

**CREATIVITY AMONG SECONDARY SCHOOL STUDENTS:
THE ROLE OF SCHOOL AND FAMILY SUPPORT**

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BY
KALYAN GHORAI
REGISTRATION NO. A00ED1200418

SUPERVISED BY

DR. LALIT LALITAV MOHAKUD
ASSOCIATE PROFESSOR OF EDUCATION
JADAVPUR UNIVERSITY, KOLKATA

DR. MITA HOWLADAR
ASSOCIATE PROFESSOR OF EDUCATION
JADAVPUR UNIVERSITY, KOLKATA

**DEPARTMENT OF EDUCATION
FACULTY OF ARTS
JADAVPUR UNIVERSITY
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1.0. Chapter-I: Introduction

Rapid changes and technological advances characterize modern society in the history of mankind. These changes are more rapid than in previous decades (Bhaskar & Kumar, 2024). Students need creative skills to thrive in the era of globalization (Astutik & Prahani, 2018). Creative thinking ability is more or less observed in all students. It is a psychological construct that is essential for the development of the entire nation as well as the individual unique development of a student. Creative ability for change and progress of society since time immemorial. This creative ability of humans is both inherited and acquired. In this context, the family and school environment play a decisive role in the expression of students' creative talents (Grabowska, 2024). Therefore, delving into the creativity, family and school support among secondary school students holds immense value and significance in today's context.

This chapter explains the concept of secondary level education and the developmental aspects of secondary school students. This chapter also offers an overview of creativity, school support, family support and particularly different Parenting Styles (PSs). Again, this chapter highlights the relationship and theoretical perspectives of creativity, family and school support.

2.0. Chapter-II: Review of Related Literature

The literature review is essential to the research process because it gives a broad picture and critically analyses what is already known. As Fannon (2021) elucidates, it summarizes, analyzes, evaluates, and synthesizes relevant literature within a specific field, highlighting key theories, concepts, and research trends. It presents the research problem in its proper context, finds gaps in the research, and explains why the study is important. This enables researchers to engage effectively with the field and contribute substantially to academic discourse. This chapter establishes a robust research foundation, equipping researchers with insights into prior research findings, methodologies, and frameworks.

The literature study presented here in thoroughly explores creativity, school environment, family environment, and their interrelationships. Specifically, it investigates the role of school and family environments in fostering creativity among school students. This study focused on a wide variety of literature research to generate a thorough justification for

the research questions and involvement of knowledge through a semi-systematic investigation. The objectives of the present literature are:

1. To identify research gaps and gather sufficient information for the investigation.
2. Formulate research questions, outline the research problem, objectives, and hypotheses, and direct the research methodology.
3. To connect current research with broader field research, critical studies that align with the research problem being investigated must be identified.
4. To assist the researcher in conducting the research process and identifying this study's crucial components or demographic variables.
5. To assist the researcher in understanding the study's significance, applicability, connection with other studies, and pedagogical implications.

2.1. Methodology of Literature Review

The researcher followed a semi-systematic and integrative literature review approach in the present study. The semi-systematic or narrative review approach is designed for topics that have been conceptualized differently and studied by various groups of researchers within diverse disciplines and that hinder a full systematic review process (Wong et al., 2013). When a systematic review is not feasible, a semi-systematic review can help synthesize research on a topic or how a topic has been studied in different fields (Snyder 2019). In the present literature review, the researcher first identified a few search terms, keywords, and phrases related to the selected research area and specified some online research databases to find out the available research literature (Wong et al., 2013). The literature search utilised widely recognised and reliable databases, including Google Scholar, ProQuest, ScienceDirect, Scopus, and Shodhganga.

To explore the themes of school environment and family environment in fostering students' creativity, various keywords were used, "Creativity", "School Environment", "Family Environment", "Creativity and School Environment", "Creativity and Family Environment", "Creativity and School and Family Environment", "Lower Secondary School", "Secondary School Students" and "Secondary School Students and Creativity". The researcher focused on literature published in English between 1999 and 2024 to ensure the inclusion of recent and relevant studies.

Table No. 2.1. List of Selecting Literature

Databases	Papers and Thesis Downloaded	Selected
Google Scholar	107	54
ProQuest	33	7
Science Direct	29	11
Scopus	62	14
Shodhganga	17	6
Total	248	92
Finally Included		92

2.2. Summary of the Trend Analysis

The trend analysis of the included ninety-two studies conducted between 1999 and 2024 revealed that thematically the highest number of studies was conducted between the years 2020-2024. Year-wise distribution of the studies on other themes showed unequal distribution. Location-wise analysis showed that most of the studies were conducted abroad, and only a few were conducted in Indian contexts. While research method/design was the concern, the analysis showed that a survey study is the best suited for studying creativity, school environment and family environment.

3.0. Chapter-III: Problem Statement

The ‘Problem Statement’ chapter serves as the keystone for the research by laying out the preliminary work for the study. The main purpose of this chapter is to describe the research problem and the procedure followed to identify it. This chapter focuses on the investigator’s assumptions, background, and positionality, establishing the rationale behind the study, research questions, statement of the problem, operational definition, clarification of objectives, formulation of hypotheses, and delineation of the study’s delimitations.

3.1 . Rationale of the Study

In the 21st century, creativity is a valuable asset that fosters wisdom beyond the capabilities of machines. It opens doors to alternative possibilities and innovative problem-solving approaches (Piirto, 2011; Oke et al., 2022). Creativity is one of the most popular research areas among psychologists and educationists (Sawyer & Henriksen, 2024). We all human beings possess more or less creative abilities. The enfoldment of

this creative ability requires proper nourishment. Christie and Johnsen (1983) reported that creativity was commonly defined as ideational fluency, flexibility, and originality (Wallach & Kogan, 1965). Many authors have also discussed the enormous waste of creative talent due to the lack of opportunities for developing and expressing this creative potential (Alencar, 1995, 1996; Alencar, Fleith & Virgolim, 1995; Montoury & Purser, 1995). Creativity is not a single characteristic but rather the result of the interplay of multifaceted intellectual abilities influenced by various factors (Guilford, 1965). Osborn (1957), Parnes and Meadow (1959, Lee (2004), 1969), Tripathy and Shukla (1990), Sullivan and Tylor (1967) et al. (1958, 60) etc. have clearly stated that creativity can be enhanced through training, stimulation and intervention.

The development of creative abilities is very important for all of us. Many research results found that different factors influence students' creativity (Le et al., 2022). Malhotra (1990) suggested that the synectic teaching method affected the students' improvement on all four factors, viz., fluency, flexibility, originality and elaboration. A supportive environment is critical for children's creativity development (Amabile, 1996; Niu, 2007). Torrance (1970) and Guilford (1965) emphasized that personalized teaching approaches in classroom settings allow students to express and develop creativity. Teaching methodologies also significantly affect creativity (Melka, 2024; Raeisoon et al., 2024). Melka (2024) highlighted the importance of integrating teaching approaches such as project-based, inquiry-based, brainstorming, and problem-based learning into traditional classrooms to cultivate creativity. Problem-solving activities, in particular, significantly enhance creativity, improving traits such as fluency, flexibility, originality, elaboration, adventurousness, curiosity, and the ability to embrace challenges (Arabacı & Baki, 2023; Komalasari et al., 2024; Lou et al., 2017). Furthermore, Niu and Sternberg (2003) observed that creativity progresses significantly when students receive explicit instructions from teachers on creativity. Recent advancements propose innovative educational models to foster creativity. Zana-Sternfeld et al. (2024) introduced the Empowering Creative Education Model, which integrates creativity into academic settings to develop self-awareness, academic success, and emotional well-being. Positive peer relationships and emotional and environmental connections to the classroom create a safe and open learning environment that enhances students' creative potential (Zhang et al., 2023; Dung My Le et al., 2022). Teacher support has been identified as a key factor, boosting students' fluency early on and fostering originality over time (Zhang et al.,

2020). Teachers who adopt open-minded attitudes, provide ample space for creativity and focus on learning goals while maintaining a strong belief in knowledge and motivation for creative work can significantly influence students' creativity (Richardson & Mishra, 2015; Hong et al., 2009). On a related note, Yilmaz (2010) demonstrated a significant link between school principals' ethical behaviors and the creative outcomes of schools, with ethical decision-making showing strong ties to creativity. However, challenges persist. Many teachers hold misconceptions about creativity and lack clarity on the actions needed to foster it. This is often due to subjective biases, formative assessments, and a focus on their own creative practices rather than students' creative outputs (Aljughaiman, 2005; Brandon et al., 2024; Bolden et al., 2019). Harris and Bruin (2018) suggested that interdisciplinary collaboration, sharing experiences about classroom dialogue, and organizational strategies could help teacher's foster critical and creative thinking among students. In conclusion, school support plays a more crucial role than ever in developing students' creative potential, enabling them to thrive in an increasingly complex world.

School environment is a vital source of social support from both sides, teachers and peers. The empirical study of creativity also shows that school support is an imperative factor influencing students' creativity (Zhang et al., 2020). The secondary stage is a vital stage for the development of creative abilities. Understanding the creativity of higher secondary school students is particularly crucial for several reasons. High school students, typically aged 14 to 16, are in adolescence, a developmental phase often described as a transition from childhood to adulthood (Van der Zanden et al., 2020). Students undergo significant neurodevelopment changes during this period, including progressing from meta-cognitive to analytical and critical thinking (Demir, 2022; Kleibeuker et al., 2017). These evolving cognitive stages present an ideal opportunity to nurture creativity, equipping students to address real-life challenges in the future (Rothenberg, 1990; Huang & Wang, 2019). Research indicates that creativity among high school students generally exists at a moderate level. However, innovative and targeted strategies and tools can effectively enhance their creative potential (Ayishajuhi & Sreeletha, 2019; Rababah et al., 2013). Creativity significantly influences academic performance, with private school students who experience greater creative exposure often outperforming their counterparts in government schools (Biswal et al., 2024; Gralewski & Karwowski, 2012). Although creativity shows no notable direct relationship with achievement motivation, it positively impacts educational motivation, intrinsic

motivation, and students' focus on innovative adaptation styles (Wang et al., 2021; Mostafavi et al., 2020; Jha, 2012; Dung My Le et al., 2022). Moreover, creativity offers original and practical ways to resolve conflicts, promoting self-efficacy and boosting student self-esteem (González Moreno & Molero Jurado, 2023; Van der Zanden et al., 2020). Additionally, it enhances positive moods, improves well-being, increases life satisfaction, and supports self-actualization in creative individuals (Acar et al., 2020; Li & Wu, 2024; Tan et al., 2008). Interestingly, introverted students often possess greater creative potential, exhibiting higher levels of flexibility and originality (Parveen & Ramzan, 2013; Arabacı & Baki, 2023). However, students with moderate creativity levels may face challenges, particularly in fluency and flexibility, while still demonstrating high originality (Rababah et al., 2013). While school GPA and creativity show no consistent relationship, creativity uniquely predicts academic success (Mourgues et al., 2016; Gralewski & Karwowski, 2012; Freund & Holling, 2008). Further research on the creativity of high school students reveals that various demographic factors significantly influence it, both positively and negatively. Factors such as gender, socio-economic status, locality, and the class of study often positively shape creativity (He et al., 2015; Chinwe & Ugwuegbulam, 2014; Madireddy & Paripally, 2022). For example, Sindhuja and Punitha (2018) found that girls exhibited higher levels of creativity than boys, and English-medium students surpassed Tamil-medium students in creative outputs. However, Rao (2022) reported no significant differences in creativity between rural and urban students or between government and private school students.

The family environment is the closest and most influential social condition for child development, including creative growth (Sudrajat, 2019). Creative development is strongly associated with parental involvement, a healthy family environment, and positive family attributes such as expressiveness, independence, and achievement orientation (Kumar & Singh, 2018; Lew, 2015; Van der Zanden et al., 2020). Additionally, parental education and autonomy-supportive parenting play vital roles in fostering creativity (Niu, 2007). Fan et al. (2024) demonstrated that autonomy support, behavioral control, and content support positively influence creativity, while psychological control has a negative impact. Similarly, Zheng et al. (2020) found that parental involvement in schooling enhances creativity, with supervisors' coaching behaviors moderating the adverse effects of over-parenting. Specific parental actions, such as engaging in their child's learning, introducing new domains of education,

offering praise, and providing motivation, are key drivers of creative pursuits (Sen & Sharma, 2013). Moreover, parents' creativity significantly impacts their children's creativity, sometimes to a greater extent than their efforts (Qgundipe & Chika, 2022; Fearon et al., 2013). The relationship between parenting styles and students' creative thinking has been extensively studied. Many studies report a positive and significant association between creativity and certain parenting styles (Mehrinejad et al., 2015; Ramezani et al., 2017; Pugsley & Acar, 2018; Queen & Chika, 2022). However, authoritarian parenting consistently shows a negative relationship with creativity, making it the most detrimental style for fostering creative thinking (Fearon et al., 2013; Chen, 2021; Miller et al., 2012). Similarly, democratic and overprotective parenting styles, though prevalent, are negatively correlated with creativity (Tamimi & Qudah, 2019). On the other hand, mindful parenting indirectly supports creativity by encouraging traits that deviate from strict adherence to social norms, some of which align with creative behavior (Pugsley & Acar, 2018). Miller et al. (2012) highlighted a positive correlation between permissive parenting and creativity. Lim and Smith (2008) noted that leniency-based parenting often results in higher loneliness and weaker relationships with children's creative personalities. Few studies have explored the influence of various demographic factors on family support and its impact on creativity. Research suggests that perceived parental support is positively related to creativity and socio-economic status (Liang et al., 2021). For instance, disadvantaged family backgrounds appear to have a greater influence on creative thinking among girls (Zhao & Yang, 2021), while fathers' autonomy significantly impacts creativity (Jankowska & Gralowski, 2022). Family economic status is also linked to initial creativity, though its impact on creative growth remains negligible. However, high socio-economic status correlates positively with both verbal and non-verbal creative potential (Jankowska & Karwowski, 2019; Sinha, 2021). Among these, school and family play a vital role in fostering students' creativity by providing supportive environments (Albari et al., 2013).

Based on the literature review and emerging research trends, there is a growing interest in studying family and school environment for creativity among school students. Despite significant research in these areas, gaps remain that warrant further exploration. The reviewed studies indicate that creativity is vital for helping students confront future challenges with unique perspectives, and school and family environment play critical roles in shaping creativity. School students' creativity is significantly influenced by demographic variables such as gender, socio-economic status, and locality.

However, limited research has examined the influence of family type and parental education on creativity. Similarly, while school and family environment have been studied separately, there is a noticeable lack of research examining these variables collectively with creativity. However, few have measured the combined effects of demographic factors on social and family support as they relate to creativity. Notably, no comprehensive study has explored the interrelationships among creativity, school environment, and family environment while considering demographic variables as background factors. While numerous studies have addressed these aspects separately, holistic investigation of their combined influence is still absent. Furthermore, although research on these topics has been conducted both in India and internationally, but the number of studies in India remains limited. Notably, no studies have been identified in the context of West Bengal, highlighting a significant research gap in this region.

To address these gaps, the researcher aims to conduct a comprehensive study that examines creativity, school environment, and family environment concerning various demographic variables among secondary school students. In light of these research trends and knowledge gaps, the following research questions have been identified for investigation:

1. What are the prevalence rates of Creativity, School Environment (SE) and Family Environment (FE) among secondary school students?
2. How do demographic factors influence Creativity, SE and FE among secondary school students?
3. How are Creativity, SE and FE interconnected, and how do they independently and collectively affect and predict each other among secondary school students?

Therefore, a comprehensive investigation is essential to examine the influence of school and family Environment on the creativity of secondary school students in West Bengal. This study should also account for various demographic factors to address concerns and bridge the information gaps identified in prior research.

3.2. Statement of the Problem

In light of the rationale, the identified research gaps, and the raised questions, the problem for the present study was stated as **“Creativity among Secondary School Students: The Role of School and Family Support”**.

3.3. Operational Definition of the Major Terms Used

Creativity: In the present study, creativity refers to the creative thinking, work, and ideas obtained by secondary school students. It includes a person's behavioural characteristics like fluency, flexibility, and originality.

Fluency: Fluency is an individual's ability to produce many ideas in a given task within a specific time. When the responses are in words, it is called verbal fluency; when they are in figural form, it is called nonverbal fluency.

Flexibility: Flexibility is an individual's ability to produce various ideas in a given task within a specific time. In the case of word responses, it is called verbal flexibility; in the case of figural form, it is called non-verbal flexibility.

Originality: Originality is the ability of an individual to produce unusual ideas or rarer responses in a given task within a specific time. When the responses are in words, it is called verbal originality; when the responses are in figural form, it is called non-verbal originality.

School Support: School Support is defined as the atmosphere prevailed in the school, which affects all the aspects of a student's life and influences his/her overall creativity. In the present study, teachers provide conditions and opportunities like new ideas, learning materials, independent study, encouraging Independent Writing of Answers, etc. to stimulate creative thinking in secondary school children.

Family Support: In general, Family Support refers to parental efforts aimed at assisting their child's development. In the present study, Family support refers to a combination of parental involvement (PI) and parental supervision (PSu) among secondary school students. Parents use many aspects of child-rearing, such as discipline, communication, emotional support, etc.

Parental Involvement: Parental involvement is defined as a positive interaction between a parent and their child. Parental involvement at home can include parent activities such as discussions about school, helping with homework and enhancing the reading of children.

Parental Supervision: Parental supervision refers to a method of child-rearing behavior in which parents are continually informed about their children's activities.

Parenting Style: Parenting style is defined as parental efforts aimed at assisting their child in bringing out. In the present study, parenting style is the strategy or method used to raise and nurture their children.

Secondary School Students: In India, the secondary school level refers to Class-IX to Class-XII, which covers the fourteen-to eighteen-year-old age group. Lower and higher secondary level consider as class-IX to X and XI to XII. In the present study, secondary school children refer to the students studying in Class IX to Class X in different schools in India.

3.4. Objectives of the Study

The present study was undertaken to meet the following objectives:

- 1.1. To determine the level of SS among secondary school students in West Bengal (WB).
- 1.2. To assess the variations in SS among the secondary school students in WB concerning the demographics (School type, class, gender, family type, number of siblings, parental educational qualification and family monthly income).
 - 2.1. To determine the level of FS [in terms of Parental Involvement (PI) and Parental Supervision (PSu)] among the secondary school students in WB.
 - 2.2. To assess the variations in FS (in terms of PI and PSu) among the secondary school students in WB concerning the demographics.
 - 2.3. To find out the dominating parenting styles (PSs) among the secondary school students in WB.
 - 2.4. To measure the influence of demographics on PSs among the secondary school students in WB.
- 3.0. To assess the variations in overall and dimension-wise creativity among the secondary school students in WB concerning the demographics.
 - 3.1.1. To assess the variations in overall creativity among the secondary school students in WB concerning the demographics.
 - 3.1.2. To examine the variations in overall fluency among the secondary school students in WB concerning the demographics.
 - 3.1.3. To assess the variations in overall flexibility among the secondary school students in WB concerning the demographics.
 - 3.1.4. To examine the variations in overall originality among the secondary school students in WB concerning the demographics.
- 3.2.1. To examine the variations in verbal creativity among the secondary school students in WB concerning the demographics.

3.2.2. To examine the variations in verbal fluency among the secondary school students in WB concerning the demographics.

3.2.3. To examine the variations in verbal flexibility among secondary school students in WB concerning the demographics.

3.2.4. To assess the variations in verbal originality among the secondary school students in WB concerning the demographics.

3.3.1. To assess the variations in non-verbal creativity among secondary school students in WB concerning the demographics.

3.3.2. To examine the variations in non-verbal fluency among the secondary school students in WB concerning the demographics.

3.3.3. To examine the variations in non-verbal flexibility among secondary school students in WB concerning the demographics.

3.3.4. To assess the variations in non-verbal originality among the secondary school students in WB concerning the demographics.

4.0. To explore the association between SS, FS (PI and PSu) and creativity among secondary school students in WB.

5.0. To determine the effects and predictive potential of SS in explaining the variations in overall and dimensions-wise creativity among secondary school students in WB.

5.1. To determine the effects and predictive potential of SS in explaining the variations in overall creativity among secondary school students in WB.

5.2. To determine the effects and predictive potential of SS in explaining the variations in overall fluency among secondary school students in WB.

5.3. To determine the effects and predictive potential of SS in explaining the variations in overall flexibility among secondary school students in WB.

5.4. To determine the effects and predictive potential of SS in explaining the variations in overall originality among secondary school students in WB.

6.0. To determine the effects and predictive potential of FS (PI and PSu) in explaining the variations in overall and dimensions-wise creativity among secondary school students in WB.

6.1. To determine the effects and predictive potential of FS (PI and PSu) in explaining the variations in overall creativity among secondary school students in WB.

6.2. To determine the effects and predictive potential of FS (PI and PSu) in explaining the variations in overall fluency among secondary school students in WB.

6.3. To determine the effects and predictive potential of FS (PI and PSu) in explaining the variations in overall flexibility among secondary school students in WB.

6.4. To determine the effects and predictive potential of FS (PI and PSu) in explaining the variations in overall originality among secondary school students in WB.

7.0. To determine the combined effects and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall and dimensions-wise creativity among secondary school students in WB.

7.1. To determine the combined effects and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall creativity among secondary school students in WB.

7.2. To determine the combined effects and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall fluency among secondary school students in WB.

7.3. To determine the combined effects and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall flexibility among secondary school students in WB.

7.4. To determine the combined effects and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall originality among the secondary school students in WB.

8.0. To find out the moderating effects of FS (in terms of PSs) in the relationship between SS and creativity among secondary school students in WB.

3.5. Hypotheses of the Study

In keeping with the problem formulated and objectives stated, the following null hypotheses were proposed to be tested:

H₀1: There are no significant variations in SS among the secondary school students in WB concerning the demographics (School type, class, gender, family type, number of siblings, parental educational qualification and family monthly income).

H02: There are no significant variations in FS (in terms of PI and PSu) among the secondary school students in WB concerning the demographics.

H03: Demographics do not significantly influence the PSs among the secondary school students in WB.

H04: Overall and dimension-wise creativity (fluency, flexibility and originality) do not vary significantly among the secondary school students in WB concerning the demographics.

H05: Overall and dimension-wise verbal creativity (fluency, flexibility and originality) does not vary significantly among the secondary school students in WB concerning the demographics.

H06: Overall and dimension-wise non-verbal (fluency, flexibility and originality) creativity does not vary significantly among the secondary school students in WB concerning the demographics.

H07: There are no significant associations between SS, FS (PI and PSu) and creativity among secondary school students in WB.

H08: There is no significant effect and predictive potential of SS in explaining the variations in overall and dimension-wise creativity (fluency, flexibility and originality) among the secondary school students in WB.

H09: There is no significant effect and predictive potential of FS (PI and PSu) in explaining the variations in overall and dimension-wise creativity (fluency, flexibility and originality) among the secondary school students in WB.

H010: There is no significant combined effect and predictive potential of SS and FS (PI and PSu) in explaining the variations in overall and dimension-wise creativity (fluency, flexibility and originality) among the secondary school students in WB.

H011: FS (in terms of PSs) does not significantly moderate the relationship between SS and creativity among secondary school students in WB.

3.6. Delimitations of the Study

Due to time and other social constraints, the present study was delimited to the following areas:

1. The study is delimited to two sub-divisions (Medinipur Sadar and Kharagpur) of West Medinipur district in WB.

2. This study's sample comprises only students enrolled in ten selected secondary schools in West Medinipur district in WB.
3. The present study included only 544 secondary school students as representatives.
4. The study is delimited to measuring the Secondary school student's FS, SS and creativity.
5. Demographic characteristics (independent variables) considered in the study include school type, class, gender, family type, number of siblings, parental educational qualification and family monthly income.
6. The study is delimited to administering consent letters, demographic profile sheets, and three questionnaires for collecting data.
7. The study is delimited to schools under the West Bengal Board of Secondary Education (W.B.B.S.E).

3.7. Conceptual Framework of the Study

Based on the theoretical and conceptual perspectives discussed earlier (Chapter I), the researcher designed a conceptual framework that visually illustrates the interaction between Creativity, FS, SS, Creativity and demographic factors among secondary school students. The conceptual framework for the study is presented below:

A. Variables:

Independent Variables: Demographic Factors, FS, SS

Dependent Variables: Creativity, SS and FS.

Moderating Variable: FS (PSs)

B. Theoretical Links:

Torrance's Theory of Creativity is based on the idea that creativity is the ability to solve problems, generate new ideas, and identify connections between ideas.

Rhodes's 4-Ps Theory of Creativity is a model that describes creativity as having four components: person, Process, Product, and Press (environment).

B.K. Passi's theory of creativity is a multidimensional attribute that includes seeing problems, fluency, flexibility, originality, inquisitiveness, and persistence.

Brofenbrenner's Ecological Systems Theory is a model that explains how a persons's development is affected by their environment. The theory is based on the idea that a person's development is shaped by the interactions between the person and the systems that make up their environment.

Vygotsky's social development theory emphasizes social interactions and support provided by teachers and peers.

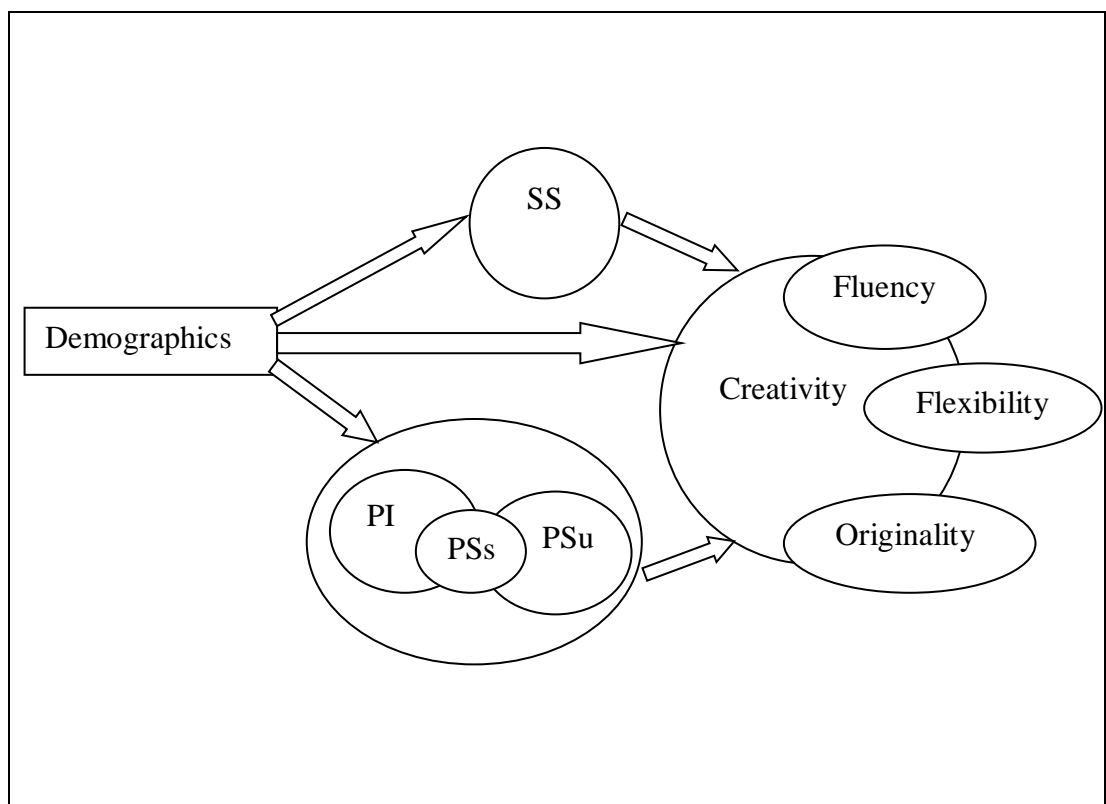
Baumrind's Parenting Styles Framework categorizes parenting into four distinct styles: authoritative, authoritarian, permissive, and neglectful, offering valuable insights into how various parenting approaches impact children's creative development.

Lamborn et al.'s Parenting Theory builds on Baumrind's framework. This theory highlights the complexity and diversity of parental behaviours, emphasizing their multifaceted implications for children's well-being and growth.

C. Hypothesized Relationships:

- Demographic Factors → FS, SS, and Creativity: Demographic factors may influence FS, SS, and Creativity.
- SS → Creativity: SS is hypothesised to influence Creativity.
- FS → Creativity: FS is hypothesised to influence Creativity.
- SS → FS → Creativity: FS potentially moderates the relationship between SS influence Creativity.

D. Visual Representations:



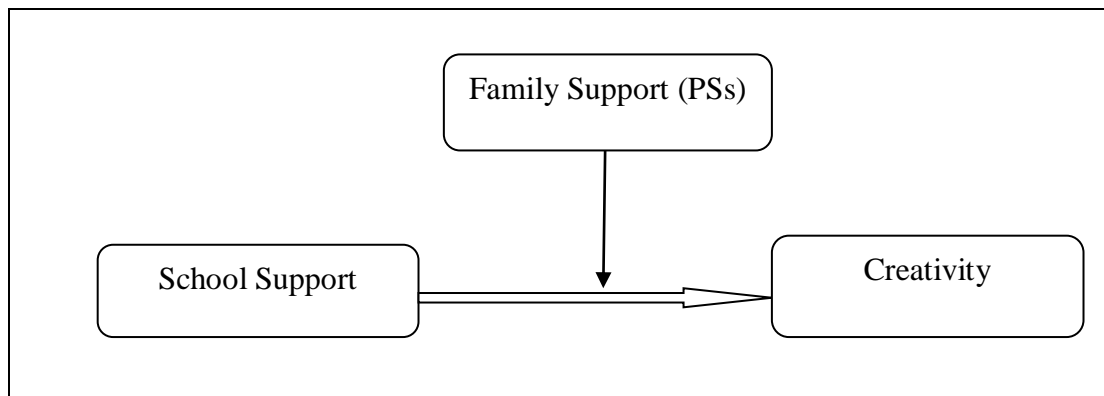


Fig. 3.1. Conceptual Framework

Using this conceptual framework, the researcher systematically explored the study's complex relationships among key variables and theoretical constructs, offering valuable insights into the factors affecting creativity among secondary school students. The framework guided data collection, analysis, and interpretation, enabling a thorough understanding of the research phenomena.

4.0. Chapter-IV: Methodology of the Study

This chapter presents the methodology of the study. The study's methodology is essential for the research and follows systematic and scientific procedures. The method and procedure used determine the outcome of any study (Kaur, 2021). It provides solutions to the questions of what and how to do research ((Fatma, 2022). The primary purpose of this chapter is to describe the research design, locale of the study, population, sample, and sampling techniques. It also elaborates on the study's key variables, data collection instruments and procedures, data cleaning and preparation processes, statistical methods for analysis, tools for analysis and reporting, analysis design, and ethical considerations.

4.1. Research Design of the Study

This present study follows a quantitative, descriptive research methodology with a cross-sectional design. Quantitative research focuses on testing objective theories by analyzing relationships between variables (Creswell, 2003) and involves “explaining phenomena through the collection and mathematical analysis of numerical data” (Aliaga & Gunderson, 2002). In the present study, the researcher used descriptive research to systematically describe present study without manipulating any variables (Atmowardoyo, 2018). Cross-sectional studies provide a snapshot of data from a wide range of participants, offering insights into the larger population rather than focusing on a specific

subset (Zheng, 2015). This approach is also recognized for its efficiency and cost-effectiveness (Wang & Cheng, 2020). The specific research design is provided in Fig. 4.9. presented at the end of this chapter.

4.2. Locale of the Study

The present study was conducted in the West Medinipur District of West Bengal, India. The district derives its name from a local deity, “Medinimata” meaning “mother of the world,” an incarnation of Shakti. West Medinipur (Bengali: Paschim Medinipur, also spelt Midnapore) was established on January 1, 2002, following the division of the erstwhile Midnapore district into two separate districts: Paschim Medinipur and Purba Medinipur. placed in the south-western part of W.B., West Medinipur ranks second among the state's districts in terms of geographical area, covering 9,295,28 square kilometres. Its administrative headquarters is situated in Midnapore. The district had a total population of 59,13,457 comprising 30,07,885 males and 29,05,572 females (Census, 2011). A significant majority (87.78%) of the population resides in rural areas, with an average literacy rate of 78.00%. The district has three sub-divisions: Medinipur Sadar, Kharagpur, and Ghatal. These sub-divisions encompass 21 community development blocks and seven municipalities (Govt. of West Bengal, 2024). The Kharagpur sub-division includes Kharagpur municipality and ten community development blocks: Dantan–I, Dantan–II, Pingla, Kharagpur–I, Kharagpur–II, Sabang, Mohanpur, Narayangarh, Keshiari, and Debra. The Medinipur Sadar sub-division comprises Midnapore municipality and six community development blocks: Medinipur Sadar, Garhbeta–I, Garhbeta–II, Garhbeta–III, Keshpur, and Shalboni. Together, these two sub-divisions cover an area of 53,54,67 square kilometres and have a combined population of 37,29,230. In the 2024 West Bengal Madhyamik (Class 10) examinations, West Medinipur district achieved a pass percentage of 94.62%, securing the third position among all districts in the state. The top two districts were East Midnapore, 97.83%, and Kalimpong, 94.27%. For this study, the researcher selected secondary-level schools from rural, semi-urban, and urban areas within these two sub-divisions. The specific study locations include Medinipur municipality, Medinipur Sadar, Garhbeta–II, Debra, and Narayangarh. A total of ten secondary-level schools were chosen: five from block areas and five from municipality areas. The study's geographical coverage is depicted in Fig. 4.1.

4.3. Participants of the Study

4.3.1. Population

This study's target population consists of secondary school students of West Bengal, India. According to data from the Banglar Shiksha portal, the total number of secondary school students in the West Medinipur district during the 2023 academic year was approximately 98,720 in Class IX and 81,623 in Class X under W.B.B.S.E., resulting in a combined population of 1,80,343 students.

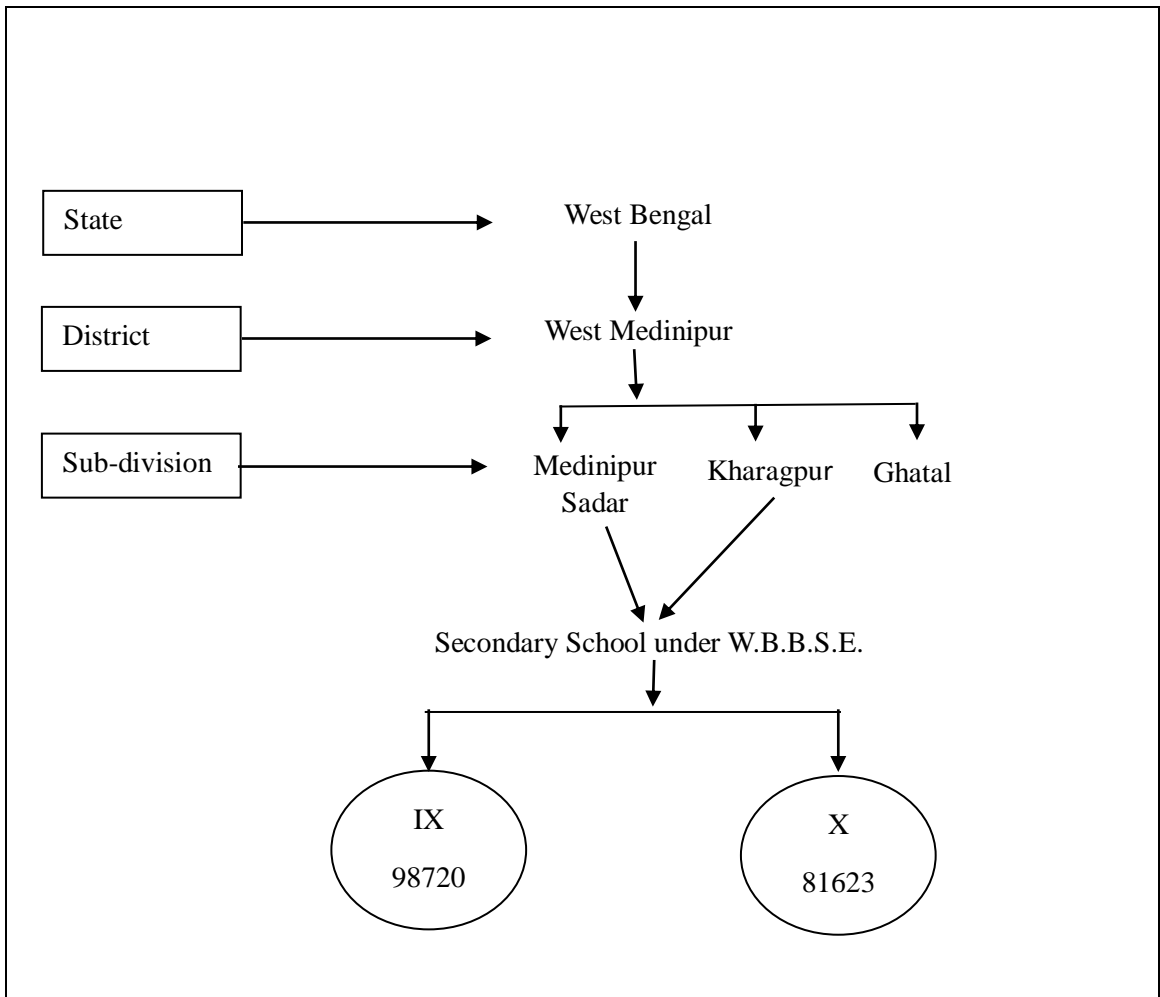


Fig: 4.2. Population Distributions

4.3.2. Determination of Sample Size

Determining a suitable sample size is critical for conducting a reliable and representative sample survey, regardless of whether the population size is known or unknown. The reliability and trustworthiness of survey research heavily depend on carefully selecting a

representative sample. The researcher used Krejcie and Morgan's (1970) formula to calculate the required sample size for the present study. This formula ensures that the selected sample represents the population and is unbiased (Ezugu& Akimbo, 2014). For a finite population of 180,343 individuals, the formula indicated that a minimum of 384 samples would be sufficient. The researcher also used the Raosoft sample size calculator to validate this calculation, providing accurate results based on a user-friendly interface. Using the Raosoft tool with parameters including a 5% margin of error, a 95% confidence interval, and a 50% response rate, the sample size calculation was confirmed for a population of 383. This dual approach ensured accuracy and reliability in determining the required sample size (Aliyu et al., 2019; Ahmat et al., 2018).The formula for sample size determination proposed by Krejcie and Morgan (1970) is provided below.

$$S= X^2 \cdot N \cdot P \cdot (1-P) / d^2 \cdot (N-1) + X^2 \cdot P \cdot (1-P)$$

Where:

- S = Required sample size
- X^2 = The table value of chi-square for 1 degree of freedom at the desired confidence level (usually 3.841 for a 95% confidence level)
- N = The population size
- P = The population proportion (assumed to be 0.5 for maximum sample size)
- d = The degree of accuracy expressed as a proportion (0.05 for a 5% margin of error)

4.3.3. Sampling Procedure and Sample of the Study

The researcher gathered information from 581 students currently enrolled in Secondary level school (IX-X) in the study. The researcher selected these students from 10 schools in the two sub-divisions of West Medinipur district in West Bengal. For the current study, the researcher conveniently selected two sub-divisions, namely, Medinipur Sadar and Kharagpur of West Medinipur, because these sub-divisions were effortlessly reachable to the researcher. Moreover, this technique was cost-effective for the researcher, and the participants were readily available and willing to participate. After that, participants were selected randomly from the Classes. Initially, the researcher acquired 581 data from the 10 secondary schools throughout this round of data gathering. Nevertheless, 37 incomplete data/responses were found and eliminated from the dataset after a comprehensive data cleansing procedure. Consequently, the final sample for this

research consists of 544 students from Secondary schools in West Bengal. The following table and figure represent the sampling frame of this study.

Table No. 4.1. Final Sample of the Study

Population	Population Size	Sample Size
Secondary School Students	1,80,343	544

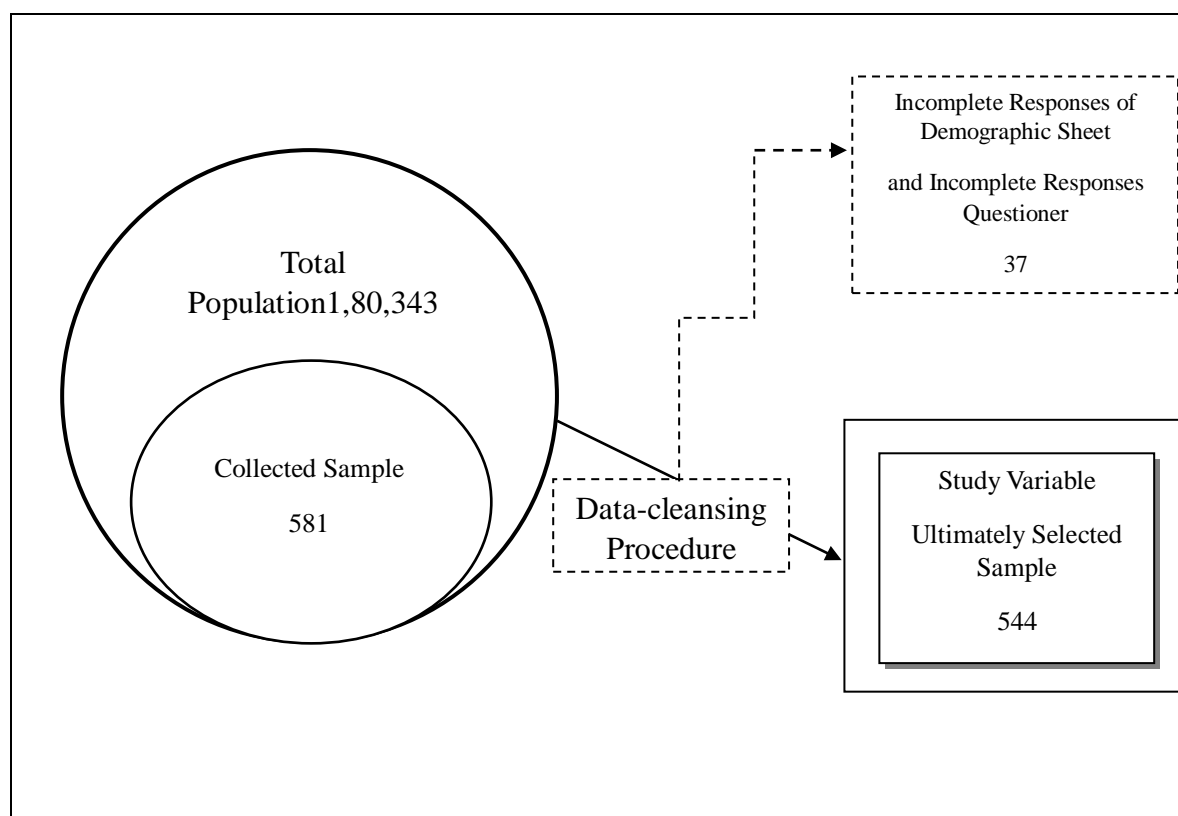


Fig. 4.3. Final Sample Selection Process

Table No. 4.2. Municipality, Block and School-Wise Sample Distribution

SL. No.	School's Name	Municipality / Block	No. of Students
1	Nirmal Hriday Ashram Girls' High School	Medinipur	124
2	Midnapore Collegiate School	Medinipur	62
3	Rangamati K. M. High School	Medinipur	39
4	Sarada Vidyamandir	Medinipur sadar	37

5	Paharipur Girls' High School	Medinipur	25
6	Keyamacha High School	Garhbeta-II	70
7	Nirmal Hriday Ashram Boys' High School	Medinipur	39
8	The Institute for Academic Excellence School	Narayangarh	64
9	New Integrated Govt. School	Medinipur sadar	51
10	Jotdwaria Vivekananda Vidyabhaban	Debra	70
Total			581

Table No. 4.3. Demographic Profile of the Participants

Variables	Labels	N	Percent
School Type	Girls'	147	27.0
	Boys'	98	18.0
	Co-ed	299	55.0
Class	Nine	288	52.9
	Ten	256	47.1
Gender	Male	258	47.4
	Female	286	52.4
Family Type	Joint Family	185	34.0
	Nuclear or Broken Family	359	66.0
Number of Siblings	Single Child	122	22.4
	Having one Sibling	311	57.2

	Having two Siblings	69	12.7
	Having three to six Siblings	42	7.7
Father's Educational Qualifications	Elementary (Upto class VIII)	139	25.6
	Secondary and Higher Secondary (Class-IX to XII)	286	52.6
	Graduation and Above	119	21.9
Mother's Educational Qualifications	Elementary (Upto class VIII)	155	28.5
	Secondary and Higher Secondary (Class-IX to XII)	322	59.2
	Graduation and Above	67	12.3
Family Monthly Income	6,174 - Low	179	32.9
	6,175 – 18,496	180	33.1
	18,497 – 30.830	76	14.0
	30.831 – 46,128	40	7.4
	More than 46,129	69	12.7

4.4. Description of the Variables under Consideration

A variable is a concept or construct which varies and is assigned values. The numerals or values which are assigned are based on properties of the variable (Swain, 2007). A variable is a condition or characteristic that can take on different values or categories (Johnson & Christensen, 2008). Based on the identified research problem and objectives, three types of variables were considered in this study and categorized into two broad heads: Demographic (Independent variables) and Dependent variables (see table 4.4.).

Table No. 4.4. Variables under Consideration

Demographics (Independent Variables)	Measured Variables
<ol style="list-style-type: none"> 1. School Type 2. Class 3. Gender 4. Family Type 5. Number of Siblings 6. Parental Educational Qualifications <ol style="list-style-type: none"> A) Father's Educational Qualifications B) Mother's Educational Qualifications 7. Family Monthly Income 	<ol style="list-style-type: none"> 1. Dependent Variable: Creativity 2. Both Dependent and Independent Variables: SS and FS (PI+PSu). 3. Dependent, Independent and Moderating Variables: FS (PSs)

4.4.1. Demographic Variables

In the present study, these demographic variables are also considered independent variables. Independent variables are the influencing variables that may impact the dependent variables. In the present study, the following independent variables have been considered-

1. **School Type:** School Type is an independent variable influencing the dependent variables. It is a categorical variable classified into three groups: Girls', Boys' and co-ed.
2. **Class:** In the present study, the researcher included 'Class' as an independent variable influencing the dependent variables. This independent variable is divided into two categories: IX and X.
3. **Gender:** In the present study, the researcher included 'Gender' as an independent variable influencing dependent variables. This variable is divided into two categories: Male and Female.
4. **Family Type:** Family type is included as an independent variable and classified into two categories: joint and nuclear or broken family.
5. **Number of Siblings:** In the present study, the participants' number of siblings is an independent variable that influences the dependent variable. This variable is

divided into four categories: Single Child, Having one Sibling, Having two Siblings and having three to six Siblings.

6. Parental Educational Qualifications: There are two types of categories in parental educational qualifications, which are:

A) Father's Educational Qualifications: The father's educational qualifications is considered an independent variable and classified into three categories: Elementary (Upto class VIII), Secondary and Higher Secondary (Class-IX to XII) and Graduation and Above.

B) Mother's Educational Qualifications: The mother's educational qualifications is considered an independent variable and classified into three categories: Elementary (Upto class VIII), Secondary and Higher Secondary (Class-IX to XII) and Graduation and Above.

7. Family Monthly Income: The participants' family income means their parents' monthly income is considered an independent variable, categorised into five ranges according to the Kupaswamy Scale (2021) in Indian Rupees: 6,174 – Low, 6,175 – 18,496, 18,497 – 30,830, 30,831 – 46,128 and more than 46,129.

4.4.2. Measured Variables

Measured variables refer to the characteristics of a object that can be quantified using standardized measures, either readily available or developed for specific research purposes. In some cases, these measured variables are also referred to as dependent variables, depending on their role in the study. In this research, Creativity and its dimensions, SS and FS were considered measured variables. Detailed descriptions of these dependent variables and their respective dimensions are provided below.

Creativity: In this study, creativity was treated as both an independent variable during regression analysis and a dependent variable during mean difference testing. This continuous variable comprised three dimensions, obtained from verbal and non-verbal creativity tests.

- Fluency (verbal fluency, non-verbal fluency).
- Flexibility (verbal flexibility, non-verbal flexibility).
- Originality (verbal originality, non-verbal originality).

School Support: In this study, SS was considered an independent variable during regression analysis and a dependent variable during mean difference testing.

Family Support: In this study, the parenting style scale measures family support. parental warmth /involvement (PI) and parental strictness/supervision (PSu) are the two primary dimensions or subscales of the parenting style (PSs) that were examined. PSs and its dimensions (PI and PSu) were considered both dependent and independent variables. These variables served two purposes: they were dependent variables in mean difference analysis and independent variables in regression analysis.

4.4.3. Moderating Variable

A moderating variable affects the relationship between a predictor variable (X) and an outcome variable (Y). Moderating variables commonly affect the strength of the relationship between X and Y (King, P.S., 2013). In the present study, FS (PSs) in terms of serves as a moderating variable that influences the relationship between SS (X) and Creativity (Y).

4.5. Methods of Data Collection

4.5.1. Tools for Data Collection

In the present study, to collect relevant data from the selected representatives, the researcher used four instruments, i.e., a demographic profile of the Participant, the Passi test of Creativity, Parenting Style Scale and School Environment Inventory.

4.5.1.1. Demographic Profile of the Participant

This demographic profile sheet developed by Ghorai and Mohakud (2023) was used to collect and record participants' demographic and personal information consisting of 8 items. The items are as follows- 1) School Type, 2) Class, 3) Gender, 4) Family Type, 5) Number of Siblings, 6) Father's Educational Qualification, 7) Mother's Educational Qualification and 8) Family Monthly Income.

4.5.1.2. Passi test of Creativity (PTC)

The Passi test of Creativity (PTC) developed by Dr. B. K. Passi (2010). The (PTC) was utilized to assess the creativity levels of secondary school students. The test comprises six subtests: 1. The Seeing Problems Test, 2. The Unusual Uses Test, 3. The Consequences Test, 4. The Test of Inquisitiveness, 5. The Rectangle Puzzle Test (Test of

Persistence) and 6. The Block Test of Creativity (BTC). For the purpose of this study, the PTC was adapted into a bilingual format (Bengali and English) by Ghorai and Mohakud (2023) to ensure accessibility. The first three subtests Seeing Problems Test, Unusual Uses Test, and Consequences Test, are verbal. The Test of Inquisitiveness requires verbal responses based on non-verbal stimuli. The final two subtests, Rectangle Puzzle and Blocks Test of Creativity, are purely non-verbal tasks. The structure of the PTC allows participants freedom in their responses (both qualitative and quantitative) within specified time limits, making it a suitable tool for evaluating divergent thinking.

1. The Seeing Problems Test

This test, developed following the methodology of Guilford et al. (1952), evaluates sensitivity to problems, a key component of creativity as described by Guilford. It measures the ability to recognize and articulate problems related to everyday objects. The test includes four items: Shoes, Pen, Chair, and Postcard. Participants are allotted eight minutes to complete the test, dedicating approximately two minutes to each item.

Scoring Procedure

- Each accepted response is awarded 1 point, while each rejected response receives 0 points.
- The number of accepted responses across all items determines the total score for the Seeing Problems Test.
- The test measures the variable Fluency.

2. The Unusual Uses Test

This test is modeled on the Brick Uses Test by Guilford et al. (1952) and Torrance's Unusual Uses Test (1962). It evaluates the ability to generate diverse and unconventional uses for familiar items within the participants' psychological and physical environment. The test consists of two items: A piece of Cloth and Bottle. Participants are required to list as many interesting and unusual responses as possible for each item. This test measures the dimensions of Fluency, Flexibility, and Originality. The total time allotted is eight, with four designated for each item.

Scoring Procedure

The variables assessed in this test are:

- **Unusual Fluency (UF):** Represented by the total number of acceptable responses. Each accepted response is scored 1, and unaccepted responses are scored 0.
- **Unusual Flexibility (UX):** Determined by the number of distinct categories of responses, classified with the assistance of judges. Each unique category scores 1, and unclassified responses score 0.
- **Unusual Originality (UO):** Evaluated based on the rarity of the response using a five-point scale (0–4), where weightage is assigned according to the level of commonness.

This test's total unusual creativity score is the sum of the UF, UX, and UO scores. New responses encountered during the test require the researcher to establish corresponding flexibility and originality weightage categories.

3. The Consequences Test

This test is structured following Guilford et al.'s (1952) and Torrance (1962) methodology. It assesses the dimensions of Fluency and Originality. Participants are presented with four hypothetical scenarios and asked to generate possible consequences for each:

1. If human beings start flying like birds
2. If all houses start flying
3. If all people become mad
4. If all females become males

The total time for the test is eight minutes, allowing two minutes for each scenario.

Scoring Procedure

The variables measured are:

- **Consequences Fluency (CF):** Calculated as the total number of accepted responses. Each accepted response scores 1, and unaccepted responses score 0.
- **Consequences Originality (CO):** Assessed based on indirect or remote responses. Each such response scores 1, and common or direct responses score 0.

This test's total creativity score Consequences creativity is the sum of the CF and CO scores.

4. The Test of Inquisitiveness

This test provides an unfamiliar and novel situation to assess inquisitiveness. A metronome, an object capable of producing sound and movement, serves as the test's central stimulus. A playing card displaying the phrase "A FEW CHILDREN CANNOT TOUCH IT" in capital letters is presented alongside the metronome in operation to enhance inquisitiveness. Participants are instructed to imagine and write as many unique questions as possible within six minutes. The questions must be mutually exclusive in content and meaning. While the stimulus is non-verbal, participants can respond in writing in either English or their mother tongue.

Scoring Procedure

- Each valid question is awarded a score of 1.
- Duplicate questions, even if valid, are assigned a score of 0.
- The total score for creativity in inquisitiveness is the sum of scores for all valid questions.

5. The Rectangle Puzzle Test (Test of Persistency)

This test evaluates the dimension of persistency in creativity, inspired by the insights of Eysenck (1947) and Fernald (1912), who emphasized the role of perseverance in achieving success despite challenges or fatigue. The test involves a performance task using a Rectangle Puzzle consisting of five identical right-angled triangles and five identical quadrilaterals made of plastic. Participants are instructed to construct a rectangle using all ten pieces without leaving any gaps or overlaps. Multiple correct arrangements are possible, and if a participant completes one configuration before the 40-minute time limit, they are encouraged to rearrange the pieces to form another rectangle. Persistency is measured by the total time spent on the task, recorded in full minutes.

Scoring Procedure

- Persistency (PER) is the primary variable measured.
- If a participant completes one arrangement within three minutes and chooses not to continue, their score is calculated as $40 - 3 = 37$.

- If the participant completes two arrangements and continues working, their score is calculated as (40 + extra time) - 3.
- The maximum permitted time is 40 minutes, and participants who disengage within three minutes without completing any arrangement receive a score of 0.

6. The Block Test of Creativity

This performance-based test follows the design of the Lowenfeld Mosaic Test (LMT) (1952), as described by Ames and Frances (1962). It provides an opportunity to observe participants creating dynamic designs.

The Blocks Test of Creativity consists of:

- 19 identical cubes (1" x 1" x 1")
- 12 diagonally cut semi-cubes derived from six cubes of the same dimensions.

The materials include two types of blocks and three surface shapes: squares, rectangles, and right-angled triangles. The cubes are painted as follows:

- Top: Red, Bottom: Blue, Face: Yellow, Back: Green, Left: White, Right side: Black.

The semi-cubes include:

- 24 right-angled triangle surfaces
- 24 square surfaces
- 12 rectangular surfaces painted brown.

This creates a total of seven colours that participants can combine in various ways using the two types of blocks and three surface shapes. Participants are tasked with creating as many unique and interesting designs as possible within 10 minutes. They are also required to provide titles for each design.

Scoring Procedure

The test evaluates three dimensions of creativity: Fluency, Flexibility, and Originality.

- **Block Fluency (BF):** Measured by the total number of accepted designs created within the time limit. Each accepted design scores 1, while unaccepted designs score 0.
- **Block Flexibility (BX):** Determined by the number of distinct categories of designs. Each unique category scores 1, while repeated categories score 0.

- **Block Originality (BO):** Scored based on the rarity of designs using a five-point scale (0–4), with weightage assigned according to the frequency of a particular type of design. The scoring methodology mirrors that of the Unusual Uses Test.

The total block creativity score for the Blocks Test is the sum of the BF, BX, and BO scores.

4.5.1.2.1. Scoring Procedure for Passi Tests of Creativity

The Composite Creativity Score is calculated by summing up the scores obtained by a participant across all six creativity tests. These scores are further divided into:

- **Verbal Creativity Score:** Sum of scores from the first three tests (Seeing Problems Test, Unusual Uses Test, and Consequences Test).
- **Non-verbal Creativity Score:** Sum of scores from the last three tests (Test of Inquisitiveness, Rectangle Puzzle Test, and Blocks Test of Creativity).

The scores for individual creativity attributes Fluency, Flexibility, and Originality are determined as follows:

Fluency

- **Fluency Score:** Sum of fluency scores from the Seeing Problems Test, Unusual Uses Test, Consequences Test, and Blocks Test.
- **Verbal Fluency Score:** Sum of fluency scores from the verbal creativity tests: Seeing Problems, Unusual Uses, and Consequences Test.
- **Non-verbal Fluency Score:** Fluency score from the Blocks Test of Creativity.

Flexibility

- **Flexibility Score:** Sum of flexibility scores from the Unusual Uses and Blocks Test.
- **Verbal Flexibility Score:** Flexibility score from the verbal creativity test: Unusual Uses Test.
- **Non-verbal Flexibility Score:** Flexibility score from the non-verbal creativity test: Blocks Test of Creativity.

Originality

- **Originality Score:** Sum of originality scores from the Unusual Uses Test, Consequences Test, and Blocks Test.
- **Verbal Originality Score:** Sum of originality scores from the verbal creativity tests: Unusual Uses Test and Consequences Test.
- **Non-verbal Originality Score:** Originality score from the Blocks Test of Creativity.

4.5.1.2.2. Technical Information about the Scale

The original scale has demonstrated a high reliability coefficient and the content validity of established through experts opinion. Prior research has revalidated this tool, on reported similar or even higher coefficients. Prior to its application in the present study, a pilot study was conducted by the researcher on 140 Secondary School Students to ensure the tool's reliability and suitability. The validity and reliability coefficients have been presented in the following tables.

Table No. 4.5. Reliability Coefficients of PTC

Name of the Tools	Name of the Sub-Test	Test-Retest Reliability	Split-Half Reliability r_{11}
Passi Tests of Creativity	i. Seeing Problems Test	0.68	0.88
	ii. Unusual Uses Test	0.97	0.51
	iii. Consequences Test	0.71	0.80
	iv. Test of Inquisitiveness	0.74	--
	v. Rectangle Puzzle Test	0.91	--
	vi. Blocks Test of Creativity	0.83	--
	Creativity (Total)	0.92	

Table No. 4.6. Concurrent Validity of the PTC

Name	Criteria Measures			
	Things Done- On-Your-Own	Non-verbal Intelligence	Verbal Intelligence	Achieve

P T C					ment
	i) Seeing Problems Test	0.43	0.29	0.23	0.35
	ii) Unusual Uses Test	0.59	0.32	0.38	0.34
	iii) Consequences Test	0.81	0.04	0.27	0.30
	iv) Test of Inquisitiveness	0.95	0.81	0.34	0.22
	v) Rectangle Puzzle Test	0.68	0.16	0.26	0.29
	vi) Blocks Test of Creativity	0.60	0.05	0.01	0.07
	Creativity (Total)	0.46	0.27	0.38	0.35

Table No. 4.7. Reliability Coefficients of the subtests of PTC based on pilot study

Name of the Test	N	Cronbach's α
i) Seeing Problems Test	140	0.895
ii) Unusual Uses Test		0.624
iii) Consequences Test		0.842

4.5.1.3. School Environment Inventory (SEI)

The School Environment Inventory developed by Dr. K. S. Mishra (2012) was utilized in this study to measure SS. It is a Likert-type scale designed to assess various dimensions of the school environment. The inventory comprises 70 items categorized into six dimensions: Creative Stimulation (CRS), Cognitive Encouragement (COE), Permissiveness (PER), Acceptance (ACC), Rejection (REJ), and Control (CON). Each item offers five response options: Always (4 marks), Often (3 marks), Sometimes (2 marks), Very rarely (1 mark), and Never (0 marks). In this study, the researcher utilized only the CRS subscale, which includes 20 items and was used to measure the school's support for fostering creativity among secondary school students. The researcher and his supervisor translated and adapted the tool into Bengali language in 2022. The tool is designed for flexible administration, with no time limit, and can be used in both individual and group settings. Students respond by ticking the appropriate box, with

higher scores indicating better opportunities provided by teachers to stimulate creative thinking and lower scores reflecting inadequate support.

Table No. 4.8. Scoring Procedure for SEI

Response	Always	Often	Sometime	Very rarely	Never
Score	4	3	2	1	0

4.5.1.3.1. Technical Information about the SEI

The reliability coefficient of 0.919 and content validity of the original scale have been confirmed by judges and experts. Previous study has consistently reported similar or even higher reliability coefficients, validating the scale's robustness. In the context of this study, the researcher conducted a pilot study involving 140 representatives to further confirm the tool's reliability and validity for the specific population. The pilot study aimed to evaluate the appropriateness of the scale in capturing relevant data, ensuring its suitability for the main study. Validity and reliability coefficient of the creative stimulation school environment inventory has been presented in the below table.

Table No. 4.9. Validity and Reliability Coefficient of the SEI

Description	Dimension of the Scale	Validity	Reliability coefficient
Dr. Karuna Shankar Misra (2012).	Creative Stimulation	Experts Judgment (Content validity)	0.919 (Split-half)
Pilot study	Creative Stimulation	Content validity	0.855 (Split-half)
			0.803 (Cronbach's α)

4.5.1.4. Parenting Style Scale

The parenting scale scale was originally developed by Lamborn et al. (1991). For data collection, the researcher utilized the Bengali-translated version of the tool by Ghorai and Mahakud (2023). This Likert-type scale consists of 19 items and was divided into two dimensions: Parental Warmth/Involvement and Parental Strictness/Supervision.

4.5.1.4.1. Parental Warmth/Involvement:

- Comprises items 1 to 10.
- **Response options:**

- Items 1-5: Two response options ("Usually true" and "Usually false").
- Items 6-8: Three response options ("Never," "Sometimes," and "Usually").
- Items 9-10: Four response options ("Almost every day," "A few times a week," "A few times a month," and "Almost never").

4.5.1.4.2. Parental Strictness/Supervision:

- Comprises items 11 to 19.
- **Response options:**
 - Items 11-12: Seven response options ("Not allowed out," "Before 8:00," "8:00 to 8:59," "9:00 to 9:59," "10:00 to 10:59," "11:00 or later," and "As late as I want").
 - Items 13-14: Two response options ("Yes" and "No").
 - Items 15-17: Three response options ("Don't try," "Try a little," and "Try a lot").
 - Items 18-19: Three response options ("Don't know," "Know a little," and "Know a lot").

This structured approach allowed for a comprehensive assessment of the two dimensions of parenting style, capturing a range of parental behaviours and practices.

For fathers, the involvement score was calculated by summing the scores of the 10 involvement-related items, while their supervision score was obtained from the 9 supervision-related items. Similarly, mothers' involvement and supervision scores were determined using the same sets of items.

The **Parental Involvement Score** was calculated as the average of the fathers' and mothers' involvement scores, and the **Parental Supervision Score** was derived similarly from their supervision scores. These scores were categorized into two levels based on their median values:

- Scores up to the median were classified as **low involvement** or **low supervision**.
- Scores above the median were classified as **high involvement** or **high supervision**.

Using these categories, four parenting styles were identified:

1. **Authoritative Parenting Style:** High involvement and high supervision.
2. **Authoritarian Parenting Style:** Low involvement and high supervision.
3. **Indulgent Parenting Style:** High involvement and low supervision.
4. **Neglectful Parenting Style:** Low involvement and low supervision.

This classification provided a framework for analyzing parenting behaviours based on distinct combinations of involvement and supervision levels.

Table No. 4.10. The Dimensions and their Respective Items and the Scoring Procedure for the Parenting Style Scale

Dimensions of Parenting Style Scale						
SL.NO.	Dimension of the Scale	Serial-wise item No.	No. of Items			
I	Parental Warmth/Involvement	1,2,3,4,5,6,7,8,9,10	10			
II	Parental Strictness/Supervision	11,12,13,14,15,16,17,18,19	9			
		Total	19			
Scoring Parental of Warmth/Involvement items						
Scoring System for five responses						
Usually true		Usually false				
2		1				
Scoring System for three responses						
Never	Sometimes		Usually			
1	2		3			
Scoring System for two responses						
almost every day	a few times a week	a few times a month	almost never			
4	3	2	1			
Scoring Parental of Strictness/Supervision items						
Scoring System for two responses						
Not allowed out	Before 8:00	8:00 to 8:59	9:00 to 9:59	10:00 to 10:59	11:00 or later	As late as I want
7	6	5	4	3	2	1

Scoring System for one response		
Yes	No	
2	1	
Scoring System for three responses		
Don't try	Try a little	Try a lot
1	2	3
Scoring System for three responses		
Don't know	Know a little	Know a lot
1	2	3

4.5.1.4.3. Technical Information about the Scale

The original Scale's Cronbach's Alpha reliability coefficients was $\alpha = 0.72$ for parental warmth/involvement and $\alpha = 0.76$ for parental strictness/supervision. Various other researchers also used this Scale and reported similar or higher reliability coefficients than the original study. While using the tool in this study, the researcher conducted a pilot study on 140 representatives to ensure the test's reliability and usability. The reliability coefficients of the presenting style scale has been presented in the below table.

Table No. 4.11. Reliability Coefficient of the PSs Scale

Tool	Dimension of the Scale	Reliability coefficient
Lamborn et al. (1991)	Parental Warmth/Involvement	Cronbach's α - 0.72
	Parental Strictness/Supervision	Cronbach's α - 0.76
Sing and Mahakud(2023)	Parental Warmth/Involvement	Split-half- 0.970
	Parental Strictness/Supervision	Cronbach's Alpha- 0.937
Pilot Study	Parental Warmth/Involvement	Cronbach's Alpha- 0.732
	Parental Strictness/Supervision	Cronbach's Alpha- 0.867

4.6. Procedure of Data Collection

To collect data for this study, the researcher at first task permission from the school authority, then he personally met participants introduced himself and explain the purpose of this study and approached them for voluntary participation. After obtaining oral consent, participants were requested to read and sign a comprehensive consent form.

Following this, participants received a set of questionnaires, including the demographic profile, the Parenting Style Scale, the School Environment Inventory, and the Passi Test of Creativity. Clear instructions were given to ensure participants read and respond to each item carefully. The researcher commenced data collection after receiving a bona fide letter from the research supervisor. While 581 participants approached, and 544 returned fully completed questionnaires, ensuring a robust dataset. This data collection procedure was carried out between March 30, 2023, and September 8th, 2023, adhering to ethical guidelines and maintaining high standards for data integrity. After the successful data collection, proper scoring was done, considering each tool's scoring system. After that, a proper scoring sheet was prepared for statistical analysis.

4.6. Data Screening and Tabulation

Following completion of the survey, participants' answers were carefully examined to make sure every option had been filled out. The screening criteria included completion of the demographic profile sheet, PSS, SEI and PTC. To ensure data integrity and confidentiality, this file was safely kept on the researcher's PC. In order to satisfy the goals of the study, the data was then processed, cleaned, tabulated in a methodical and sequential manner to aid in additional analysis and interpretation. Data from 544 secondary school students was meticulously recorded and organized using an MS Excel sheet. This structured approach to data tabulation provided a comprehensive foundation for investigating the research goals and supported subsequent analytical stages.

4.8. Data Analysis Techniques

The data was analysed by the researcher using a different tools and techniques. SPSS and MS Excel were used for the quantitative analysis. The data normality was checked by Kolmogorov-Smirnov, Skewness, Kurtosis and the Shapiro-Wilk test (Hatem et al., 2022; Okeniyi et al., 2020). Descriptive statistics like mean score, SD and also used mean rank, frequency, percentage analysis, and graphical representation. Further, inferential statistics like the chi-square test, Pearson's Correlation, independent samples t-test, one-way ANOVA, general regression analysis, multiple regression analysis and moderator analysis were done through regression analysis in Process Macro in SPSS. Hypotheses are tested using these statistics (Barnes, & Lewin, 2005).

4.9. Ethical Considerations

Similar to other scientific fields, social science research requires careful attention to ethical considerations (De Wet, 2010; Broom, 2006). The researcher was concerned about that in the present study. Everyone, including parents, students, and school heads, was aware of the study's objectives, methodology, and procedures. First of all, permission was taken from the research supervisor to collect data for the research. Written consent was taken from the school heads, the parents/guardians and also the participants. Participation was entirely voluntary. Participants may withdraw from the study at any time. No technique or intervention was used by the researcher that might have harmed the participants' physical or mental health.

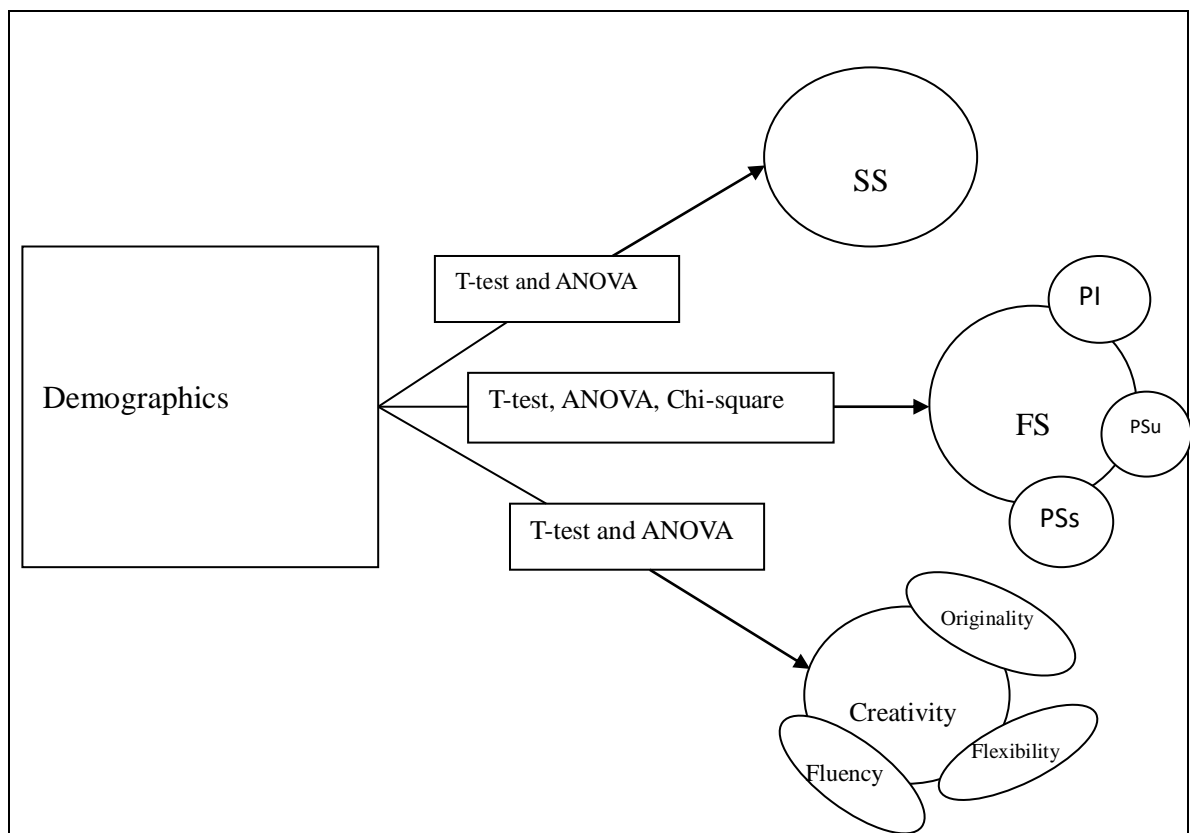


Fig.4.4. Analysis Design Relating to the Influence of Demographic Factors on SS, FS and Creativity

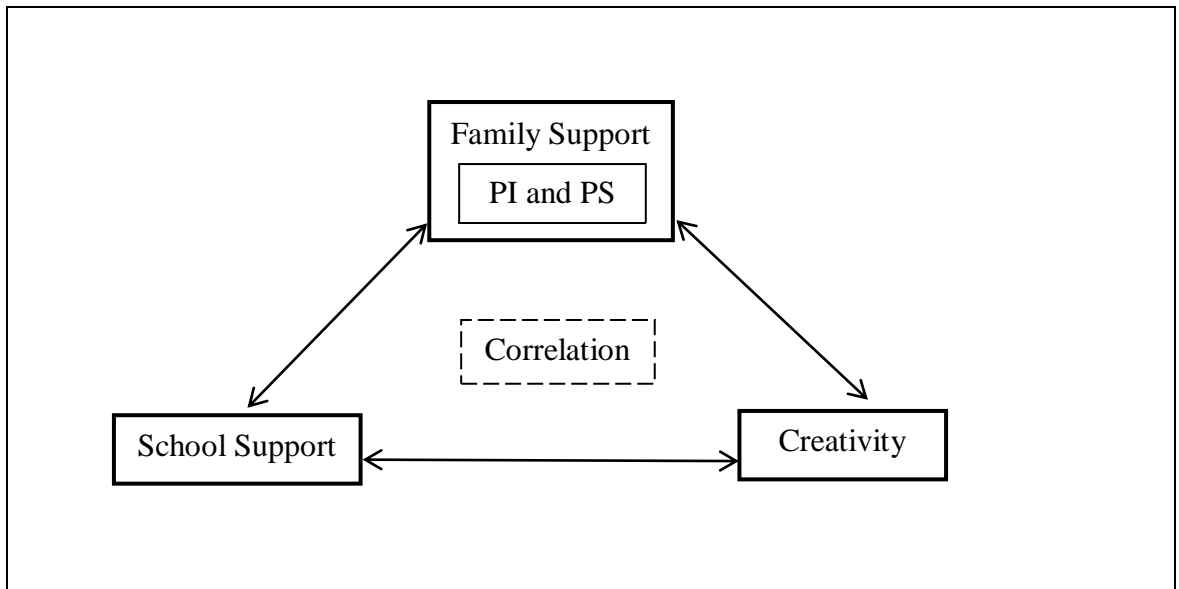


Fig. 4.5. Analysis Design (Correlation)

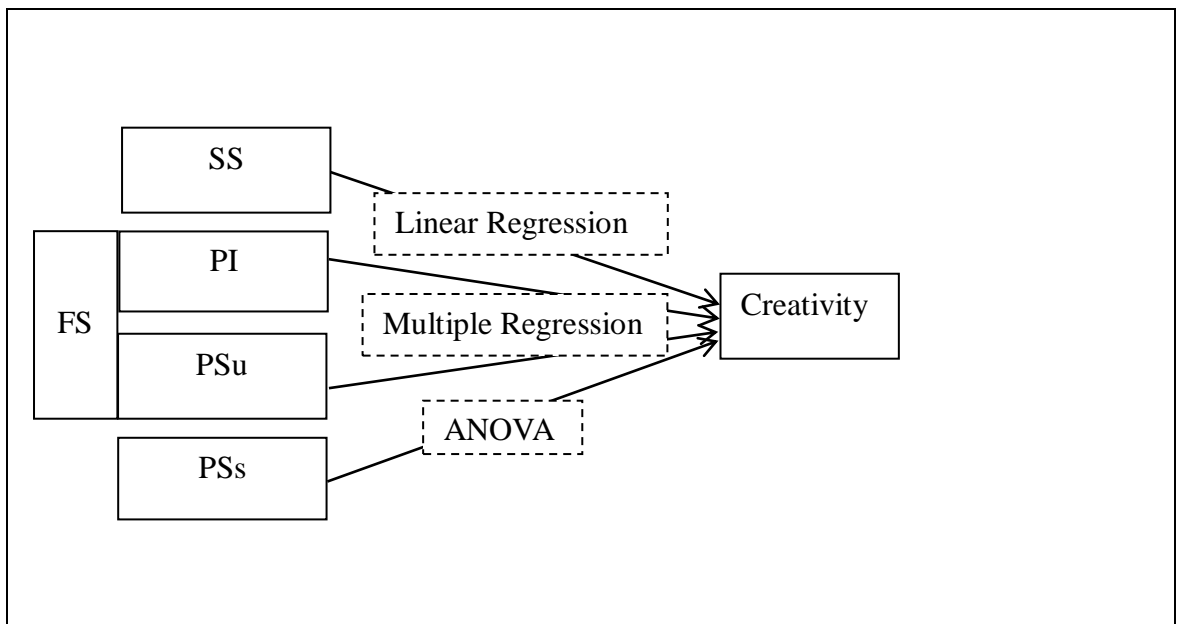


Fig. 4.6. Analysis Design (Regression analysis)

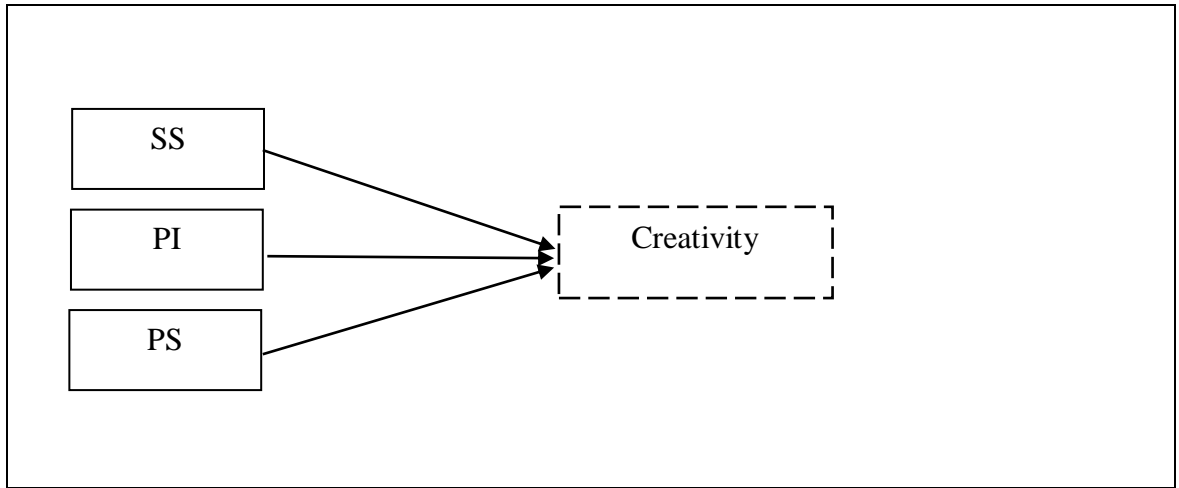


Fig. 4.7. Analysis Design (Multiple Regression analysis)

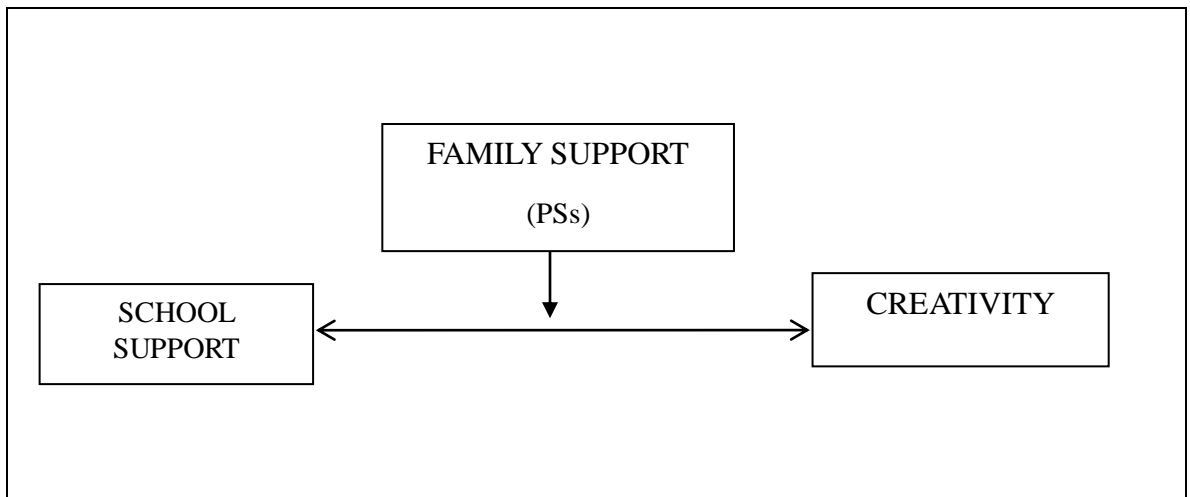


Fig. 4.8. Analysis Design (Moderation)

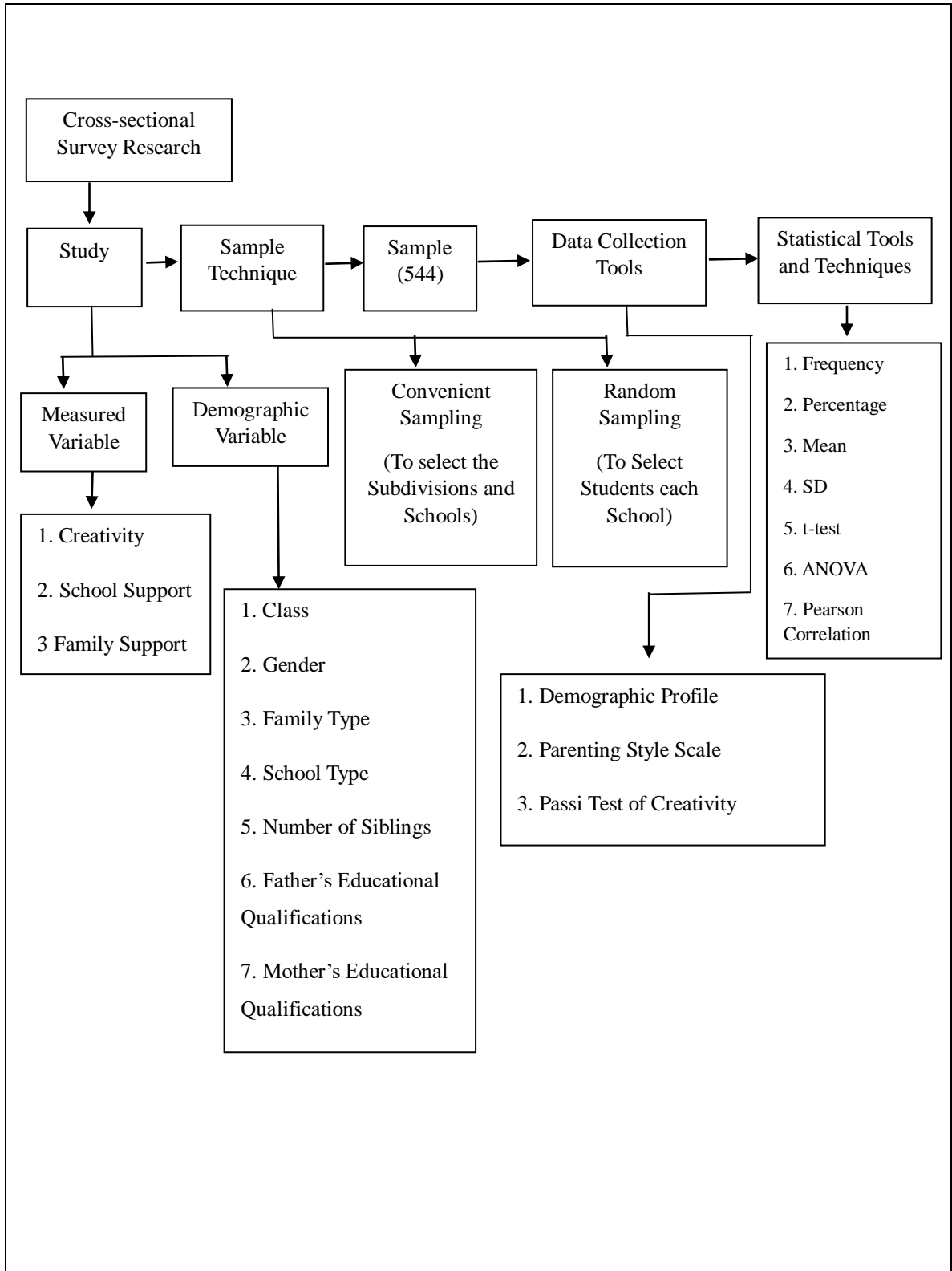


Fig. 4.9. Research Design

5.0. Chapter-V: Analysis and Interpretation of Data

The crucial elements of every research are data analysis, interpretation, and presentation, which are covered in this chapter. The chapter serves as the foundation for the entire study by analyzing collected data using various kinds of statistical techniques. As the foundation for conclusions from research, appropriate data analysis and interpretation are essential. So, without this section, the research would never have been finished.

5.1. Analysis and Interpretations

5.1.1. Data Normality

Before proceeding to descriptive statistics and hypothesis testing, the researcher first evaluated the normality of the data for SS score, PI, PSu, creativity, fluency, flexibility, and originality in verbal test, creativity, fluency, flexibility, and originality in non-verbal test. The evaluation was conducted using the Kolmogorov-Smirnov, Shapiro-Wilk, Skewness, and Kurtosis.

6.0. Chapter-VI: Major Findings and Conclusion

The researcher has reached this crucial phase, guided by the comprehensive data analysis and interpretation presented in the previous chapter. This section provides a brief overview of the final aspects of the study, with a particular focus on incorporating critical elements of the conclusion to maintain the study's practicality. The current chapter is structured into five sub-sections: significant findings, discussion of the results, study's implications, limitations, and suggestions for further research. This framework is designed to enhance the clarity and cohesion of the content, ensuring the reader grasps the significance of the study.

6.1. Major Findings of the Study

Based on the previous chapter discussed the analysis and interpretations, the following significant findings were drawn:

6.1.1. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on SS among the secondary school students in WB

1. There are significant variations in SS among the secondary school students in WB concerning the school type.
2. There are no significant variations in SS concerning the class of secondary school students in WB.
3. There are significant variations in SS among the secondary school students in WB concerning the gender.
4. SS among secondary school students does not vary significantly based on their family type.
5. SS among secondary school students does not vary significantly based on their number of siblings.
6. SS among secondary school students does not vary significantly based on their father's educational qualifications.
7. There are significant variations in SS among the secondary school students in WB concerning their mother's educational qualifications.
8. There are no significant variations in SS concerning the family monthly income of secondary school students in WB.

6.1.2. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on FS (PI and PSu) among the secondary school students in WB

6.1.2.1. Parental Involvement

1. There are significant variations in PI among the secondary school students in WB concerning the school type.
2. There are no significant variations in PI concerning the class of secondary school students in WB.
3. There are significant variations in PI among the secondary school students in WB concerning the gender.
4. There are no significant variations in PI concerning the family types of secondary school students in WB.
5. There are significant variations in PI among the secondary school students in WB concerning their number of siblings.
6. PI among secondary school students does not vary significantly based on their father's educational qualifications.

7. PI among secondary school students does not vary significantly based on their mother's educational qualifications.
8. There are no significant variations in PI concerning the family monthly income of secondary school students in WB.

6.1.2.2. Parental Supervision

1. There are significant variations in PSu among the secondary school students in WB concerning the school type.
2. There are no significant variations in PSu among secondary school students based on their class.
3. There are significant variations in PSu among the secondary school students in WB concerning the gender.
4. There are no significant variations in PSu concerning the family types of secondary school students in WB.
5. PSu among secondary school students does not vary significantly based on their number of siblings.
6. PSu among secondary school students vary significantly based on their father's educational qualifications.
7. There are significant variations in PSu among secondary school students across mother's educational qualifications.
8. There are significant variations in PSu concerning the family monthly income of secondary school students in WB.

6.1.3. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on PSs among the secondary school students in WB

1. There are significant influences of school type on PSs among secondary school students in WB.
2. There are no significant influences of class on PSs among secondary school students in WB.
3. There are significant influences of gender on PSs among secondary school students in WB.
4. There are no significant influences of family type on PSs among secondary school students in WB.

5. There are no significant influences of number of siblings on PSs among secondary school students in WB.
6. There are significant influences of father's educational qualifications on PSs among secondary school students in WB.
7. There are significant influences of mother's educational qualifications on PSs among secondary school students in WB.
8. There are significant influences of family monthly income on PSs among secondary school students in WB.

6.1.4. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on overall creativity among the secondary school students in WB

6.1.4.1. Creativity

1. There are no significant differences in creativity among secondary school students based on their school type.
2. There is no significant difference in creativity among secondary school students concerning their class.
3. There is significant difference in creativity among secondary school students concerning their gender.
4. No significant differences in creativity are observed among secondary school students based on their family type.
5. Creativity among secondary school students does not vary significantly concerning their number of siblings.
6. Significant differences in creativity are observed among secondary school students concerning their father's educational qualifications.
7. Significant differences in creativity are observed among secondary school students concerning their mother's educational qualifications.
8. There is no significant difference in creativity among secondary school students concerning their family monthly income.

6.1.4.2. Fluency

1. There are no significant differences in fluency among secondary school students based on their school types.
2. There is no significant difference in fluency among secondary school students concerning their class.

3. Fluency among secondary school students does not significantly vary based on their gender.
4. No significant differences in fluency are observed among secondary school students concerning their family type.
5. No significant differences in fluency are observed among secondary school students concerning their number of siblings.
6. Significant differences in fluency are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in fluency are observed among secondary school students based on their mother's educational qualifications.
8. No significant differences in fluency are observed among secondary school students based on their family monthly income.

6.1.4.3. Flexibility

1. There are significant differences in flexibility among secondary school students based on their school types.
2. There is no significant difference in flexibility among secondary school students concerning their class.
3. Significant differences in flexibility are observed among secondary school students concerning their gender.
4. There are no significant differences in flexibility among secondary school students based on their family type.
5. No significant differences in flexibility are observed among secondary school students concerning their number of siblings.
6. No significant differences in flexibility are observed among secondary school students based on their father's educational qualifications.
7. No significant differences in flexibility are observed among secondary school students based on their mother's educational qualifications.
8. Significant differences in flexibility are observed among secondary school students based on their family monthly income.

6.1.4.4. Originality

1. There are significant differences in originality among secondary school students based on their school types.
2. There is no significant difference in originality among secondary school students concerning their class.

3. No significant differences in originality are observed among secondary school students based on their gender.
4. There are no significant differences in originality among secondary school students based on their family type.
5. No significant differences in originality are observed among secondary school students concerning their number of siblings.
6. No significant differences in originality are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in originality are observed among secondary school students concerning their mother's educational qualifications.
8. No significant differences in originality are observed among secondary school students concerning their family monthly income.

6.1.5. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on verbal creativity among the secondary school students in WB

6.1.5.1. Verbal creativity

1. There is a significant difference in verbal creativity among secondary school students based on their school type.
2. There is no significant difference in verbal creativity among secondary school students concerning their class.
3. There is no significant difference in verbal creativity among secondary school students concerning their gender.
4. No significant differences in verbal creativity are observed among secondary school students based on their family type.
5. No significant differences in verbal creativity are observed among secondary school students concerning their number of siblings.
6. Significant differences in verbal creativity are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in verbal creativity are observed among secondary school students based on their mother's educational qualifications.
8. No significant differences in verbal creativity are observed among secondary school students concerning their family monthly income.

6.1.5.2. Verbal Fluency

1. There are significant differences in verbal fluency among secondary school students based on their school types.
2. There is no significant difference in verbal fluency among secondary school students concerning their class.
3. There is no significant difference in verbal fluency among secondary school students concerning their gender.
4. No significant differences in verbal fluency are observed among secondary school students based on their family type.
5. No significant differences in verbal fluency are observed among secondary school students based on their number of siblings.
6. Significant differences in verbal fluency are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in verbal fluency are observed among secondary school students based on their mother's educational qualifications.
8. No significant differences in verbal fluency are observed among secondary school students based on their family monthly income.

6.1.5.3. Verbal Flexibility

1. There are significant differences in verbal flexibility among secondary school students based on their school types.
2. There is no significant difference in verbal flexibility among secondary school students concerning their class.
3. Significant differences in verbal flexibility are observed among secondary school students based on their gender.
4. There is no significant difference in verbal flexibility among secondary school students based on their family type.
5. There is no significant difference in verbal flexibility among secondary school students based on their number of siblings.
6. No significant differences in verbal flexibility are observed among secondary school students concerning their father's educational qualifications.
7. No significant differences in verbal flexibility are observed among secondary school students concerning mother's educational qualifications.
8. No significant differences in verbal flexibility are observed among secondary school students based on their family monthly income.

6.1.5.4. Verbal Originality

1. There are no significant differences in verbal originality among secondary school students based on their school types.
2. There is no significant difference in verbal originality among secondary school students concerning their class.
3. Significant differences in verbal originality are observed among secondary school students based on their gender.
4. There is no significant difference in verbal originality among secondary school students based on their family type.
5. Verbal originality among secondary school students does not significantly vary concerning their number of siblings.
6. Significant differences in verbal originality are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in verbal originality are observed among secondary school students based on their mother's educational qualifications.
8. No significant differences in verbal originality are observed among secondary school students based on their family monthly income.

6.1.6. Demographics Influence (Class, Gender, Family Type, School Type, Number of Siblings, Father's Educational Qualifications, Mother's Educational Qualifications, and Family Monthly Income) on non-verbal creativity among the secondary school students in WB

6.1.6.1. Non-verbal creativity

1. There are significant differences in non-verbal creativity among secondary school students based on their school types.
2. There are significant differences observed in non-verbal creativity among secondary school students concerning their class.
3. Significant differences in non-verbal creativity are observed among secondary school students based on their gender.
4. No significant differences in non-verbal creativity are observed among secondary school students based on their family type.
5. Non-verbal creativity among secondary school students does not significantly vary based on their number of siblings.
6. No significant differences in non-verbal creativity are observed among secondary school students based on their father's educational qualifications.

7. No significant differences in non-verbal creativity are observed among secondary school students based on their mother's educational qualifications.
8. Significant differences in non-verbal creativity are observed among secondary school students based on their family monthly income.

6.1.6.2. Non-Verbal Fluency

1. There are significant differences in non-verbal fluency among secondary school students based on their school types.
2. There are significant differences observed in non-verbal fluency among secondary school students concerning their class.
3. There are significant differences observed in non-verbal fluency among secondary school students concerning their gender.
4. No significant differences in non-verbal fluency are observed among secondary school students based on their family type.
5. No significant differences in non-verbal fluency are observed among secondary school students based on their number of siblings.
6. No significant differences in non-verbal fluency are observed among secondary school students based on their father's educational qualifications.
7. Significant differences in non-verbal fluency are observed among secondary school students based on their mother's educational qualifications.
8. Significant differences in non-verbal fluency are observed among secondary school students based on their family monthly income.

6.1.6.3. Non-Verbal Flexibility

1. There are no significant differences in non-verbal flexibility among secondary school students based on their school types.
2. There are no significant differences observed in non-verbal flexibility among secondary school students concerning their class.
3. No significant differences in non-verbal flexibility are observed among secondary school students based on their gender.
4. There are no significant differences observed in non-verbal flexibility among secondary school students based on their family type.
5. Non-verbal flexibility among secondary school students does not significantly vary based on their number of siblings.
6. No significant differences in non-verbal flexibility are observed among secondary school students based on their father's educational qualifications.

7. No significant differences in non-verbal flexibility are observed among secondary school students based on their mother's educational qualifications.
8. Significant differences in non-verbal flexibility are observed among secondary school students based on their family monthly income.

6.1.6.4. Non-Verbal Originality

1. There are significant differences in non-verbal originality among secondary school students based on their school types.
2. There is significant difference observed in non-verbal originality among secondary school students concerning their class.
3. Significant differences in non-verbal originality are observed among secondary school students based on their gender.
4. There are no significant differences in non-verbal originality among secondary school students based on their family type.
5. Non-verbal originality among secondary school students does not significantly vary based on their number of siblings.
6. No significant differences in non-verbal originality are observed among secondary school students based on their father's educational qualifications.
7. No significant differences in non-verbal originality are observed among secondary school students based on their mother's educational qualifications.
8. No significant differences in non-verbal originality are observed among secondary school students based on their family monthly income.

6.1.7. Relationship between SS, FS (PI and PSu), and creativity among secondary school students in WB

1. A very low positive and significant relationship exists between SS and PI among secondary school students is found.
2. There are very low positive and significant relationships exists between SS and PSu among secondary school students.
3. A very low positive and significant relationship exists between exists SS and creativity among secondary school students.
4. A very low positive and significant relationship exists between PI and PSu.
5. There is a very low positive and significant relationships exists between PI and creativity.

6. There is a very low positive and significant relationships exists between PSu and creativity.

6.1.8. Effects of SS on overall and dimension-wise (fluency, flexibility and originality) creativity among secondary school students

1. SS has a statistically significant effect and explains only 1% of the variations in overall creativity among secondary school students.
2. SS has a statistically significant effect and explains only .8% of the variations in overall fluency among secondary school students.
3. SS has a statistically significant effect and explains only 1.4% of the variations in overall flexibility among secondary school students.
4. SS has a statistically significant effect and explains only .9% of the variations in overall originality among secondary school students.
5. SS has a statistically significant effect and explains only 1% of the variations in verbal creativity among secondary school students.
6. SS has no significant effect on non-verbal creativity among secondary school students.

6.1.9. Effects of FS (PI and PSu) on overall and dimension-wise (fluency, flexibility and originality) creativity among secondary school students

1. PI and PSu together significantly predict 2.6% of the variance in overall creativity among secondary school students.
2. PI and PSu together significantly predict 1.4% of the variance in overall fluency among secondary school students.
3. PI and PSu together significantly predict 9.8% of the variance in overall flexibility among secondary school students.
4. PI and PSu together significantly predict 1.4% of the variance in overall originality among secondary school students.
5. PI and PSu together significantly predict 2.6% of the variance in verbal creativity among secondary school students.
6. PI and PSu have no effect on non-verbal creativity among secondary school students.

6.1.10. Effects of SS, FS (PI and PSu) on overall and dimension-wise (fluency, flexibility and originality) creativity among secondary school students

1. SS and FS together significantly predict 3.3% of the variance in overall creativity among secondary school students.

2. SS and FS together significantly predict 1.9% of the variance in overall fluency among secondary school students.
3. SS and FS together significantly predict 10.5% of the variance in overall flexibility among secondary school students.
4. SS and FS together significantly predict 2.1% of the variance in overall originality among secondary school students.
5. SS and FS together significantly predict 3.2% of the variance in verbal creativity among secondary school students.
6. SS and FS have no effect on non-verbal creativity among secondary students.

6.1.11. Moderating Effects of Selected FS Factors in the Relationship between SS and Creativity.

1. FS (in terms of PSs) does not significantly moderate the relationship between SS and creativity among secondary school students.

6.2. Discussion of the Major Findings

Creativity

Creativity is an ability characterized by fluency, flexibility and originality in generating new ideas or products. It is influenced by various factors (Kurylenko, 2024). One of the results of the present study revealed that there is a significant difference in verbal creative flexibility among secondary school students in terms of gender, which means the ability to create diverse and original ideas through language. This finding was supported by Biswal et al. (2024), Ayishajuhi and Sreeletha (2019), and Pont-Niclòs et al. (2024). Various cognitive, social and environmental factors may lie behind this difference. Biological factors, such as brain structure, language processing, childhood experiences, etc., may have an effect (Sun et al., 2024). Different social and cultural norms play a role in shaping creative abilities (Kumari, 2020), as boys and girls follow these different norms from childhood. Moreover, the learning environment plays a crucial role in this regard (Breti, 2024). Because different teaching methods can affect students' verbal creative flexibility, this gap can be bridged through support for both genders by fostering an inclusive learning environment for creative expression among secondary school students.

The present study also highlights those significant differences in nonverbal creativity among secondary school students based on school type, class, gender, and family

income. This finding is supported by Adeyemo (2020). These findings suggest that, beyond verbal expression, various factors influence students' creative abilities. Like, differences in school type, resources, teaching methods, and other opportunities can affect creativity. Similarly, higher-class students may exhibit more nonverbal creativity due to increased exposure. Again, social expectations and upbringing style may account for gender differences in creativity. Additionally, family income also plays an important role in creativity (Sarsani, 2011). For example, financially stable families can easily provide their children with creative tools and a rich learning environment, which encourages their non-verbal creative growth.

School Support

In the case of SS, the study findings revealed that SS has a statistically significant effect on the variations in overall creativity among secondary school students. This finding is similar to the findings of Peng et al. (2013), Dung My Le et al. (2022) and Kalogeratos et al. (2023). The role of the educational environment in developing creative potential is very important (Breti, 2024). Schools that provide opportunities for creative expression enable students to explore innovative ideas. Conversely, a lack of support may hinder students' creative development.

The study also found that SS has a statistically significant effect and explains only (1.4%) of the variations in overall flexibility among secondary school students. This finding is supported by Dung My Le et al. (2022). While school support significantly affects overall flexibility, many other factors may contribute more significantly to students' cognitive flexibility. Such as personal characteristics, home environment, and social interaction patterns can have a strong influence. This indicates that providing institutional support alone is not enough. Therefore, this requires a holistic support environment, where a positive collaborative effort between school, family and community is essential.

Furthermore, the study findings revealed that a positive and significant relationship exists between SS and creativity among secondary school students. This finding is supported by Arora and Kaur (2014). So, it is clear that the educational environment is important in the positive and significant relationship between SS and creativity among secondary students. In school environments that provide opportunities and encouragement for students to express their creative expression, students develop innovative thinking.

Family Support

In the case of FS, the study findings revealed significant differences in parenting styles among secondary school students based on their gender. This finding is supported by Zhao and Yang (2021). This finding suggests that parents may adopt different approaches to raising their children.

The present study revealed that PI and PSu together significantly predict 2.6% of the variations in overall creativity among secondary school students. This finding is supported by Mehrinejad et al. (2015), Pugsley and Acar (2020), Tang et al. (2022) and Jankowska and Gralewski (2022). While parental influence is important in this regard, there are other factors that may play a more important role. For example, experience, motivation, interaction and school environment can play an important role. While supportive parenting is useful in providing a foundation for creative thinking, strict supervision can sometimes limit a child's independent exploration.

The present study also revealed positive and significant relationships between parental involvement, parenting supervision and creativity. This finding is supported by Fearon et al. (2013), Nosrati et al. (2014), Lew (2015), Ramezani et al. (2017) and Shen (2021). Parents' active participation in their children's education encourages the student's exploration and creativity. However, if supervision is overly restrictive, it may limit the freedom to express the child's creative potential (Fan, Feng, & Zhang, 2024).

The present study also reflects significant difference in flexibility observed among secondary school students based on their family monthly income. A similar result was revealed by Sinha (2021). He showed that students from high socioeconomic status backgrounds demonstrated better verbal and non-verbal creative potential. It suggests that family monthly income or economic factors affect the cognitive and creative ability of students (Sarsani, 2011). Students from higher-income families typically have access to a variety of environments that provide flexible thinking development. In contrast, students from low-income backgrounds may have limited exposure to diverse experiences. This study, therefore, emphasizes the need for schools to bridge this gap by providing opportunities.

Creativity, School Support and Family Support

The present study revealed that school and family support together significantly predict 3.3 % of the variations in overall creativity among secondary school students. This finding is similar to the findings of Zhang et al. (2022) and Alabbasi et al. (2024). It

suggests that although supervision plays a significant role in enhancing creativity, its effect is minimal. Just as parental over control can limit a child's independent thinking, a balanced approach-freedom environment can better nurture creativity. This suggests that parents should encourage children's curiosity, problem-solving and exploration.

6.3. Educational Implications of the Study

This study as signification implications in education and other related fields.

1. This study will help to assess the level of creativity, SS, and FS among secondary school students, which can be used to plan future directions.
2. This study will help identify the influential demographic factors in creativity, SS, and FS. Once those factors are known, students, their teachers, and their parents can manipulate and control them to achieve the desired outcomes.
3. As SS, FS, and creativity are positively and significantly correlated, and SS and FS significantly predict variations in creativity, therefore, providing a proper school and FS can foster students' creativity.
4. Regarding gender, female students received more SS and FS than male students. Therefore, administrators and policymakers should implement gender-sensitive programs to eradicate the gap in school support and educate parents on the importance of PSu and PI for both male and female students.
5. The present study will also help the higher authority to maintain SS in fostering creativity when implementing the new educational policy.
6. As our findings revealed, there is a significant difference in PSs concerning mothers' and fathers' educational qualifications, therefore, conducting parenting workshops and seminars could be beneficial to assist parents in understanding the influence of PSs on students' creativity.
7. The school types influence students' flexibility and originality. Therefore, policymakers and organizations must provide equal creative platforms for every school.
8. A positive and significant correlation existed between SS, FS, and Creativity. As a result, schools should integrate creative activities into the curriculum, such as arts programs, project-based learning, and collaborative problem-solving programs, to nurture creativity. Also, schools should communicate with parents and share strategies that will assist parents in fostering creativity.

9. The findings revealed that FS and SS can significantly predict creativity. This result emphasizes the collaborative efforts of schools and families to nurture problems in creative ways. Therefore, a consistently supportive environment both inside and outside the classroom can maximize students' creativity. It will lead them to better innovative and adaptation skills in the future.

6.4. Limitations of the Study

The major limitations of the study lie in the following:

1. The present study did not cover secondary level school students under ICSE and CBSE or other boards.
2. Time played an important role in administering and recording the creativity tests. However, some unavoidable errors occurred while recording students' responses and time, which may influence the results.
3. There were no such fixed responses in the creativity tests; assigning scores for creativity was quite difficult.
4. Assigning creativity scores by a single person is quite challenging, so the researcher sought assistance. These in-person variations may influence the results.
5. Parenting was measured in terms of perceived parenting, which may not reveal the parents' actual parenting styles.

6.5. Suggestions for Further Study

Several areas warrant attention to build on this research's findings and improve the robustness of future studies.

1. This study could be undertaken by covering secondary-level school students under all the affiliating boards, such as WBBSE, ICSE, CBSE, or other boards, and a larger number of districts.
2. While administering the creativity tests and recording response time, researchers must also pay proper attention to time counting to avoid errors.
3. While assigning creativity scores, further researchers may seek assistance from other people, but before that, the research must give them proper training for assigning scores, and they should assign scores in the presence of the researcher.
4. For measuring family support, further researchers may collect data directly from parents and also use other scales.

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