वे शिक्षक को यह समझाने की कोशिश करते हैं कि समूह बी बेहतर नहीं कर सकता है। समूह ए के छात्रों ने कहा कि इसका क्या कारण हो सकता है?

(a) A fewer students in Group A than in Group B passed the test.

समूह बी में समूह ए की तुलना में कम छात्रों ने परीक्षा पास की।

(b) Less Group A students than Group B students scored 80 or over.

समूह बी के छात्रों की तुलना में समूह ए के छात्रों ने 80 या उससे अधिक अंक हासिल किए।

(c) More students in Group A than in Group B passed the test.

समूह बी में समूह ए की तुलना में अधिक छात्रों ने परीक्षा उत्तीर्ण की।

(d) There was a major influence of outliers in group A.

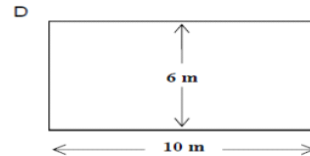
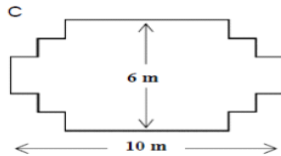
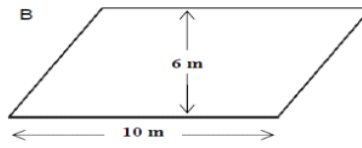
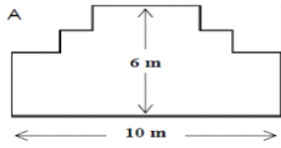
समूह ए में बाह्य व्यक्ति का एक प्रमुख दबाव था।

Answer/ उत्तर:

Level 6/ स्तर 6:

1. A carpenter has 32 metres of timber and wants to make a border around a garden bed. He is considering the following designs for the garden bed.

एक बढई के पास 32 मीटर की लकड़ी है और वह एक बगीचे के चारों ओर एक सीमा बनाना चाहता है। वह बगीचे के लिए निम्नलिखित डिजाइनों पर विचार कर रहा है।



Circle either “Yes” or “No” for each design to indicate whether the garden bed can be made with 32 metres of timber.

32 मीटर लकड़ी के साथ बनाई गई सीमा, जो बगीचे के लिए उपयुक्त हो उसपर या तो सर्किल बनाये या "हां" या "नहीं" प्रत्येक डिजाइन के लिए इंगित करें।

| Garden bed design | Using this design, can the garden bed be made with 32 metres of timber? |
|-------------------|---|
| Design A | Yes / No |
| Design B | Yes / No |
| Design C | Yes / No |
| Design D | Yes / No |

2. A horse is tied on one point of a right angled triangle of sides 3m, 4m, 5m. The rope is 7m long. There is grass everywhere except the triangle. What is the total area where the horse will be able to graze?

एक घोड़े को एक समकोण त्रिभुज की भुजा के एक बिंदु पर बांधा जाता है जो 3 मी, 4 मी, 5 मी का है। घोड़े को बांधने की रस्सी 7 मी लंबी है। त्रिकोण को छोड़कर हर जगह घास है। वह कुल क्षेत्र क्या है जिसमें घोड़ा चरने में सक्षम होगा?

- 154 sq. m / 154 वर्ग मीटर
- 148 sq. m / 148 वर्ग मीटर
- 150 sq. m / 150 वर्ग मीटर

- 155 sq. m / 155 वर्ग मीटर

SCIENCE/ विज्ञान Level 1/ स्तर 1:

1.

Fishes have gills which help them breathe in water. Human beings have lungs which help them breathe in air. Fishes can't survive in air and human beings not in water. Choose the correct statement on the basis of above.

मछलियों में गलफड़े होते हैं जो उन्हें पानी में सांस लेने में मदद करते हैं।

इंसान के फेफड़े होते हैं जो उसे हवा में सांस लेने में मदद करते हैं।

मछलियाँ हवा में नहीं बच सकतीं और इंसान पानी में नहीं। उपरोक्त के

आर पर सही कथन चुनें।

- The organisms having lungs only can't survive in air and ones' with gills can't survive in water.

केवल फेफड़े वाले जीव हवा में जीवित नहीं रह सकते हैं और गलफड़ों वाले

पानी में नहीं बच सकते।

- The organisms having gills only can't survive in air and ones' with lungs can survive in water.

जिन जीवों में गलफड़े होते हैं वे केवल हवा में नहीं रह सकते हैं और

जिनके फेफड़े पानी में जीवित रह सकते हैं।

- The organisms having lungs can survive in air and ones' with gills can survive in water.

फेफड़े वाले जीव हवा में जीवित रह सकते हैं और गिल्स पानी में जीवित

रह सकते हैं।

- The organisms having lungs only can't survive in air and ones' with gills can survive in water.

केवल फेफड़े वाले जीव हवा में जीवित नहीं रह सकते हैं और गलफड़ों वाले

| | |
|----|--|
| | पानी में जीवित रह सकते हैं। |
| 2. | <p>Tobacco smoke is inhaled into the lungs. Tar from the smoke is deposited in the lungs and this prevents the lungs from working properly. Which one of the following is a function of the lungs?</p> <p>तंबाकू का धुआं फेफड़ों में जाता है। धुएं से टार फेफड़ों में जमा हो जाता है और यह फेफड़ों को ठीक से काम करने से रोकता है। निम्नलिखित में से कौन सा फेफड़े का कार्य है?</p> <p>a. To pump oxygenated blood to all parts of your body आपके शरीर के सभी हिस्सों में ऑक्सीजन युक्त रक्त को पंप करने के लिए</p> <p>b. To transfer some of the oxygen that you breathe to your blood कुछ ऑक्सीजन जिसे आप सांस द्वारा लेते हैं, खून को स्थानांतरित करने के लिए</p> <p>c. To purify your blood by reducing the carbon dioxide content to zero. कार्बन डाइऑक्साइड की मात्रा को शून्य करके आपके रक्त को शुद्ध करना</p> <p>d. To convert carbon dioxide molecules into oxygen molecules कार्बन डाइऑक्साइड अणुओं को ऑक्सीजन अणुओं में बदलना</p> |

Level 2/ स्तर 2:

| | |
|----|--|
| 1. | <p>If animals or humans become sick with an infectious bacterial disease and then recover, the type of bacteria that caused the disease does not usually make them sick again. What is the reason for this?</p> <p>यदि जानवर या इंसान एक संक्रामक बैक्टीरिया की बीमारी से पीड़ित हो जाते हैं और फिर ठीक हो जाते हैं, तो बैक्टीरिया के प्रकार जो बीमारी का कारण बनते हैं, वे आमतौर पर फिर से बीमार नहीं होते हैं। इसका क्या कारण है?</p> <p>a. The body has killed all bacteria that may cause the same kind of disease शरीर ने सभी बैक्टीरिया को मार दिया है जो एक ही तरह की बीमारी का कारण हो सकते हैं।</p> <p>b. The body has made antibodies that kill this type of bacteria before they multiply</p> |
|----|--|

| | |
|----|---|
| | <p>शरीर ने एंटीबॉडीज बनाए हैं जो इस प्रकार के जीवाणुओं को बढ़ने से पहले मार देते हैं।</p> <p>c. The red blood cells kill all bacteria that may cause the same kind of disease. लाल रक्त कोशिकाएं उन सभी जीवाणुओं को मार देती हैं जो एक ही तरह की बीमारी का कारण हो सकते हैं।</p> <p>d. The red blood cells capture and get rid of this type of bacteria from the body. लाल रक्त कोशिकाएं कब्जा करती हैं और शरीर से इस प्रकार के जीवाणुओं से छुटकारा दिलाती हैं।</p> |
| 2. | <p>What kinds of diseases can people be vaccinated against? लोगों को किस तरह की बीमारियों से बचाया जा सकता है?</p> <p>a. Inherited diseases like haemophilia. हेमोफिलिया जैसी वंशानुगत बीमारियां।</p> <p>b. Diseases that are caused by viruses, like polio. रोग जो वायरस के कारण होते हैं, जैसे पोलियो।</p> <p>c. Diseases from the malfunctioning of the body, like diabetes. शरीर की खराबी से होने वाले रोग, जैसे मधुमेह।</p> <p>d. Any sort of disease that has no cure. किसी भी प्रकार की बीमारी जिसका कोई इलाज नहीं है।</p> |

Level 3/ स्तर 3:

| | |
|----|--|
| 1. | <p>It is recommended that young children and old people, in particular, should be vaccinated against influenza (flu), because: यह अनुशंसा की जाती है कि छोटे बच्चों और बूढ़े लोगों को विशेष रूप से, इन्फ्लूएंजा (फ्लू) के लिए टीका लगाया जाना चाहिए, क्योंकि:</p> <ul style="list-style-type: none"> • These people have less resistance to getting sick or they have a weaker immune system. |
|----|--|

| | |
|----|--|
| | <p>इन लोगों में बीमार होने की प्रतिरोधक क्षमता कम होती है या उनमें कमजोर प्रतिरक्षा प्रणाली होती है।</p> <ul style="list-style-type: none"> • The young and old can fight off disease as easily as others. <p>युवा और बूढ़े दूसरों की तरह आसानी से बीमारी से लड़ सकते हैं।</p> <ul style="list-style-type: none"> • They are less likely to catch the flu <p>उन्हें फ्लू होने की संभावना कम है।</p> <ul style="list-style-type: none"> • If they get the flu the effects are worse in these people. <p>अगर उन्हें फ्लू होगा तो वे अधिक बीमार हो जायेंगे।</p> |
| 2. | <p>How many of the following statements are correct?</p> <p>निम्नलिखित में से कितने कथन सही हैं?</p> <ul style="list-style-type: none"> • Days and night are caused due to rotation <p>घूर्णन के कारण दिन और रात होते हैं</p> <ul style="list-style-type: none"> • Seasons are caused due to rotation <p>घूर्णन के कारण ऋतुएँ होती हैं</p> <ul style="list-style-type: none"> • Days and nights are caused due to revolution <p>क्रांति के कारण दिन और रात होते हैं</p> <ul style="list-style-type: none"> • Earth spins from West to East <p>पृथ्वी पश्चिम से पूर्व की ओर घूमती है</p> <ul style="list-style-type: none"> • Earth's axis causes Seasons <p>पृथ्वी के अक्ष के कारण ऋतुएँ बनती हैं</p> <p>(a) one/ एक</p> <p>(ब) two/ दो</p> |

(स) three/ तीन

(द) four/ चार

Level 4/ स्तर 4:

1. Some people use nicotine patches to help them to give up smoking. The patches are put on skin and release nicotine into the blood. This helps to relieve cravings and withdrawal symptoms when people have stopped smoking.

To study the effectiveness of nicotine patches, a group of 100 smokers who want to give up smoking is chosen randomly. The group is to be studied for six months. The effectiveness of the nicotine patches is to be measured by finding out how many people in the group have not resumed smoking by the end of the study.

Which one of the following is the best experimental design?

कुछ लोग धूम्रपान छोड़ने में मदद करने के लिए निकोटीन पैच का उपयोग करते हैं। पैच को त्वचा पर लगाया जाता है और यह रक्त में निकोटीन छोड़ता है। जो लोगों में धूम्रपान की प्रबल इच्छा और वापसी के लक्षणों को दूर करने में मदद करता है।

निकोटीन पैच की प्रभावशीलता का अध्ययन करने के लिए, 100 धूम्रपान करने वालों का एक समूह जो धूम्रपान छोड़ना चाहते हैं, को यादृच्छिक (RANDOMLY) रूप से चुना जाता है। समूह का छह महीने तक अध्ययन किया जाना है। निकोटीन पैच की प्रभावशीलता यह पता लगाने के लिए मापी जाती है कि समूह के कितने लोगों ने अध्ययन के अंत तक धूम्रपान को फिर से शुरू नहीं किया है।

निम्नलिखित में से कौन सा सबसे अच्छा प्रयोगात्मक डिजाइन है?

- a. All the people in the group wear the patches.
समूह के सभी लोग पैच पहनें
- b. All wear patches except one person who tries to give up smoking without them.
सभी लोग पैच पहने, एक व्यक्ति को छोड़कर जो उनके बिना धूम्रपान छोड़ने की कोशिश करता है।
- c. People choose whether or not they will use patches to help give up smoking.

| | |
|----|---|
| | <p>लोग धूम्रपान छोड़ने में मदद करने के लिए पैच का उपयोग करेंगे या नहीं, इसका चयन करते हैं।</p> <p>d. Half are randomly chosen to use patches and the other half do not use them. आधे लोगों को पैच का उपयोग करने के लिए यादृच्छिक (RANDOMLY) रूप से चुना जावे और दूसरे</p> <p>आधे लोग पैच का उपयोग नहीं करें ।</p> |
| 2. | <p>Which of the following statements is correct? निम्नलिखित में से कौन सा कथन सही है?</p> <p>a. Sound doesn't need a medium to propagate, while light does. एक ध्वनि को बढ़ाने के लिए एक माध्यम की आवश्यकता नहीं होती है, जबकि प्रकाश के लिए होती है।</p> <p>b. Sound needs a medium to propagate and light too. ध्वनि को बढ़ाने के लिए एक माध्यम की आवश्यकता होती है और प्रकाश को भी ।</p> <p>c. Sound needs a medium to propagate and light doesn't. ध्वनि को बढ़ाने के लिए एक माध्यम की आवश्यकता होती है और प्रकाश के लिए एक माध्यम की आवश्यकता नहीं है।</p> <p>d. Sound doesn't need a medium to propagate and light too ध्वनि को बढ़ाने के लिए भी माध्यम की आवश्यकता नहीं होती है और प्रकाश के लिए भी नहीं ।</p> |

Level 5/ स्तर 5:

| | |
|----|------------------------|
| 1. | The greenhouse effect: |
|----|------------------------|

Living things need energy to survive. The energy that sustains life on the Earth comes from the Sun, which radiates energy into space because it is so hot. A tiny proportion of this energy reaches the Earth. The Earth's atmosphere acts like a protective blanket over the surface of our planet, preventing the variations in temperature that would exist in an airless world.

Most of the radiated energy coming from the Sun passes through the Earth's atmosphere. The Earth absorbs some of this energy, and some is reflected back from the Earth's surface. Part of this reflected energy is absorbed by the atmosphere.

As a result of this the average temperature above the Earth's surface is higher than it would be if there was no atmosphere. The Earth's atmosphere has the same affect as a greenhouse, hence the term greenhouse effect.

The greenhouse effect is said to have become more pronounced during the twentieth century.

It is a fact that the average temperature of the Earth's atmosphere has increased. In newspapers and periodicals the increased carbon dioxide emission is often stated as the main source of the temperature rise in the twentieth century.

ग्रीनहाउस प्रभाव: तथ्य या कल्पना?

जीवित चीजों को जीवित रहने के लिए ऊर्जा की आवश्यकता होती है। पृथ्वी पर जीवन के लिए ऊर्जा सूर्य से आती है, जो ऊर्जा को अंतरिक्ष में भेजती है क्योंकि यह बहुत गर्म है। इस ऊर्जा का एक छोटा हिस्सा पृथ्वी तक पहुँचता है। पृथ्वी का वातावरण हमारे ग्रह की सतह पर एक सुरक्षात्मक कंबल की तरह काम करता है, जिससे तापमान में भिन्नता को रोका जा सकता है जो एक वायुहीन दुनिया में मौजूद होगा।

सूर्य से आने वाली अधिकांश विकिरणित ऊर्जा पृथ्वी के वायुमंडल से होकर गुजरती है। पृथ्वी इस ऊर्जा में से कुछ को अवशोषित करती है, और कुछ पृथ्वी की सतह से वापस परावर्तित होती है। इस परावर्तित ऊर्जा का एक हिस्सा वायुमंडल द्वारा अवशोषित होता है।

इसके परिणामस्वरूप पृथ्वी की सतह से ऊपर का औसत तापमान इससे अधिक होता है यदि कोई वायुमंडल नहीं होता है। पृथ्वी के वायुमंडल का ग्रीनहाउस के समान प्रभाव

है, इसलिए ग्रीनहाउस प्रभाव पारिभाषिक शब्द है। कहा जाता है कि ग्रीनहाउस प्रभाव बीसवीं शताब्दी के दौरान उच्चारित हो गया था।

यह एक तथ्य है कि पृथ्वी के वायुमंडल का औसत तापमान बढ़ा है। समाचार पत्रों और पत्रिकाओं में बड़े हुए कार्बन डाइऑक्साइड उत्सर्जन को अक्सर बीसवीं शताब्दी में तापमान में वृद्धि का मुख्य स्रोत कहा जाता है।

Q1. What are CFCs (just write the full form).

सीएफसी क्या हैं (पूर्ण रूप लिखें) _____

Q2. Do they lead to the greenhouse effect (Yes or No)? _____

क्या वे ग्रीनहाउस प्रभाव का नेतृत्व करते हैं (हां या नहीं)? _____

Q3. Can Moon have the greenhouse effect like Earth (Yes or No)? _____

क्या चंद्रमा का ग्रीनहाउस प्रभाव पृथ्वी की तरह हो सकता है (हां या नहीं)?

Level 6/ स्तर 6:

1. Stickleback Behaviour:

During breeding time, if the male stickleback sees a female he will try to attract the female with courtship behaviour that looks like a little dance. In an experiment, this courtship behaviour is investigated.

Here, three wax models on a piece of wire are used. One is red-coloured; two are silver-coloured with one having a flat belly and the other a round belly. The student counts the number of times (in a given amount of time) that the male stickleback reacts to each model by showing courtship behaviour.

The results of this experiment are shown below.

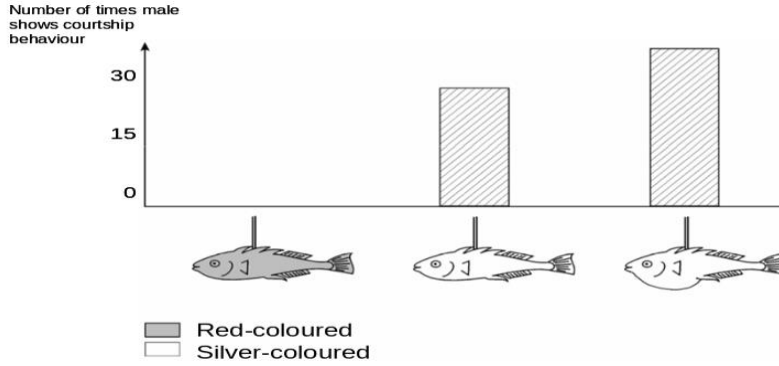
स्टिकलबैक (एक प्रकार की छोटी मछली) व्यवहार:

प्रजनन के समय के दौरान, यदि नर स्टिकलबैक को एक मादा दिखाई देती है तो वह एक छोटे से नृत्य समान प्रेमालाप व्यवहार के साथ मादा को आकर्षित करने की कोशिश करेगी। एक प्रयोग में, इस प्रेमालाप व्यवहार की जांच की जाती है।

यहां, तार के एक टुकड़े पर तीन मोम मॉडल का उपयोग किया जाता है। एक लाल रंग का है; दो चांदी के रंग के होते हैं जिनमें से एक सपाट पेट और दूसरा एक गोल पेट

होता है। छात्रों द्वारा नर स्टिकलबैक के प्रेमालाप व्यवहार को प्रत्येक मॉडल पर होने वाली प्रतिक्रिया (समय की मात्र दर्शाई गई है) को दर्शाया गया है।

इस प्रयोग के परिणाम नीचे दिखाए गए हैं।



Three students each draw a conclusion based on the results of this experiment. Are their conclusions correct according to the information given in the graph? Circle "Yes" or "No" for each conclusion.

तीन छात्र इस दूसरे प्रयोग के परिणामों के आधार पर निष्कर्ष निकालते हैं। क्या उनके निष्कर्ष ग्राफ में दी गई जानकारी के अनुसार सही हैं? प्रत्येक निष्कर्ष के लिए "हाँ" या "नहीं" पर गोला करें।

| | |
|--|------------------------|
| Is this conclusion correct according to the information in the graph? | Yes or No |
| ग्राफ में जानकारी के अनुसार क्या यह निष्कर्ष सही है? | हाँ या ना |
| The red colour causes courtship behaviour by the male stickleback. लाल रंग नर स्टिकलबैक द्वारा प्रेमालाप व्यवहार का कारण बनता है। | Yes or No हाँ या ना |
| A flat-bellied female stickleback causes most courtship behaviour from a stickleback male. एक मादा स्टिकलबैक का सपाट पेट, एक नर स्टिकलबैक से अधिकांशतः प्रेमालाप व्यवहार का कारण बनता है। | Yes or No हाँ या ना |
| The male stickleback shows courtship behaviour more often to a round-bellied female than to a flat-bellied female. | Yes or No हाँ या ना |

| | | | |
|--|---|--|--|
| | नर स्टिकलबैक, सपाट पेट वाली मादा स्टिकलबैक की तुलना में एक गोल पेट वाली मादा को प्रेमालाप व्यवहार अधिक बार दिखाता है। | | |
|--|---|--|--|

APPENDIX B – Socio-Emotional Competency Scale

Please put a tick [✓] against each of the sentences given below

कृपया नीचे दिए गए प्रत्येक वाक्य के लिए टिक [✓] लगाएं

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 1 | I often try to come up with new ideas. मैं प्रायः नए विचारों के बारे में सोचता हूँ। | | | | | |
| 2 | I always think of doing day-to-day activities differently. मैं सदैव इस बारे में सोचता हूँ कि दैनिक कार्य को अलग तरीके से कैसे किया जाए। | | | | | |
| 3 | I often look for new ideas different from the book so that I can use them in my studies. मैं प्रायः किताबों के बाहर नए विचारों की तलाश करता हूँ जो अपनी पढ़ाई में उपयोग कर सकूँ। | | | | | |

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 4 | Whenever I have a new idea I always discuss it with someone how successful will it be. जब भी मुझे कोई नया विचार आता है तो मैं हमेशा किसी से इस बारे में चर्चा करता हूँ कि यह कितना सफल होगा। | | | | | |
| 5 | I carry out my tasks based on their importance. मैं अपने कार्यों को उनके महत्व के अनुसार पूरा करता हूँ। | | | | | |
| 6 | I know the habits that do not let me use my time effectively. मैं उन आदतों को जानता हूँ जो मुझे अपने समय का प्रभावी ढंग से उपयोग नहीं करने देती हैं। | | | | | |
| 7 | I can study on my own. मैं स्वयं पढ़ाई कर करने में सक्षम हूँ। | | | | | |

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 8 | When I put efforts, my work output gets better. जब मैं स्वयं प्रयास करता हूँ, तो मेरा काम बेहतर हो जाता है। | | | | | |
| 9 | Once I start a task, I complete it. एक बार जब मैं एक कार्य शुरू करता हूँ, तो मैं इसे अंत तक पूरा करता हूँ। | | | | | |
| 10 | Failure in a subject cannot stop me from studying it again. किसी विषय में असफलता मुझे फिर से उसका अध्ययन करने से नहीं रोक सकती। | | | | | |
| 11 | I regularly figure out how to do the most difficult classworks. मैं लगातार यह प्रयास करता रहता हूँ कि सबसे कठिन विषयों की पढ़ाई कैसे करना है। | | | | | |

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 12 | Even if there are difficulties, I work hard to get good grades. भले ही कितनी भी कठिनाइयाँ हों, मैं अच्छे ग्रेड पाने के लिए कड़ी मेहनत करता हूँ। | | | | | |
| 13 | I try to show the correct way of solving a question. मैं किसी समस्या को हल करने का सही तरीका खोजने की कोशिश करता हूँ। | | | | | |
| 14 | When I work in a group, I help people solve their problems. जब मैं किसी समूह में काम करता हूँ, तो मैं लोगों को उनकी समस्याओं को हल करने में मदद करता हूँ। | | | | | |
| 15 | I try to motivate other students in the class. मैं कक्षा में अन्य छात्रों को प्रेरित करने की कोशिश करता हूँ। | | | | | |

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 16 | I believe that I am gaining knowledge to serve others in the future. मेरा मानना है कि मैं भविष्य में दूसरों की सेवा करने के लिए ज्ञान प्राप्त कर रहा हूँ। | | | | | |
| 17 | I try to think about the problems of others. मैं दूसरों की समस्याओं के बारे में सोचने की कोशिश करता हूँ। | | | | | |
| 18 | I am concerned about wastage of natural resources like water, air. मैं प्राकृतिक संसाधनों जैसे पानी, हवा के अपव्यय के बारे में चिंतित हूँ। | | | | | |
| 19 | I always choose the product/service that creates less pollution. मैं हमेशा उन चीजों को चुनता हूँ जो कम प्रदूषण पैदा करती हैं। | | | | | |

| QUESTIONS | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|------------------|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 20 | If I see something immoral, I try to correct it. अगर मुझे कुछ अनैतिक लगता है, तो मैं इसे ठीक करने की कोशिश करता हूँ। | | | | | |
| 21 | I believe I can overcome any challenges. मुझे विश्वास है कि मैं किसी भी चुनौती का सामना कर सकता हूँ। | | | | | |
| 22 | I am always motivated to improve my life. मैं हमेशा अपने जीवन को बेहतर बनाने के लिए प्रेरित रहता हूँ। | | | | | |
| 23 | I take help of the internet to do my homework. मैं अपना होमवर्क करने के लिए इंटरनेट की मदद लेता हूँ। | | | | | |

APPENDIX C – Higher Education Readiness Scale

Please put a tick [✓] against each of the sentences given below

कृपया नीचे दिए गए प्रत्येक वाक्य के लिए टिक [✓] लगाएं

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 1 | <p>I feel that I am prepared with enough knowledge and confidence to select the career I want to pursue.</p> <p>मुझे लगता है कि मैं अपना करियर चुनने के लिए पर्याप्त ज्ञान और आत्मविश्वास के साथ तैयार हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 2 | I am prepared for higher education institutions for pursuing deeper understanding of my subject. मैं अपने विषय की गहरी समझ हासिल करने के लिए उच्च शिक्षा संस्थानों में जाने के लिए तैयार हूँ। | | | | | |
| 3 | I think I am interested in STEM knowledge after school. मैं सोचता हूँ कि कि मुझे स्कूल के बाद STEM ज्ञान प्राप्त करने में दिलचस्पी है। | | | | | |
| 4 | I feel bored when I think of pursuing further learning. जब मैं आगे सीखने के बारे में सोचता हूँ तो मैं ऊब जाता हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 5 | I believe that I can make appropriate choice about what to learn. मैं मानता हूँ कि मैं जो सीखना चाहता हूँ उसके बारे में उपयुक्त चुनाव कर सकता हूँ। | | | | | |
| 6 | I think I can deal with schoolwork and pressure well. मैं सोचता हूँ कि मैं स्कूल के काम और दबाव से अच्छी तरह निपट सकता हूँ। | | | | | |
| 7 | I feel that I am affected by bad results frequently. मुझे लगता है कि मैं अक्सर खराब परिणामों से प्रभावित होता हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 8 | I think that I am good at dealing with setbacks at school. मैं सोचता हूँ कि मैं स्कूल में होने वाली असफलताओं से निपटने में अच्छा हूँ। | | | | | |
| 9 | I am prepared to look at the positive things about myself despite repeated poor performances in my subjects. अपने अध्ययन विषयों में बार-बार खराब प्रदर्शन के बावजूद मैं अपने बारे में सकारात्मक चीजों को देखने के लिए तैयार हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 10 | <p>I think that when I am given negative feedbacks on my class activities, I am prepared to be self- confident.</p> <p>मैं सोचता हूँ कि जब मुझे मेरी कक्षा की गतिविधियों पर नकारात्मक प्रतिक्रियाएँ दी जाती हैं, तो मैं हर दिन आत्मविश्वास बनाए रखने के लिए तैयार रहता हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 11 | <p>I feel that I am not adequately prepared to understand the language used in the higher education texts.</p> <p>मुझे लगता है कि मैं उच्च शिक्षा की किताबों में इस्तेमाल की जाने वाली भाषा को समझने के लिए पर्याप्त रूप से तैयार नहीं हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 12 | I believe that I am prepared for putting extra efforts (long hours of study, willingly minimising entertainment). मैं मानता हूँ कि मैं अतिरिक्त प्रयास करने के लिए तैयार हूँ (लंबे समय तक अध्ययन, स्वेच्छा से मनोरंजन को कम करना)। | | | | | |
| 13 | I believe that I am prepared to express my needs to the faculty. मैं मानता हूँ कि मैं अपनी आवश्यकताओं को शिक्षकों के सामने व्यक्त करने के लिए तैयार हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 14 | I think the current secondary curriculum prepares me for innovative thoughts regarding the higher studies I want to pursue. 14. मैं सोचता हूँ कि वर्तमान माध्यमिक पाठ्यक्रम मुझे उच्च शिक्षा के बारे में नवीन विचारों के लिए तैयार करता है जिसे मैं आगे बढ़ाना चाहता हूँ। | | | | | |
| 15 | I feel that my secondary programme prepares me for working as a part of team. मुझे लगता है कि मेरी माध्यमिक शिक्षा मुझे टीम के हिस्से के रूप में काम करने के लिए तैयार करती है। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 16 | <p>My current secondary courses prepare me to plan my time for managing the studies.</p> <p>मेरे वर्तमान माध्यमिक पाठ्यक्रम मुझे अध्ययन प्रबंधन के लिए अपने समय की अच्छी तरह से योजना बनाने के लिए तैयार करते हैं।</p> | | | | | |
| 17 | <p>I believe that I am not prepared to correctly judge my potential towards pursuing higher education.</p> <p>मैं मानता हूँ कि मैं उच्च शिक्षा प्राप्त करने की अपनी क्षमता का सही आकलन करने के लिए तैयार नहीं हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 18 | <p>I believe that the current secondary programme prepares me to achieve better results in the assessments of higher learning programmes.</p> <p>मैं मानता हूँ कि वर्तमान माध्यमिक कार्यक्रम मुझे उच्च शिक्षा कार्यक्रमों के आकलन में बेहतर परिणाम प्राप्त करने के लिए तैयार करता है।</p> | | | | | |
| 19 | <p>I think that I am prepared to do every class task as sincerely as possible.</p> <p>मैं सोचता हूँ कि मैं कक्षा के प्रत्येक कार्य को यथासंभव ईमानदारी से करने के लिए तैयार हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 20 | I believe that my current studies prepare me to improvise the prevalent conditions of the society. मेरा मानना है कि मेरी वर्तमान शिक्षा मुझे समाज की प्रचलित परिस्थितियों को सुधारने के लिए तैयार करती है। | | | | | |
| 21 | I think that I am prepared to improvise myself for pursuing STEM higher education. मैं सोचता हूँ कि मैं उच्च शिक्षा में STEM सीखने के लिए अपने आप में सुधार करने के लिए तैयार हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 22 | I believe that in any team projects in which I am involved, I am prepared to perform very effectively in my role of any shared projects that I am involved in. मैं मानता हूँ कि किसी भी टीम प्रोजेक्ट में जहाँ मैं शामिल हूँ, मैं अपनी भूमिका को बहुत प्रभावी ढंग से निभाने के लिए तैयार हूँ। | | | | | |
| 23 | I believe that my curriculum prepares me to learn through practical experience. मैं मानता हूँ कि मेरा पाठ्यक्रम मुझे व्यावहारिक अनुभव के माध्यम से सीखने के लिए तैयार करता है। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 24 | I think that I am prepared to deal with the risks of work-based projects. मैं सोचता हूँ कि मैं कार्य-आधारित परियोजनाओं के जोखिमों से निपटने के लिए तैयार हूँ। | | | | | |
| 25 | I think that I am prepared to work in the local industry outside school for extra knowledge. मैं सोचता हूँ कि मैं अतिरिक्त ज्ञान के लिए स्कूल के बाहर स्थानीय उद्योग में काम करने के लिए तैयार हूँ। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 26 | I believe that I am prepared to access the entrepreneurial information from industry and create my own opportunities. मैं मानता हूँ कि मैं उद्योगों से उद्यमशीलता की जानकारी प्राप्त करने और अपने स्वयं के अवसर बनाने के लिए तैयार हूँ। | | | | | |
| 27 | I think I am prepared to involve in class activities that help me in expressing new ideas. मैं सोचता हूँ कि मैं कक्षा की गतिविधियों में शामिल होने के लिए तैयार हूँ जो मुझे नए विचारों को व्यक्त करने में मदद करती हैं। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 28 | I believe that I am prepared to use my learnt education to generate new knowledge. मैं मानता हूँ कि मैं अपनी सीखी हुई शिक्षा का उपयोग नए ज्ञान के सृजन के लिए करने के लिए तैयार हूँ। | | | | | |
| 29 | I think that my curriculum prepares me to develop novel uses of the learnt materials. मैं सोचता हूँ कि मेरा पाठ्यक्रम मुझे सीखी हुई शिक्षा के नए उपयोगों को विकसित करने के लिए तैयार करता है। | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|---|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 30 | <p>I think that I am prepared to efficiently distribute the study time of various subjects.</p> <p>मैं सोचता हूँ कि मैं विभिन्न विषयों के अध्ययन समय को कुशलतापूर्वक व्यवस्थित करने के लिए तैयार हूँ।</p> | | | | | |
| 31 | <p>I believe that I am prepared to provide positive feedback to my classmates.</p> <p>मैं मानता हूँ कि मैं अपने सहपाठियों को सकारात्मक प्रतिक्रिया देने के लिए तैयार हूँ।</p> | | | | | |

| <u>With respect to pursuing higher education:</u> | | strongly agree निश्चित सहमत | agree सहमत | not sure कुछ नहीं कह सकते | disagree असहमत | strongly disagree निश्चित असहमत |
|--|--|---------------------------------------|----------------------|-------------------------------------|--------------------------|---|
| 32 | I believe that I am prepared to try to effectively solve problems. मैं मानता हूँ कि मैं समस्याओं को प्रभावी ढंग से हल करने के प्रयास करने के लिए तैयार हूँ। | | | | | |

LIST OF PUBLICATIONS & CONFERENCES

Publications

Chakraborty, D., Shukla, T., & Nadig, R. (2023) Addressing Educational and Professional Inequalities Through Capability Approach. Mind and Society 12(3)

Shukla, T., Nirban, V.S., & Chakraborty, D. (2023). Evidential Insights: Factors Affecting Higher Education Readiness. Evidence-Based Management Practices in Business Routledge [eBook ISBN: 9781003415725]

Chakraborty, D., Shukla, T., & Nirban, V.S. (2023). Social sustainability Skills in Secondary Education: Gender and Spatial Contexts. International Journal of Evaluation and Research in Education, 13

Shukla, T., Nirban, V. S., Chakraborty, D. & Dosaya, D. (2021). Mathematical and Scientific Abilities of Students: A Study on Gender & Cognitive Functioning. International Journal of Multidisciplinary Educational Research 6(1)

Shukla, T., Nirban, V.S., & Chakraborty, D. (2020). Comprehending Accountability and Educational Learning Outcomes Test Engineering and Management, 83(2)

Conferences

Evidential Insights: Factors Affecting Higher Education Readiness- 4th International Conference on Evidence-Based Management, 2023, BITS Pilani

Higher Education Readiness and STEM: From Gender and Spatial Reference Perspective. National Seminar in Post-Colonial World: New Normal in Post Covid Situation, NIEPA, 2022, New Delhi

BIOGRAPHY

Dr. Tanu Shukla is an Associate Professor at BITS Pilani, Pilani Campus in the Department of Humanities and Social Sciences. She received her doctorate from the National Institute of Educational Planning and Administration in New Delhi. She has authored books and published numerous papers in prestigious international and national journals. Her research interests include Educational Psychology, Applied Social Psychology, Organisational Behaviour, Educational Technology, and Research Methodology.

Prof. Virendra Singh Nirban is a Professor, Humanities and Social Sciences, BITS Pilani, Pilani Campus, Rajasthan. He also holds a position of Public relations Officer (PRO) at BITS Pilani. He did his Ph.D. from BITS Pilani in the area of Commuter Mediated Communication. He has authored books and various papers in journals of international repute. His area of research includes education, Technological Interventions, E-Governance, Informatics, and Digital Humanities.