IMPACT OF PARENTAL ATTACHMENT ON ACADEMIC PERFORMANCE OF SENIOR SECONDARY SCHOOL STUDENTS: ROLE OF PSYCHOLOGICAL RISK, ENGAGEMENT AND BUOYANCY

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By

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DECLARATION

I declare that the thesis entitled **"Impact of Parental Attachment on Academic Performance of Senior Secondary School Students: Role of Psychological Risk, Engagement and Buoyancy"** has been prepared by me under the guidance of Dr. Vijay Kumar Chechi, Professor and Head, Department of Education, Lovely Professional University, Phagwara, Punjab. No part of this thesis has formed the basis for the award degree or fellowship previously.

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ABSTRACT

"Education is not about how much you have memorized or even how much you know. It's the ability to tell the difference between what you know and what you don't know." It brings a holistic transformation in the individual in terms of knowledge and skills, competence, and abilities to perform better in life. Adolescents, the leaders of tomorrow, need to be armed with a strong value system and enabling habits which can support them lead a better and more rewarding life. In these times, academic performance is considered a parameter of success. It is looked upon as a reflection of an individual's intelligence. The academic performance score is the aggregate of an individual's hard work, optimism, support from peers and parents, and teachers.

Academic performance is a quantitative construct that uses different measures for the assessment part. The outcome efforts of the students are gradable and primarily expressed in terms of the attainment of their skills, learning objectives and transfer it into the Grade point average (GPA) scores (York, 2015). Adolescents are eager on monitoring their performance related to their academics because for students received their academic status also influence their identity (Sherman, 2013), and effective feedback from teachers helps them to achieve their long-term goals in life and become effective learners (Fletcher et al., 2012).

Nowadays, students are suffering from factors and problems that disturb their academic performance badly, and these types of problems come from low parental attachment, psychological factors (which include anxiety, stress, depression) low engagement in the classroom, and buoyancy. In the educational context, these problems of students in senior secondary education leads to failure in their academic performance, unrealistic worry, low self-efficacy, fear, and test anxiety create problems to function them usually. Although in many cases, researcher emphasized that parental attachment promotes grade point average, cognitive engagement, academic persistence and academic attainment among children, early and late adolescents. It is the need of the hour to develop and enhance the skills to improve students' performance. So, academic performance is studied as a latent variable in the present study. Therefore, in the present study, the investigator intended to understand the impact of parental attachment on the academic performance of senior secondary

students as well as to understand the mediating role of psychological risk, engagement, and buoyancy on the academic performance of students.

The present study was aimed at investigate the impact of parental attachment on academic performance of senior secondary school students: Role of psychological risk, engagement and buoyancy. The objectives of the study were; a) to classify the level of parental attachment, academic performance, psychological risk and buoyancy of the senior secondary school students based on gender, stream, locality, and type of school. (b) To find out the difference among senior secondary school students in parental attachment, academic performance, psychological risk, engagement and buoyancy based on gender, stream, locality and type of institution. (c) To study the relationship between parental attachment, academic performance, psychological risk, engagement and buoyancy among senior secondary school students. (d) To study parental attachment as the predictor of academic performance among senior secondary school students. (e) To study the role of psychological risk and engagement in the relationship between parental attachment and buoyancy of the senior secondary school students. (f) To examine the role of engagement, buoyancy and psychological risk in the impact of parental attachment on the academic performance of the senior secondary school students.

A descriptive method was designed using stratified random sampling. The respondents were drawn from government and private schools affiliated to Punjab school education board (PSEB), located in three regions of Punjab i.e. Majha, Malwa, and Doaba. The data was collected from 12^{th} class comprised of 1446 students. In order to measure parental attachment, inventory of parent and peer attachment (IPPA) by Gulone (2005) was validated and administered on Indian population with the help of Confirmatory factor analysis (CFA), and the internal consistency of the tool was analyzed by calculating Cronbach's alpha, and composite reliability of the scale was calculated. For academic performance of students, class XII (PSEB, Mohali) total scores have been considered. In order to measure psychological risk, statements were taken from motivation and engagement scale by (Martin, 2011) and Paul Costa, JR and Robert MacCare (2010). Scale was validated on Indian population by using exploratory factor analysis (EFA), and internal consistency of the tool was analyzed by calculating Cronbach's alpha. In addition, to measure engagement, student engagement scale by Viega (2012) was used and validate on Indian population with

the help of confirmatory factor analysis (CFA), and the internal consistency of the tool was analyzed by calculating Cronbach's alpha, and composite reliability of the scale was calculated. To measure buoyancy, academic buoyancy scale by Martin (2008) was used and validated on Indian context by using confirmatory factor analysis (CFA), and the internal consistency of the tool was analyzed by calculating Cronbach's alpha, and composite reliability of the scale was calculated. T-test, correlation, regression analysis and mediation was employed to conduct the analysis.

Major findings of the study were: a) the majority of senior secondary school students possess a low level of parental attachment. The same is found to be true for grouping based on gender, stream, locality and type of school; the majority of senior secondary school students possess B level of academic performance. The same is found to be true for grouping based on gender, stream, locality and type of school; the majority of senior secondary school students possess an average level of psychological risk. The same is found to be true for grouping based on gender, stream, locality and type of school; the majority of senior secondary school students possess an average level of engagement. The same is found to be true for grouping based on gender, stream, locality and type of school; the majority of senior secondary school students possess an average level of buoyancy. The same is found to be true for grouping based on gender, stream, locality and type of school. b) Art, urban and private school students significantly more attached with their parents; female, urban, and private school students significantly score more in the academic performance than their counterparts; female, rural, and government school students significantly more in the psychological risk than their counterparts; female, science, urban and private school students significantly more engaged than their counterparts; male, urban, and private school students significantly more in the academic buoyancy than others. c) The relationship between parental attachment and academic performance were found significant positive; the relationship between parental attachment and psychological risk were found significant negative; the relationship between parental attachment and engagement found significant positive; the relationship between parental attachment and buoyancy were found significant positive; the relationship between psychological risk and academic performance were found significant negative; the relationship between psychological risk and engagement were found significant negative; the relationship between psychological risk and buoyancy found significant negative; the

relationship between buoyancy and academic performance were found significant positive; the relationship between engagement and buoyancy were found significant positive; the relationship between engagement and performance were found significant positive. d) Parental attachment was a significant predictor of the academic performance of senior secondary school students. Moreover, the positive relationship between parental attachment and academic performance indicates that increased parental attachment which leads to an increase in the performance of senior secondary school students. (e) Psychological risk partially mediates the relationship between parental attachment and buoyancy of senior secondary school students; engagement is not mediating the relationship between parental attachment and buoyancy of senior secondary school students; psychological risk is not mediating the relationship between parental attachment and performance of senior secondary school students; engagement is not mediating the relationship between parental attachment and academic performance of senior secondary school students; buoyancy is not mediating the relationship between parental attachment and performance of senior secondary school students. Thus, the produced results have clear implications for parents, teachers, school counselors, and principals. Counselors and parents need to understand that academic performance plays a vital role in the life of adolescents. Therefore, they can consult teachers, staff, and administrators to identify and implement school-based policies and programs to enhance academic performance. Moreover, the researcher observed that parental attachment is a significant predictor of academic performance, which means that high parental attachment positively impacts academic performance. Hence, school policies and program sessions can include students and parents to discuss how students can maintain positive relations with their parents. In addition, the school can organize workshops and seminars to provide resources such as websites and parent policy handbooks to resolve specific issues.

Keywords: Parental attachment, Academic performance, Psychological risk, Engagement, and Buoyancy.

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Date: _____ **Komal Sharma**

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Chapter – 1

INTRODUCTION

Education is dynamic in nature. It has gone through many ages and phases in evolution since the beginning of human history, and each stage has a different significance depending on the current social conditions. It is still evolving, and this is a phase that will never be completed. Changing times will always demand a revision of the prevailing educational ideals to meet the challenges of the time. Our country has now reached a stage where economic and technical development is facing new challenges. Education brings a holistic transformation in the individual in terms of knowledge and skills, competence and abilities to perform better in different subjects.

Moreover, success in today's world is impossible to imagine without education, and it also plays an essential role in a country's socio-economic growth. Education expands our perspective and demonstrates many pathways to achievement and prosperity. Life gives us several challenges. However, education helps us to overcome these obstacles and enable us to learn new skills, making it easier for us to carry out our daily lives to the best of our abilities.

The definition of *education* as the transmission of knowledge, skills, and information from teachers to students is a limiting one. In its broadest sense, education refers to any act or experience that has a formative effect on a person's mind, character, or physical abilities. In this context, a trained person can correctly perceive, think clearly, and act efficiently to achieve self-selected goals and ambitions.

University Education Commission (1948) explained, "Education according to the Indian tradition is not merely a means to earning or living nor is it only a nursery of thought or a school for citizenship. It is an initiation into the life of the spirit, a training of human soul in the pursuit of truth and the practice of virtue."

According to the National Policy of Education (1986), "Education has an acculturating role. It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit- thus furthering the goals of socialism, and democracy enshrined in our constitution." "Education means more than a certain course of study. It means more than a preparation for the life that

now is. It has to do with the whole being and the whole period of existence possible to man. It is harmonious development of the physical, mental and spiritual process."

In its most technical sense, training is the deliberate transmission of society's acquired knowledge, skills, and values from one generation to the next. We deal with whole worlds and fields of both worldly phenomena and distinctly human narratives in education, none of which have a literal physical nature. Education must be important to the needs and desires of people who live in today's fast-paced society. Education is widely accepted as a basic form of social regeneration and, to a large degree, a solution to society's problems. As a result, education can be described as a journey that includes academic success, challenges, disappointment, and efforts. Furthermore, we indeed are happiest when we forget about ourselves and concentrate on the well-being of others. Working for a better society through educational tools allows us to build our capacities, resulting in peace and tranquility.

As per the Indian Constitution, education is the fundamental right of every individual, and it plays a vital role in transforming the students for better performance. Therefore a new education policy (2020) was implemented with numerous benefits. The main focus of this policy is to change the curriculum and pedagogy, assessments and exams, and investing in the teacher training education system. The policy aims to provide innovative education centers, infrastructure support, multiple pathways for student's learning, and raise the gross enrolment ratio (GER) in secondary and higher to fifty percent by 2025.

To conclude, it can be said that education is really important and essential for a better life and a better future. Education in the life-long perspective is a process of human transformation, human enlightenment and human empowerment for the attainment of a better and a higher quality of life. We need to get the best of education that we want to. It is worth having knowledge, intellect and the capacity to participate at the global level that can change our life tremendously.

1.1 PARENTAL ATTACHMENT

Attachment is the work of John Bowlby and Ainsworth (1969), and it has been studied extensively due to its importance in the human development. According to a British psychologist and psychoanalyst, human attachment is also essential for the

better development of an individual's life. As per his theory, attachment is the principal relation of parent and child which is basic for survival. He states that, if the infant is closer to the caregiver then the chance of survival is increased. Bowlby (1969) defined attachment as a 'lasting psychological connectedness between human beings and also believed that the emotional relationship between infant and caregiver is more powerful and establishes the lifelong relationship that is necessary for emotional and social development of the child. Moreover, this attachment will help them to take risk and build a healthy personality. Bowlby quoted that, "our first bonding with our mother, determines our future life".

According to Merriam- Webster dictionary attachment is "the state of being personally attached: affectionate regard". Attachment refers to as "the strong affective bond between the infant and the primary caregiver" (Bowlby, 1973). The theory of attachment also states that it is an 'enduring affectional connection' between two people (Stein, 2002). There are numerous visible signs of attachment that can easily be seen in the form of gestures such as smiling and crying. Hearing a child cry makes a parent uncomfortable; therefore, the parent is innately driven to comfort the baby. The main objective of attachment is to calm and protect her/him from fear in an unfamiliar situation (Mussen, 1974) for a better relationship in the future.

There are different characteristics given by Bowlby (1969), to understand what attachment really is, which includes proximity maintenance, safe haven, secure base and separation distress. As per attachment theory, (a) proximity maintenance develops when baby starts to crawl and keep eye contact with their caregiver to make sure they are safe with them, (b) safe haven: when the baby feels fear, then he go back to their parents for comfort, (c) secure base: parents provide safe and secure ambivalent to their children to explore the world, (d) separation distress: when baby get separated from their caregivers then, baby becomes upset and sorrowful. These four components are essential in the bond between an infant and his parents.

According to the psychoanalytic perspective, the quality of attachment of caregiver with their child plays a significant role in the infant's feeling and ability to create trusting relationship (Berk, 2003). Bowlby theory of attachment describes that infant uses their previous experiences with their parents to build an internal working model

and then use these as a template when they interact with other people. Loving, support and security supplied by their caregiver make them self-confident later.

Berk (2003) gave four stages of attachment: (a) the pre-attachment (0- 2 months), various built-in signs such as smiling, crying, and grasping, and in this infancy age, infants perceive their own mothers' smell and her voice. (b) The attachment in the making stage (2 months – 8 months); in this age group children react differently with their family members than to strange people, and they interact with their caregiver and feel free from distress; moreover, babies start to develop a feeling of trust between them. (c) The phase of clear cut attachment (8 months- 18 months); during this stage, children experience separation discomfort and become sad when they are not with their mother, although this distress can be decreased with the caregiver's caring and supporting personality. (d) The formation of a reciprocal relationship (18 months – 2 years and beyond); toddlers may now comprehend the various factors that influence their parents' arriving and going, as well as predict their return. With age, a child becomes less reliant on the caregiver. Bowlby (1980) reveals that babies build an affection connection with their parents during these stages that make a secure and safe base in the absence of their caregiver. Attachment with family plays an essential role in adolescents' lives (Heimer, 1987) and serving as a role model (Wiatrowski, 1981). Researchers reveal that the more substantial relationship with family, the less likely children are to deviate from conventional activities.

Ainsworth (1989) defined *attachment* as an enduring, deep, and practical relationship between two individuals. A developmental psychologist, Ainsworth (1978), experimented with the theory of Bowlby and observed the behavior of infants with 'strange situation.' In this experiment, her main objective was to observe infants' effect when their mother leaves the room. In his study, 12-18 age group children were involved, and 'strange situation' follow the primary sequence for the assessment:

(1) "Parent and child are alone in a room,"

(2) "The child explores the room with parental supervision,"

(3) "A stranger enters the room, talks to the parent, and approaches the child,"

(4) "The parent leaves the room,"

(5) "The parents came back and comfort the child."

Based on the aforementioned observations, Ainsworth (1978) identified three styles of attachment to access the reunion behavior and separation anxiety by using the 'separation strange' procedure and these styles will guide the caregiver to understand the infant's thoughts, feeling for the future relationship. Attachment styles are (a) secure attachment; in this age group, newborn babies are fully dependent on their caregiver and feel secure with them. When they are isolated, generally infants start to crying, owing to the absence of their parents and when the caregiver returns, then crying decreased. This type of attachment is characterized by low avoidance and low anxiety (Sable, 2008). Researchers defined secure attachment as an emotional bond between human beings that includes care and comfort. Secure attachment plays a significant role in healthy adolescent adjustment (Morreti, 2004) and as a protective factor for mental health (Oliviera, 2009). (b) Avoidant attachment; these newborn babies seem unavailable and unresponsive with their caregiver and when parents leave the room, they are not stressed. These parents promote self-sufficiency and discourage sobbing. Adolescents are more vulnerable when they have this form of attachment (Roberts et al., 1996). High avoidance and mild anxiety describe avoidant attachment (Sable, 2008). (c) Resistant attachment; before separation, children want closeness from their parents but fail to explore and whenever the caregiver returns, then children become upset and display angry behavior. These styles of attachment reflect insecurity, and children show contradictory behaviors.

Sroufe (1983) identified the alliance between insecure attachment and dependence and he found that children with resistant behavior were more dependent upon their counselors and teachers and from these ideas, it is clear that, early child-parent attachment can affect various facts of life in the future. According to Bowlby theory, the parent-child interaction and abilitieslearned in a secure attachment as a kid play a vital role in the adolescent's development(Dubios, 2013). As a result, examining parental attachment in adolescents is necessary.

Adolescent is the age of life when an individual gains new experiences and undergoes various psychological and physical changes, and behaves in the way that adolescents have learned and experienced during their childhood. Pascuzzo, (2015) found that the insecure attachment of parent-adolescent had an impact on psychopathology in later

life. In addition to it, Brumariu, (2012) suggested that parent-child attachment shows a low level of catastrophizing.

Parental attachment is established through closeness, safety, and security that is offered by a parent or guardian and experienced by a child (Nickerson &Nagle, 2005).Armsden (1987) suggested three factors of parental-adolescent attachment: - (a) Trust (b) Communication and (c) Alienation, and these factors are positively contributed to enhance the parental attachment quality (Bogels &Brechman Toussaint, 2006; Bowlby, 1988).

Trust is a primary construct in the attachment theory of Ainsworth (1978) as well as it also increases the understanding of goodness, building confidence in ones' relationship (Larzelere, 1980) and continuity (Erikson, 1950). As per Erikson, trust is more parallel with attachment. At an early age, trust in attachment influences the adjustment positively. Concomitantly, in adolescents, it promotes a warm relationship with their parents (Allen, 1999). In numerous studies, it has been shown that adolescents' trust is related to responsible behavior (Wentzel, 1991), social status (Buzzelli, 1988), good peer relationship and prosocial behavior, and psychosocial adjustment (Rotenberg & Hymel, 2004; Lester, 1990).

On the other hand, communication is an irreversible, constant and active process (Ackard & perry, 2010), and it is the way to send information from one person to another. Adolescents and their caregivers form a healthy relationship when they communicate well. Furthermore, the term "alienation" is used to characterize children's refusal to spend time with their parents, and children become alienated from their caregiver as a result of various negative signals, such as a lack of desire in improving the parent-child relationship. The other meaning of alienation is anomie, isolation, loss of self, pessimism, and loneliness. With more parental attachment, adolescent’s shows less conflict with their mother and father (Armsden, 1990) and insecure attachment develop numerous conflicts and display anxiety (Jinyao, 2012). Researchers found that delinquency is considered as one of the causes due to poor attachment with parents (Hirschi, 1969).

Traditionally, the vital function of attachment is to give security to children, and the theory of attachment gives importance to the affectional relationship between the parent-child in numerous contexts. Attachment between parents and adolescent does

not develop suddenly, it develop naturally with time. Many existing studies of attachment have focused on the positive alliance between the parent-adolescents as an essential dimension to enhance their academic development, prevent educational and achievement problems, and facilitate the healthy development of adolescents. Blesky (2002) suggested that adolescents with positive parental attachment in early childhood achieve more success in school than those who experience disengaged relationships.

Although in many cases, researcher emphasized that parental attachment promotes grade point average, cognitive engagement, academic persistence, and academic attainment among children of different ages (Bell, Hauser & Oconner, 1996; Finn 1997; Hoffman 1987; Cutrona, Colangelo & Russell 1994; Moss, 2001; Peng, 1994). Contrary to the above, a low level of parental attachment has identified as a risk factor for poor child-parent relationships (Ekstrom, Pollack, 1986), less educational expectations (Dornbushch, Robert, 1987) and poor academic achievement.

1.1.1 Summary on Parental Attachment

The central theme of attachment theory is that primary caregivers who are present and responsive to a child's needs encourage the children to develop a sense of security. The child knows the caregiver is trustworthy, which provides a safe foundation for the children to explore more things. The attachment theory focuses on child's nature and his relationship with their parents and it plays a vital role in the adolescent's development and education. There are three factors of parental adolescent attachment namely trust, communication, and alienation and these factors positively contribute in child-parent attachment.

1.2 ACADEMIC PERFORMANCE

The origins of measuring academic performance in the United States date back to the 1830s. The concept of performance refers to the fact that the subject does not actually perform a task without assistance, but tries to perform well in order to receive positive feedback for his demonstrated ability to perform the task. In this achievement-oriented framework, future assumes the greatest significance; hence their perceived extensions may be exaggerated beyond simple chronological limits. There is a rat race among children to secure a high percentage in examination because they are expected to be achievers nowadays. In this increasingly competitive world, this pressure on youngsters to become achievers is intense. The adolescent is facing the school and

college issues on a regular basis. During adolescence, school or college becomes an increasing source of concern and worry.

The Dictionary meaning of performance is the act of performing or the state of being performed. Thus, performance refers to fulfilling or accomplishing a promise, contract, or other obligations according to its needs. Crow and crow (1956) defined *performance* as “the extent to which the learner is profiting from instructions in a given area of learning.” Pressey et al. (1959) "stated performance as status or level of a person's learning and his ability to apply what he has learned." According to Ireoegbu (1992), it is an individuals' level of achievement in educational subjects. Teachers' grades or test scores are markers of this achievement. Teachers can award high or low grades, indicating that students' academic performance is either excellent or poor. Busari (2000) stated that "academic performance generally regarded as knowledge attained or skills developed in the various educational subjects."

Academic performance means a student’s performance in school or college or university namely his/her marks in the exams, which is the criterion for student performance. In addition, academic performance means a student’s progress in achieving short or long-term educational objectives.

Stephen (1951) remarked that to assess students' academic performance is an individual responsibility of educational institutions established by society to promote their healthy scholastic development. Traw (1960) defined *academic performance* as “the skill or degree of competence attained in educational activities, typically assessed by standardized tests and expressed in grade based on norms derived from the extensive sampling of the pupil's performance.”

Academic performance is the result of individual efforts, guidance and study habits, it is the extent to which a student, teacher, or institution has accomplished educational objectives—performance on tests related to coursework and students' results on other exams (Kyoshaba, 2009).

Academic performance refers to the grade point average (GPA). It is aggregated for all the subjects studied by an individual during a semester. It is the method that the school uses to evaluate how well the students perform academically. Thus, academic success is described as the ability to learn and remember facts, allowing students to:

- To think more critically about facts.

- To effectively study and to see how facts work together to shape broader information patterns.
- To convey knowledge, either verbally or non-verbally.

Academic performance can be influenced by numerous factors, including sample demographic factors, such as gender, age, socioeconomic status, and factors such as the quality of school teaching and how students with special needs are grouped. For instance, students of a particular gender or race may often have a statistically better chance of academic performance than their peers of a different gender or race. Various factors affect the student's academic performance, such as home, teacher, and student factors. Home factors are related to financial burden, work at home, family size, parenting style, and parental attitude towards education. In contrast, school factors are related to the relationship between the teacher and students because the teacher's qualities and capabilities play a significant role in student's performance.

Kapur (2018) studied the various factors that influenced student's academic performance, including student's attitude, school resources, leadership aspects, skills and abilities of the teacher, classroom environment, role of parents, social circle, psychological and health-related factors. A meta-analysis study done by Richardson (2012) found five predictors of academic personality: motivational factors, personality traits, approach to learning, self-regulated strategies of learning, and psychosocial factors.

A slew of studies on academic performance have found that a variety of factors influence pupils' performance (Abar et al., 2009; Johnson, 2008; Johnson et al., 2006; Liew et al., 2008; Zhang, 2004). Students' performance was influenced by the following elements (Sharma, 2011):

- **Individual factor**: these factors are related to individuals, and these factors are referred to as cognitive and non-cognitive factors. Intelligence and cognitive styles require cognitive factors. In contrast, non-cognitive factors include emotional intelligence, achievement motivation, interest in personality, an attitude of motivation, and self-esteem.

- **Environmental factors**: these factors are related to the environment of an individual, which includes the educational system, teacher effectiveness, school

environment, teaching training method, peer group, assessment system, society, and home environment.

- **Psychological factors** are related to one person himself. The nature of essential childhood and adult relationships, as well as the feeling of comfort or stress in social contexts, are all examples of psychological factors.

Apart from the cognitive factors, several factors that impact performance quality include the effectiveness of different programs, institutional size, and teachers to student ratio. These factors play a role in the quality of adolescents' experiences related to their academics (Friedman, 2011). The quality of the student's performance is linked with numerous factors such as classroom environment, ability, and socioeconomic status (Wyatt, 2011). Some causes of low level of academic performance include lack of adequate learning, psychological factors (for example, exam phobia, depression, slow learning, and learning disabilities), conflict, fear of examination, and lack of motivation (Kapur, 2018).

Academic performance is a quantitative construct that uses different measures for the assessment part. The outcome efforts of the students are gradable and mostly expressed in terms of the attainment of their skills, learning objectives and transfer it into Grade Point Average (GPA) scores (York, 2015). Effective feedback from teachers helps them to achieve their long term goals in life and make them effective learners (Fletcher et al., 2012). It has been found, according to different researchers, that students who are actively engaged in classroom learning and actively perform in the learning process have more abilities to enhance their academic performance (Fredricks, 2012).

The student's learning and academic performance can be enhanced through the inculcation of skills, academic knowledge, proficiency, and abilities. Several variables in an academic field help to enhance the performance, including class assignments, tests, class participation, assignments, and competitions. As per the research of Tsay (2012), cooperative learning played a significant role in enhancing the students' performance and concluded that cooperative learning provided practical relationship skills that help them beyond the academic environment. Reeve (2011) suggested that student's performance can be enhanced cognitively and behaviorally. The feedback also influences the academic performance that they receive during the learning

process (Denton, 2014). It helps students know how close or far are they from their goals to enhance self-efficacy (Beatson, 2018). Moreover, adjust students' efforts to prepare for an exam or achieve academic goals (Carrillo, 2009).

1.2.1 Summary on Academic Performance

A variety of factors influence academic performance, including sample demographic factors such as gender, age, and socioeconomic level, as well as school teaching quality.For example, students of one gender or race may have a statistically higher probability of academic success than students of another gender or race. Home, instructor, and student variables all affect a student's academic performance.Finally, it can be stated that it is important for the students to be committed and sincere to their studies to achieve good academic outcomes. The home environmental conditions should be peaceful and amicable, and teachers should be approachable in attitude and helpful in implementing teaching-learning processes and teaching strategies. Learn how to set goals, prepare effectively, and handle time wisely. These are widely accessible nowadays thanks to advanced books, the Internet, and television shows. Furthermore, the learner should do so during the break before the tests.

1.3 PSYCHOLOGICAL RISK

As per the Oxford English Dictionary, the word 'risk' came in 1655 and was defined as a possibility of injury, loss, and unpleasant circumstances. The word risk has numerous meanings to different people (Adam 2014) and also creates urgency feelings due to detrimental and gives catastrophic results. As per the report of the Human subject project program (2003), the risk is "the probability of harm (which include physical, psychological, social, economic and legal) occurring as a result of participation in a research study." There are some definitions of risk given by different authors as given below:

- Kumamoto and Henley (1996) defined "*risk* as a combination of five primitives such as outcome, likelihood, significance, causal scenario, and population affected."
- According to Rosa (1998), "Risk is a situation or event where something of human value (including humans themselves) has put at stake and where the outcome is uncertain."

- "Risk is an uncertain consequence of an event or activity related to something of human value" (IRGC, 2005).
- "Risk is the likelihood of an injury, disease or damage to the health of employees due to hazards" (Law on Safety and Health at Work, 2005).
- "Risk refers to uncertainty about and severity of the events and consequences (or outcomes) of an activity concerning something that humans value" (Aven and Renn, 2009).

As per the report of 'Human subjects project program' (2003), the risk is defined as "the probability of harm (which include physical, psychological, social and economic) occurring as a result of participation in a research study." Various types of risk are given below:

- **Physical risk** includes pain, physical discomfort, illness or disease, and physical discomfort.
- **Psychological risk** includes "the production of negative affective states such as anxiety, guilt, depression, and loss of self-esteem. Sleep deprivation, mental stress, sensory deprivations are prominent examples of psychological risk."
- **Social risk** includes "alterations in relationships with others that are to the disadvantage of the subject, including embarrassment, loss of respect for others."
- **Economic risk** includes "payment by subjects for procedures not otherwise required, loss of wages or other income and any other financial costs, such as damage to a subject's employability, as a consequence of participation in the research."

When we use the term 'risk' in the educational context, then there are some factors that can affect student's lives and this type of risk can be changed with various preventions. Risk related to early childhood includes aggressive behavior and it can be prevented with community, school and family interventions which will help them to develop positive and appropriate behaviors, otherwise negative behavior will create higher risk among them such as social difficulties and academic failure (NIDA, 1998).

The concept of risk-factor came in 1980. Based on different research studies, found the conditions such as basic problems like school drop-outs, drug use, delinquency, and alcohol problems and in casual factors, these conditions are not seen for the growth of negative behavior of students.Risk factor comes from individual's cognitive, behavioral, biological traits and the ambiance in which one person resides (Davies, 2004)."Risk factors are events and characteristics that increase the likelihood of undesirable outcomes and problems behaviors in children and adolescents", or it can be defined as those characteristics, conditions and events that make a pessimistic result. Risk factors enhance the likelihood where adolescents will engage in this problematic behavior, whereas, protective factors help them to reduce the effect of various risk factor's impact.

Risk factors exist at different levels i.e family, person and community. According to Haggerty (1994) risks factor are 'those features, variables, that if present for a given individual, make it more likely that this individual will develop a disorder' rather than anyone chosen from a general population. At the family level, risk factor includes influence of different parenting styles, attitude toward drugs and family bonding. Individual risk factors include mood disorder, personality characteristics, perceptions of risk, impulse control. Furthermore, school and community risk factors include consistent relationship and lack of engagement (Botvin, 2010).

The individual risk factors, both internalizing (anxiety and depression) and externalizing (cursing and impulsive behavior) disorders influenced school drop-outs.Bukowski (1995) found that adolescents with internalizing problems might be at higher risk for psychological maladjustment, on the other side, externalizing the problem, disruptive behavior is the most impeding factor to attain educational outcome (Esch, 2014).

In some cases, 'risk factors' are situational instead of innate. For example, higher drop-out rates in school can be considered as a risk factor due to underfunded, poor performances in teaching quality, and less service provided to the school; thus, students' poor academic performance and absenteeism levels can be increased. Gubbles (2019) meta-analytic reviewed risk factors for school drop-out and absenteeism and found that 75 studies reported that 781 risk factors are the reason for absenteeism and 635 factors for drop-out. Twelve school-related risk factors for

academic failure were identified by Lucio (2012). Academic failure was linked to academic self-efficacy, homework completion, school safety, grade retention, academic expectations, school relevance, teacher connection, school misbehavior, and school mobility.

We are taking Psychological risk factors in this study that include “individual level processes and meanings that influence mental states”. Psychological risk factors are related to mental disorders which include thoughts, personality traits, attitudes, stress levels and emotions that help a person to develop disorders related to mental health(cognitive, behavioral and emotional).

Psychological factors are a multidimensional construct. Psychological word is related to mental actions, emotions, and the mind rather than physical. According to the American Psychological Association psychology, it is the study of behavior and mind; moreover, psychology is related to a person's daily activities. The failure and success human faces in numerous activities that they perform daily depended upon their psychology. Human beings are suffering from different psychological problems that disturb them badly. These problems come from psychological factors that include anxiety, stress, depression, hopelessness, lack of motivation, and loneness. In an educational context, these problems for students in secondary education results to failure in their academic performance, unrealistic worry, low self-efficacy, fear, test anxiety that create problem to function them usually. Adolescents are vulnerable and emotionally volatile with risky behavior and mood swings. At times, they engage in different activities which are harmful to the individual and society. Moreover, they suffer from numerous family problems, substance abuse, lack of leisure time, fear of failure, academic overload, competition, and psychological distorted which badly affect their academic performance. Adolescents suffer from various psychological problems where some problems are identified, and some are not.

The majority of research has focused on distal factors (e.g., socioeconomic status, single parent, and ethnicity) and proximal factors (e.g., psychological and school-related factors). The present research focuses on psychological risk factors, which are divided into academic and non-academic variables. As per the motivation and engagement wheel given by Martin (2007) psychological, academic risk factors are

negative motivation factors which include academic anxiety, avoidance of failure, and uncertain control. Emotional instability and neuroticism are psychological non-academic risk factors (McCrae 1997).

Martin (2010) indicated that academic anxiety refers to students feelings of nervousness (feeling uneasy when they think about coursework) and worrying (e.g., fear of doing poorly on assessments), while uncertain control refers to the degree to which students perceive they are capable of avoiding failure and attaining success. Regarding anxiety, if an individual believes circumstances to be threatening and that they possess insufficient resources to manage the threat, stress (including anxiety) results and the individual attempts to escape the situation (Milgram and Toubiana, 1999). Eysenck, et al. (2007) indicated that anxiety inhibits attentional control and increases the time an individual spends attending to threat-related stimuli. Hence, low grades can result from excessive anxiety, while conversely; low grades can themselves cause anxiety (Mazzone et al., 2007).

Students who believe they have little or no control over educational results, according to Martin (2010), grow increasingly unsure about their abilities to avoid failure and achieve.The present research focuses mainly on psychological risk factors, and Martin (2007) identifies risk factors including academic anxiety, failure avoidance (fear of failure), uncertain control, emotional instability, and neuroticism.

Risk factors:

- **Anxiety: –** According to the American Psychological Association (APA) defined, "Anxiety is an emotion characterized by the feelings of tension, worried thoughts and physical changes like increased blood pressure." Anxiety negatively influenced the particular cognitive procedure and in the field of education, anxiety occurs during the learning process.Moreover, anxiety negatively affects students learning capability and receiving information (Tobias, 1983). Students with a higher order of anxiety badly impact their relationship, social relationship, and emotional problems (Herrero and venero, 2006).

- **Failure Avoidance (Fear of failure):–** It is also known as "atychiphobia," and it occurs when we allow fear to prevent us from doing things that we otherwise would do, and it occurs when the primary reason students do their schoolwork is to

avoid doing poorly or being seen as doing poorly, for example, "Often the main reason I work at school is that I do not want to disappoint my parents."

- **Uncertain Control:** The degree to which students believe they can avoid failure and attain success is referred to as control. Students who believe they have little or no influence over their outcomes are becoming increasingly unsure about their ability to avoid failure or achieve tremendous achievement. Uncertain control measures a learner's uncertainty about how to improve or prevent making a mistake;for example, "I am often unsure how I can avoid doing poorly at school."

- **Neuroticism: –** In psychology, it is a personality trait and manifested by characteristics of moodiness, worry, and jealousy. Neuroticism term has also been used with the word "negative affectivity" interchangeably (McCrae, 1990; Suls, 1999). The role of neurotic personality in stressful life experiences and adverse emotional effects has been explored in numerous studies (Bolger, 1991; Gunthert, 1999; Penley, 2002). As a stable type of personality, five large personality dimensions have been recognized as Extraversion (E), Openness to experience (O), Neuroticism (N), Agreeableness (A), Conscientiousness (C) (Schneider, 2004). However, the current research is concerned with neuroticism only, and there are two poles of neuroticism: emotional stability and negative emotionality. Anxiety, anger, jealousy, guilt, and a gloomy mood are more common in neurotic people than in the general population (Hettema, 2006). Zobel (2004) described "neuroticism is a temperamental sensitivity to unpleasant stimuli". The predisposition to experience negative emotions, such as anger, anxiety, or depression, is known as neuroticism. Furthermore, it is a risk factor for "internalising" mental diseases such as phobia, depression, panic disorder, and other anxiety disorders (Barton, 1972).

- **Emotional Instability**: –People with this personality disorder are easily agitated and angry, with a low anger tolerance for unsatisfactory conditions, excessively anxious and worried, terrified, sensitive, touchy, prone to mood swings, dejected, and unhappy when confronted with stressful situations. For example, "My mood fluctuates without any comforting explanation.”

1.3.1 Summary on Psychological Risk

“Risk factors are events and characteristics that increase the likelihood of undesirable outcomes and problems behaviors in children and adolescents” or it can be defined as those characteristics, conditions and events that make a pessimistic result. Students are suffering from a variety of psychological issues that cause them significant distress. Anxiety, stress, depression, hopelessness, lack of motivation, and loneliness are all psychological factors that contribute to these issues. In a classroom setting, these issues for secondary school students lead to academic failure, unrealistic worry, low self-efficacy, uncertainty, and test anxiety, all of which make it difficult for them to function normally. Risk related to early childhood includes aggressive behavior and it can be prevented with community, school and family interventions which will help them to develop positive and appropriate behaviors, otherwise negative behavior will create a higher risk between them such as social difficulties and academic failure.

1.4 ENGAGEMENT

The term 'Engagement' emphasizes the adolescent's numerous patterns in cognition, behavior, and motivation (Appleton, 2008; Baronn, 2012; Fredricks, 2004; Phan, 2014; Sharma and Bhaumik, 2013). The concept of ‘engagement' as a means of increasing student motivation, reducing disaffection, avoiding boredom, involving students in various activities, increasing success, and developing positive student development (Appleton and Furlong, 2008; Li, 2011; National Research Council and Institute of Medicine, 2004; Upadhyaya, 2013).Those students who were constantly engaged and motivated in their studies achieved higher grades (Diseth, 2007), worked effectively, and showed a higher level of understanding. According to Martin (2010), “engagement is changeable, and it can be learned; moreover, adolescents who are more engaged with their studies are energized by some goals such as curiosity, originality, success, and satisfying relationships (Silver, 1995).”Engagement is a famous theoretical orientation, and it has achieved attention from several researchers. Several authors offered numerous terms of engagement, such as study engagement (Schaufeli, 2002), student and academic engagement (Fredricks, 2004), and student's course engagement (Handelsman, 2005). "The student and school community, the student and school authorities, the student and peers, the student and directions, and the students and curriculum" are all examples of relationships.

Different definitions of engagement by researchers are given below:

Table1.1: 'Definitions and Variations in Term of Engagement'

Authors	Construct Name	Definition
Audas et al., (2002)	Engagement	"The extent to which a student participates in academic and non-academic-related activities and identifies with and values are studying goals."
Skinner et al., (2009)	Engagement	"The quality of student's participation or connection with the schooling endeavor and hence with activities, values, people, goals, and place that comprise it."
Skinner et al., (1990)	Engagement	"A student initiation of effort, action, persistence in schoolwork, his ambient and emotional states during learning activities."
Sakurai (2018)	Student academic engagement	"Student academic engagement is often referred to as the multidimensional construct of three major components: behavioral, cognitive and emotional engagement."
Willms (2003)	Student engagement at school	"The degree to which a student values outcomes related to school and interacts with academic and non-academic school events and participates in them."
Newmann et al.,(1992)	Student Engagement in Academic Work	"The psychological effort and investment of students towards their learning, understanding, or mastering the skills, crafts, or knowledge that the schoolwork is intended to promote."
Wehlageet.al, (1989)	'Educational Engagement'	"The psychological investment is needed to master and understand skills and knowledge explicitly taught in educational institutions."
Kuh (2003)	'Student Engagement'	"A student's energy and time are devoted to sound educational activities outside and within

Authors	Construct Name	Definition
		classrooms and practices and policies used by educational institutions to encourage the students to engage in these activities."
Schaufeliet al., (2002)	'Study Engagement'	"A fulfilling and positive study-related state of mind that is characterized by absorption, vigor, and dedication."
Christenson et al., (2008)	'Student Engagement'	"Investment by students in and their commitment toward learning, belonging and identification at school, and their participation in educational environment and initiation of activities to achieve good results."

Table 1.1 shows a number of different interaction terms and their definitions. Despite their differences, the researchers' share some fundamental themes. Learners' interest in school and recognition of school-related activities were proved by Audas and Willms (2002), Skinner et al. (2009), Skinner et al. (1990), and Willms (2003).Newmann et al., (1992) discovered a connection between commitment and students' psychological investment in their education. In turn, Christenson (2008) outlined a general definition, emphasizing the learners' involvement, commitment, investment, and identification with activities related to schooling and education and aspects mentioned in the earlier definitions. Finally, "engagement is broadly a positive and constructive word that captures the quality of participation, investment, contributions, and identification of students with academics and school-related activities to improve their performance."

1.4.1 Different Dimensions of Engagement

Student engagement is a psychological construct that includes cognitive, behavioral, and emotional dimensions as well as feelings of belonging and attachment (Fredricks, 2004). The following are the different dimensions of engagement:

Table 1.2: -'Dimensions of Engagement'

Researchers	Engagement Dimensions
Finn (1989)	• Behavioral (Participation): "participation (For example, completing tasks and responding to questions from the teacher) in classrooms and school events." • Emotional (Identification): "learners' feeling of belonging with their school and the importance of performance related to learning."
Audas and Willms (2002)	• Behavioral: "engaging in events related to school (For instance, attending class, completing homework, and taking part in sports)." • Psychological: "Involves elements such as a sense of belonging, teacher and peer relationships, and valuing the outcomes."
Willms (2003)	• Behavioural: "participation in academic and non-academic activities (for example, attending the classroom, completing homework, and taking part in extracurricular activities such as sports)." • Psychological: "the sense of school attachment or belonging, and valuing school results."
Fredricks et al. (2004)	• Behavioral: "(for example, learner's participation in academic and extracurricular events)." • Emotional: "the positive and negative responses of the learners to peers, teachers, and schools." • Cognitive: "thoughtfulness and ability of a student to master challenging abilities."
Jimerson, Campos, and Greif (2003)	• Affective: "feelings about education institutions, teachers, and peers (for example, positive sense of learners towards peers)." • Behavioral: - "involvement of learners in academic and non-academic school-related activities." • Cognitive: - "this involves the values and opinion of students about themselves, educational institution, peers, and teachers."
Schaufeli(2002)	• Vigor: - "in the face of challenges, determination, courage, and effort."

Researchers	Engagement Dimensions
	• Absorption:- "engagement in learning tasks and processes." • Dedication: - "motivation, pride, and excitement in school learning."
Appleton et al. (2006)	• Academic: - "reflected by criteria such as time on an assignment, completion of homework, and graduation credit received." • Behavioral: - "participation in academics and extracurricular activities." • Psychological: - "having a sense of belonging or identity, and peer and teacher relationships." • Cognitive: -"self-regulated learning, learning valuation, schools perceived related to future endeavors, autonomy, and personal objectives."
Reeve and Tseng (2011)	• Behavioral: -"the participation of students in learning activities, such as commitment, persistence, and attention." • Emotional: - "the presence of enthusiasm and interest from the learner, lack of frustration, boredom, and anxiety." • Cognitive: - "the use of active self-regulation by students and advanced techniques for learning." • Agentic: - "the positive contribution of the student to the flow of the instruction he receives."

There are two, three, or four dimensions of involvement, as shown in Table 1.2. Several scholars (Audas, 2002; Finn, 1989) divided participation into two categories: behavioural (which covers both academic and non-academic activities) and psychological (learning outcome and identification with the school are included).According to Fredricks (2004), a third dimension is a cognitive engagement (includes a willingness to complete an academic task). The fourth dimension, named 'agentic engagement,' was proposed by Reeve (2011).

- **Behavioral engagement:**

Active participation in both academic and non-academic school activities is defined as behavioral engagement. Academic behavior engagement is linked to general positive student conduct, such as obeying classroom rules and avoiding disruptive behavior in

the classroom (Finn, 1993; Finn, Pannozzo and Voelkl, 1995; Finn and Rock, 1997).Academic activities such as effort, perseverance, questioning, and focus also indicate behavioral involvement (Skinner and Belmont, 1993).

- **Emotional engagement**

Emotional engagement is comparable to behavioural engagement that refers to numerous student feelings and behaviours associated to schools and classes. The student's affective responses (such as boredom, grief, and worry) are one method of emotional engagement (Connell and Wellborn, 1991; Skinner and Belmont, 1993).

- **Cognitive engagement**

The importance of an overall investment in learning has been emphasised in cognitive engagement research (Fredricks, Blumenfeld, and Paris, 2004). Students who invest in their education get better grades and test scores and are less likely to be disruptive, truant, or drop out (Klem & Connell, 2004).“A student's psychological investment in an effort geared toward acquiring, comprehending, and mastering the knowledge, skills, or crafts that the academic work is supposed to promote,” define Newmann, Secada, and Wehlage (1995).Cognitive engagement has also been defined as a financial investment in learning, in which students go above and beyond stated expectations in their pursuit of academic difficulties (Connell & Wellborn, 1991).

- **Agentic Engagement**

Agentic engagement is a new path for learner engagement in which they strive to build a more motivational and encouraging learning atmosphere for themselves and encourages educators to support the efforts of students to involve themselves (Reeve, 2013). Agentic learners need a self-regulated learning environment to engage with positive educators, who encourage learners to seek feedback and help them to learn from their errors (Richards, Sweet, and Billett, 2013).

1.4.2 Summary on Engagement

Student engagement in education refers to the level of attention, interest, curiosity, and passion that students display when learning or being taught. There are three types of student engagement which include behavioural, cognitive and emotional engagement and these types help them in different direction. According to many

studies, students who pay attention in class and finish their homework are more likely to receive higher scores. Teachers must detect when students are interested and work to raise that level of engagement since it has a direct impact on student achievement.

1.5 BUOYANCY

Academic environment is where conformity and compatibility are the necessary part. There are many factors such as society, family and our education system is involved. Academic life plays an important role in people's effective and productive learning. However, students are facing different obstructions, challenges in everyday academic life including levels of stress, poor grades, low self-confidence, less interaction and reduction in motivation. They do not only experience chronic life problems in their academic lives (Marsh & Martin, 2007), but also confront different academic challenges that affect their daily lives in school (Marsh & Martin, 2007). This concept has been termed as academic buoyancy.

The term buoyancy emanates from Latin word (buoy) and is used to refer to show reefs or other hazards. Webster's dictionary defines buoyancy as the ability to recover quickly from stress and discouragement. According to Martin (2012), there are lack of researchers who focus on students who suffer from academic pressures and setbacks. The buoyancy construct is proposed as a new topic of research to investigate this type of student's behavior. Academic buoyancy is the term used when buoyancy is used in the context of education.

It is a psycho-educational construct and introduced by (Martin and Marsh (2006; 2008; 2009)) as a way to explore the constructive responses of various setbacks and difficulties faced by the learners in their daily academic life such as exam pressure, obtaining bad grades or marks, difficult schoolwork, minor negative interactions with teachers and competing deadlines. "Academic buoyancy" is defined by Martin and Marsh (2008, 2009) as "the ability to overcome setbacks, stress, obstacles, or any difficulties or problems that are part of a student's everyday academic life." Furthermore, academic buoyancy is defined as "a positive, productive, and flexible attitude to the present or constant academic field's problems" (Putwain and Symes, 2012).Furthermore, academic buoyancy is defined as "a student's ability to deal with daily academic challenges, especially the unpleasant sensations that come with academic life" (Bouteyre, Maurel, and Bernaud 2007).

The academic buoyancy variable originated from academic resilience, but academic buoyancy is different from academic resilience (Martin, 2009). The differences are given below:

- Academic buoyancy is related to poor performance and grades, but academic resilience is related to severe problems, feelings of anxiety, and depression.
- Academic buoyancy is related to daily pressures, low level of confidence, and typical stress level, but academic resilience is relevant with total disaffection from the school.
- Academic buoyancy is related to low engagement, motivation, and negative feedback on schoolwork (Martin, 2009), whereas academic resilience is related to anxiety and depression.
- Academic buoyancy comes when students deal with dips in motivation and engagement, whereas academic resilience is related to truancy.
- Academic buoyancy is related to negative feedback on schoolwork, whereas academic resilience deals with consistent alienation.

For the majority of students, buoyancy is important and related to daily academic obstacles like exam stress. Academic resilience, on the other hand, is applicable to a small group of students (for example, school refusalers) and to more significant, negative events such as bullying (Martin & Marsh, 2009).The discrepancy between the two ideas has been objectively demonstrated. Buoyancy, for example, is linked to low-level negative outcomes like academic psychological impacts, but resilience is linked to more serious consequences like school dropout (Martin, 2013).

Marsh and Martin (2008) identified academic buoyancy predictor factors and grouped them into three categories as (a) psychological factors that include self-efficacy, a sense of purpose and motivation (Masten, 1998).(b) School and engagement factors that include educational aspiration, class participation, curriculum activities and communication with teachers and feedback from them and curriculum challenging (Alva, 1991; Finn, 1997; Coatsworth, 1998).(c) Peer and family factors that include solid and caring parents, social communication, and the dedication peers to education (Masten, 1998; Donnelly, 1999). According to the research literature, academic buoyancy is related to motivational outcomes such as positive emotional outcomes (Putwain and Dally, (2013)), more remarkable perseverance (Martin, 2010), academic

achievement (Collie, 2015), academic performance, and wellbeing (Miller, 2013).As per new research, academic buoyancy has two influencing factors: distal and second is proximal (Marsh, 2008). Distal factors include the life history of an individual, and proximal factors include educational, psychological, peer resources, and present life experiences (Martin, 2008).

Martin et al., (2010) and researchers from Oxford and the University of Sydney have investigated how we can help the students to develop their academic buoyancy by referencing the 5'C model as, (a) confidence (i.e. high self-efficacy), (b) composure (low anxiety), (c) commitment (high persistence), (d) control and (e) coordination (high planning)). It will help them to tackle the numerous everyday challenges at school or we can say that these are the various techniques or strategies to increase the academic buoyancy of the student. Martin (2014) identified the contextual factors that can help improve academic buoyancy of students such as (a) teacher can provide some responsibility to the students, (b) teacher can adopt the different teaching methods, (c) teacher can change the classroom environment with some interesting schoolwork, (d) good interpersonal relationship with students getting to know about the students), (e) explain the work effectively and clearly, (f) maintain the balance between schoolwork and fun, (g) maintain the balance between classroom environment and authority, (h) broad assessment practices and many other activities can be performed by the teacher to enhance their abilities.

Academic buoyancy is favorably associated to a range of adaptive educational outcomes, including school enjoyment, classroom participation, academic self-efficacy, preparedness, persistence, and control (Martin and Marsh, 2008a; Martin et al., 2010; Putwain et al., 2012; Putwain and Daly, 2014).Several studies have found a link between students' academic buoyancy and their motivation and engagement (Martin, 2014; Martin, Colmar, Davey, and Marsh, 2010; Martin and Marsh, 2006, 2008b; Putwain et al., 2012).Furthermore, research has revealed that academically buoyant students have higher levels of motivational components such as self-efficacy, school valuation, and mastery orientation (Martin, Yu, and Hau, 2013).

1.5.1 Summary on Buoyancy

Academic buoyancy refers to a student's ability to deal with daily academic problems, such as unpleasant feelings linked with school (Bouteyre, Maurel, and Bernaud 2007).

Certain personal characteristics have been discovered in students who are more likely to succeed in educational settings, and five Cs are a set of characteristics. Martin found five predictors of buoyancy which include confidence, control, coordination, composure, and commitment. Academic buoyancy plays an important life in the life of students because with this students show a higher level of persistence and enjoy education more and it helps to reduce the anxiety that can arise from schoolwork.

Chapter– 2

REVIEW OF RELATED LITERATURE

The review of literature is "a systematic method for evaluating, identifying and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners", and it provides the basis for understanding the construct in the light of numerous theoretical backgrounds. The present chapter deals with a literature review on parental attachment, academic performance, psychological risk, engagement, and buoyancy.

2.1 PARENTAL ATTACHMENT

Arora (1985) conducted a study to determine the parents and peers conformity level of 592 Indian adolescents in the age group of 14-18 years for age, sex, and sociality (urban and rural areas) selected from schools and colleges through stratified random sampling. Results reveal that adolescents, in general, are more conforming to a parent than to peer views, with early adolescents in general showing more adherences to parental views and late adolescents favoring peers. Boys as compared to girls and rural as compared to urban, are more conforming to both reference group settings.

According to Armsden (1987), parent and peer attachment is highly related to psychological well-being, and that parent-child attachment is associated with teenage contentment, stronger social support, and a less stressful life. Furthermore, stable parental bond helps children adjust to a new academic environment. Cutrona (1994) discovered that high self-efficacy mediated the connection between parental attachment and academic achievement.

Matos (1999) researched adolescent parental attachment and identity and investigated the relationship between these two variables. Data was collected from 361 Portuguese teenagers. Results revealed that adolescents indicated a close relationship with parents and revealed that mothers play an essential role in the foreclosure identity in boys than girls—another study conducted by Meeus (2002) on parental attachment and identity development in adolescents. The data was collected from 148 adolescents of different ethnic groups. According to the findings, teenagers' development of identity is supported by safe attachment with their parents.

The relationship of parental attachment to self-esteem and self-reported involvement of students in antisocial behaviour was studied by Arbona (2003). The study consisted of 1583 students of America. After analysis, results have shown that attached students have a more positive sense of self-esteem and are less involved in different antisocial behaviours. Another study conducted by Wilkinson (2004) proposed a model in which he tested parental attachment directly influencing students' self-esteem and psychological health. Thirty three Norwegian high school students were taken for this study. Structural equation modeling was used to analyse the data. Result revealed that peer and parental attachment on psychological health are primarily mediated by self-esteem.

Van der (2005) explored parental attachment and parental control on alcohol consumption in adolescents. The sample was taken from 1,012 adolescents. Structural equation modelling analysis was used to evaluate the results, and it revealed that attachment with parents does not prevent adolescents from drinking; on the other hand, control was related to lower levels of alcohol consumption.

Liu (2006) studied the relation of paternal attachment with peer support for youth, social peer interaction expectations, and depressive symptoms. The sample was taken from 1,144 students of Taiwan. Structural equating modeling was used for analysis purposes. Students with higher degrees of attachment to their parents had more peer support and fewer depressed symptoms, according to the study. Furthermore, they found that parental attachment contributes equally to the social expectations of peer interaction among students.

Shochet (2007) investigated the impact of "parental attachment on the adolescent perception of the school environment and school connectedness". The data was collected from 171 Australian students. After analysis, results revealed that parental attachment strongly predicts school connectedness and school environment. Melissa (2007) conducted another parental attachment study with high school students to investigate the relationship between parental attachment security and coping. She found that adolescents who reported high parental attachment were less likely than their low attachment counterparts to use avoidant coping strategies.

The relationship between parental attachment and satisfaction with life was explored by Ma (2008). Samples were taken from 587 adolescents for this study. It was found

after analysis that parental attachment is positively related to satisfaction with life. Furthermore, no gender differences in parental attachment levels were found.

Park (2009) looked at the relationship between parental attachment and parental control in Korean American adolescents and discovered a link between mental well-being (self-esteem, social support, and depression) and parental attachment. Result revealed that parental control and parental attachment have a negative association and parental attachment among adolescents showed significantly higher social support, lesser self-esteem, and depression.

Bowen (2010) investigated variables that could be used to predict the everyday academic buoyancy of undergraduates. The objective of the study was to use various predictors (self-efficacy, anxiety, control, engagement and parental attachment to test the hypothesized casual model that explains buoyancy (Martin, 2008). Structural Equation Modeling (SEM) using AMOS was used to test the model. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

Azam (2011) investigated the impact of "parent's marital conflicts on parental attachment and adolescent's social competence." Data was collected from 325 government schools in Pakistan. The results revealed that the marital conflict of parents' was negatively correlated with both the variables. Fass (2002) examined the relationships among parental and peer attachment, cognitive ability, academic achievement, and psychosocial functioning on students. The sample was taken from a multiethnic group of students (357). Results showed that cognitive capacity was a substantial predictor of student academic achievement and that scholastic competence was linked to attachment and self-esteem. In addition, 14.8% of students had a low level of attachment with their parents.

Mahbod (2012) determined the role of parental attachment in student academic achievement and discovered the mediating effect of self-efficacy. The data was gathered from 6,530 Shiraz city students and multistage and cluster sampling was used for this analysis. After the study, it was found that academic achievement by parental attachment and self-efficacy and that self-efficacy was a significant mediator between academic achievement and parental attachment.

Jiang (2013) investigated the interrelationship of parental attachment, life satisfaction, and hope among adolescents. This study collected data from 565 students after analysis results revealed a significant relationship between parental attachment, life satisfaction, and hope.

Rabbani discovered a connection between parental attachment and student stress (2014). Ramsdal (2015) conducted another study to examine the association between parental attachment, academic achievement, and the dropout process among high school students. The findings demonstrated that parental attachment influences students' dropout rates and academic achievement.

Simsek (2015) explored the relationship between parental attachment, the feelings of school alienation among adolescents, and mediating role of adjustment and self-esteem. Data were collected from 227 students and completed self-report measures on self-esteem, adjustment, parental attachment, and alienation from school. Results revealed that enhanced adjustment and self-esteem reduce school alienation, and findings also revealed the mediator role of self-esteem in the relationship between adjustment and parental attachment.

The effect of self-esteem on insecure parental attachment and religious coping was researched by Roh (2016). The data were collected from 261 Korean American students (age 12-18 years). The data were analyzed through multiple regression analysis. The results showed that in the relationship between religious coping and parental attachment, there was no gender difference.

Oldfield (2016) conducted a study to found the relationship between parental attachment and school connectedness to adolescents' mental health. The sample was taken from 203 adolescents, and Gullone's (2005) parental and peer attachment inventory was used. To analyze the data; multiple regressions were used. Results showed these emotional difficulties in adolescents due to insecure parental attachment, and no significant moderation effect on parental attachment and mental health of school connectedness was found.

Chakroborty (2017) investigated the impact of mother-father attachment on the different domains of coping of young Indian adolescents. The sample consisted of 100 adolescents. An inventory of Parental attachment and coping checklist was used.

Results revealed that adolescents with higher parental and peer attachment used more social support coping and problem-focused coping than low attachment counterparts.

Shaikholeslami (2017) investigated the relationship between parental attachments, academic buoyancy and cognitive emotion regulation. The sample was taken from 360 school students. Multi-stage cluster sampling was used. Path analysis was used for analysis purposes. Results showed that parental attachment and cognitive emotion regulation predict academic buoyancy positively.

Demirtas (2018) studied parental attachment and school engagement as predictors of perceived competence in students. The sample was taken from 336 high school students. Multiple regression was used to determine social competence and academic competence. After analysis, results revealed that school engagement and parental attachment significantly predict academic and social competence.

Pan (2019) looked at the influence of parental connection and self-esteem in problem behaviour and peer victimisation among teenagers. A total of 466 Chinese adolescents were included in the study. Paternal attachment, but not maternal attachment, moderated the mediation effect of self-esteem. Furthermore, the effect of parental attachment on the connection between peer victimisation and self-esteem differed by adolescent gender.

Malik (2020) looked on the effect of parental child attachment characteristics in online gaming addiction. The findings suggested that parental bonding via self-control could help vulnerable young gamers limit their gaming activities. Boys were more likely than girls to engage in excessive gaming.

Karababa (2021) investigated the relationship between parental attachment and loneliness. The 406 adolescent participants were used to create the sample. After further investigation, the findings revealed a negative link between parental attachment and loneliness.

2.1.1 Summary Reviews on Parental Attachment

From the above review of related literature summarised that Armsden (1987) found that parental attachment are significantly related to psychological well-being. Cutrona (1994) found that high self-efficacy mediated the relationship between parental attachment and academic achievement. Liu (2006) found that parental attachment

equally contributes to the social expectations of peer interaction among students. Shochet (2007) found that parental attachment strongly predicts school connectedness and school environment. Another parental attachment study conducted by Melissa (2007) to examine the relationship between parental attachment security and coping for high school students found that adolescents who reported high parental attachment were less likely than their low attachment counterparts to use avoidant coping strategies. Mahbod (2012) found that parental attachment and self-efficacy positively predicted academic achievement. Shaikholeslami (2017) investigated the relationship between parental attachment, academic buoyancy, and cognitive emotion regulation. Results showed that parental attachment and cognitive emotion regulation predict academic buoyancy positively. Demirtas (2018) indicated that school engagement and parental attachment significantly predict academic performance and social competence.

2.2 ACADEMIC PERFORMANCE

Sharma (1984) studied academic performance and parent's education. The data was collected from 230 students of Punjab and analyzed according to the education level of parents. After analyses, the result revealed that parent's education is significantly and positively related to the academic performance of their children. Another study was conducted by Ryckman (1988) on gender relationships and the academic performance of students. The investigator collected data from the 287 school students. Results found no difference between gender and academic performance.

Maguin (1996) did meta-analysis on academic performance and delinquency and also found the relationship between these variables. Data was collected from African American students and found that students with lower academic performance were more engaged with delinquency and suggested that numerous interventions and programs can help reduce the delinquency.

Several studies have also shown the impact of peer influence on student academic performance (Gonzales, 1996; Goethals, 2001), and other research studies have shown that the peer influence has more significant impact on academic performance than family performance (Hanushek, 2003).

Borland (1999) compared the academic performance of highly rural and urban area students. Results have shown that students from rural and urban areas perform equally. Families are one of the factors influencing the performance of their children in rural areas. Students in rural areas have low performance than students in urban areas in this study, related to their parent's education. In rural areas, the majority of parents are less educated than parents in urban areas. The family background is an essential factor in assessing a learner's academic performance.

Diseth (2003) investigated the relationship between personality and performance, and his findings found that the personality factors of openness and neuroticism were supposed to have significant associations but negatively correlated with performance. Another study conducted by Rau and Durand (2000); Rindermann and Neubauer (2001) found that personality and achievement are closely related.Wentzel (1998) studied the academic and social motivational and also found its influence on the academic performance of students. The relationship between academic and motivational processes was explored by the researcher and the result revealed that the teacher's instructions and interpersonal relationships are the key factors affecting student performance and motivation. McEvoy (2000) found a strong correlation between antisocial behaviour and academic failure among adolescents. Moreover, Pomerantz (2002) studied academic performance and internal stress among students. Findings of the study revealed that in all subjects, girls performed better than boys, but they are more indulging in internal stress than boys. Furthermore, a considerable body of research (Bandura et al., 1999; Chorpita and Barlow, 1998; Martin and Marsh, 2008a; Perry et al. 2005) has demonstrated the detrimental impact of risk factor (both anxiety and uncertain control) on student's academic achievement (e.g., impaired memory and cognitive functioning), suggesting a strong link with undergraduate academic buoyancy.

Choi (2005) examined the impact of self-efficacy and self-concept on the academic performance of students. Data was collected from 230 students. Multiple regression was used to evaluate the data and it was found after analysis that the major predictors of academic performance are self-efficacy and self-concept.

The relationship between family pay and academic performance was examined by Tahir (2006) and the result found to be a negative association between family pay and

academic performance and other socio-economic variables such as family salary, participation in the class, teacher-student ratio, and qualification of teachers, parent education and school distance. Moreover, gender also influences the performance of students (Raychauduri, 2010).

Duchesne (2007) examined the relationship between parental attachment, academic motivation, and performance among adolescents. Data were collected from 121 students. Inventory of parental attachment was used to measure the data. Results found that there was parental attachment was positively associated with academic performance and motivation. Another study by Griffith (2010) examined parental involvement, empowerment, and school traits to student academic performance. To analyze the relationship, 42 schools were used, and multiple regressions were used to analyze the results. The outcome of the study showed that there was a positive connection between parental involvement and student performance.

Hijazi (2006) explored the different factors that affect the student's academic performance, and concluded that parent's income and parent's education were the main factors that affect the student's performance.

Pandey (2008) concludes that the assessment of academic performance does not differ significantly between male and female students. Gurubasappa (2009) found a significant difference in the gender of academic achievement of students.

Joshi and Srivastava (2009) revealed that in academic achievement, significant gender differences were found. Girls, compared to boys, were significantly higher in academic achievement. Kumar (2010) revealed that students from urban students performed better than rural students.

The poor performance factor of school students was predicted by Garikai (2010), and data were collected from 200 Zimbabwean students. The interview method was conducted with students, and the difference between the male and female students was seen after the study results. In addition, findings have shown that parents' education has a significant effect on students' academic performance.

The influence of parental occupation, family size, and parental education on student performance was explored by Sharma (2011). A sample of 1500 students from the city of Uttar Pradesh in India was taken. A questionnaire was used. The study's

results showed that parental education and other family variable had a significant positive relationship with the students' performance.

Lee (2012) investigated the impacts of student-teacher relationships, academic press on student engagement, and student academic performance. A total of 3748 students from 147 schools were obtained. The academic press and teacher-student relationship were found to be strongly associated to student engagement and academic performance.

Mahigir (2012) explored the relationship of high school students between social adjustment problems, academic performance, and academic hardiness. The sample consisted of 212 Iranian high school students (105 males and 107 females) of the 10thclass. The results revealed that problems of social adjustment have a significant negative correlation with academic performance but positively correlate with academic hardiness. Moreover, there were no significant difference between boys and girls.

The relationship between worry, negative effects, working memory, and academic performance was researched by Owens (2012). Data was collected from the students from UK schools. To evaluate the entire data, a self-report questionnaire was used. The results showed that depression and anxiety were correlated with academic performance after study. Moreover, more anxiety has been found to reduce the performance of students. The relationship between academic achievement and neuroticism was explored by another study done by McKenzie (1989). The data was collected from 204 students. The study's results revealed that neuroticism was positively related to achievement.

Putwain (2013) looked into whether students could be grouped into different clusters based on their test anxiety and academic buoyancy scores, and whether their academic performance varied accordingly. They used a cluster analysis to identify five empirically distinct clusters in a group of 469 secondary school pupils studying for high-stakes exams. Three of these linked to a continuum of high test anxiety/low academic buoyancy, mid-test anxiety/mid academic buoyancy, and low test anxiety/high academic buoyancy. Two groups of students were identified: those with moderate test anxiety and those with moderate academic buoyancy. Academic performance was highest for pupils in clusters of low test anxiety/high academic

buoyancy or mid-test anxiety/high academic buoyancy. Students' performance was lowest in clusters of high test anxiety/low academic buoyancy. These findings demonstrate how academic buoyancy might reduce threat perception in certain students while also acting as a protective factor for success in others.

Swamy (2014) studied psychological factors influencing academic achievement. Psychological risk factors included IQ, personality traits (conscientiousness, openness, neuroticism, extraversion) and social factors (i.e family, peers, teachers and society).The outcome showed that intelligence was associated with student performance. In addition, the study results revealed that personality factors were positively related to student's academic performance.

Tiwari looked on the link between academic motivation and student performance in school (2014). Gorakhpur district has 300 disciplines that vary by family type (joint/nuclear), school (government/private), and mode of instruction (Hindi/English).The participants ranged in age from 15 to 22 years old. Motivational belief and self-regulated learning were found to be favorably connected with school success. Motivational beliefs and self-regulated learning emerged as the best predictors of school achievement, according to regression analysis.

Parveen (2014) studied on "student intelligence and academic performance." The information was gathered from 150 students at AMU Aligarh's school. Annual examination marks were used to calculate the pupils' academic performance. The findings revealed a relationship between intelligence and student academic achievement.

Lee researched on the link between student engagement and academic success (2014). The data was gathered from 3,268 students in the United States. Students' academic success is highly predicted by their level of engagement, as per the findings. In addition, Rashid (2016) explored the connection between technology, self-directed learning, student engagement, and student academic performance. A path model was used to test the relationship between engagement and self-directed learning. The findings showed the positive effects of technology on student engagement and students' self-directed learning. In addition to this, the use of technology indirectly impacts students' academic performance.

Singh (2016) investigated the factors that are affecting the academic performance of students. Data was collected from Indian students, and the results of the study revealed that communication and learning facilities positively impacted academic performance. Another Indian study conducted by Narad (2016), "parental encouragement, school environment, and academic performance of senior secondary school students." The sample was selected from 300 senior secondary school students of Jammu & Kashmir. For the research, a simple random sampling technique was used. The significant relationship between parental encouragement and the academic performance of learners was identified after analyses.

Upadhyay (2017) studied among senior secondary school students on "study habits and academic performance." Data was collected from 300 students of New Delhi schools. For the research, a descriptive survey method and a stratified random sampling technique was used. No significant difference in gender and student performance was found. Furthermore, a significant relationship between study habits and student academic performance has been found in his research.

Dogan (2017) conducted a study on “student engagement, academic self-efficacy, and academic motivation as predictors of academic performance of middle and high school students.” The sample was taken from 578 students. After analysis, the study’s results showed that academic self-efficacy, academic motivation, and student engagement significantly affected student performance.

Saikia (2017) aimed to “compare the rural and urban secondary school student's academic performance.” The sample consisted of 200 Assam students. Data is collected using the survey method. According to the findings, the majority of rural and urban adolescents had poor academic performance. In terms of academic achievement, there is no significant gender difference between rural and urban secondary school students.

Eduwem (2017) studied psychological factors (anxiety, self-concept, and attitude) and academic performance. The sample was taken from 300 senior secondary school students—a simple random sampling technique used for this study and multiple regression involved for the analysis purpose. The findings of the study indicated that psychological factors were significant predictors of academic performance.

To demonstrate the rural-urban prediction of academic achievement of secondary school students, Mir (2018) looked at the school location. The research sample constituted 260 high school students from rural and urban areas. The sample was chosen randomly from two districts in the Kashmir valley (two secondary schools in each district). An information schedule was used to measure achievement. One hypothesis has been formulated and tested. For data analysis, mean, percentage, and t-test were employed. The research concluded a significant difference in different academic achievement grades between rural and urban secondary school students. It found that rural secondary school students had higher levels of academic achievement than their urban counterparts.

Datu (2019) has investigated the relationship between academic buoyancy, academic motivation, and academic performance. Data collected from 393 higher school students of Filipino. The results showed that academic buoyancy was correlated with academic achievement and student motivation. Results also showed that buoyancy had an indirect effect on the performance of students via motivation.

Tus (2020) revealed average stress and motivation scores among senior high school students. Moreover, the student's academic performance was satisfactory and found that stress and motivation had no significant relationship with the student's academic performance.

Maqableh (2021) explored the impact of integrating essential factors on academic performance. A total of 476 students were included in the sample. The findings revealed a desire to continue; the value of information and satisfaction has a significant impact on students' performance.

2.2.1 Summary Reviews on Academic Performance

From the above review of related literature, it can be summarised that Ryckman (1988) found no difference between gender and academic performance. Maguin (1996) found that students with lower academic performance were more engaged with delinquency and suggested that numerous interventions and programs can help reduce delinquency. Borlan (1999) studied to compare the academic performance of highly rural and urban area students. The result showed that students perform similarly from

rural and urban areas. Diseth (2002) investigated the relationship between personality and performance, and his results showed the positive significant relationship between openness and neuroticism but negatively correlated with agreeableness. Wentzel (1998) indicated that teacher's instructions and interpersonal relationships are the main factors that influenced the performance and motivation of students. Moreover, Pomerantz (2002) revealed that girls performed better than boys in all subjects but indulged in internal stress more than boys. Choi (2005) found that self-efficacy and self-concept are significant predictors of academic performance.

Duchesne (2007) indicated that there was parental attachment positively associated with academic performance and motivation. Lee (2014) explored that student engagement is a significant predictor of academic performance. Dogan (2017) found that academic self-efficacy, academic motivation, and student engagement significantly affect the students' performance. Psychological factors were proven to be significant predictors of academic performance by Eduwem (2017). Datu (2019) found that academic buoyancy was related to academic achievement and students' motivation. Results also showed that buoyancy had an indirect effect on performance via motivation.

2.3 PSYCHOLOGICAL RISK

Psychological risk factors are those that include ‘processes and meanings at the individual level that impact mental states’. Psychological risk factors are related to mental disorders which include thoughts, personality traits (Openness, extraversion, neuroticism) attitudes, anxiety, stress levels and emotions that help a person to develop disorders related to mental health (cognitive, behavioral, and emotional).

Chorpita (1998) found that risk factor (anxiety and control), parental attachment, promotes self-efficacy and performance of students. Another study conducted by Bandura et al. (2001) indicated that low self-efficacy is one of the factors that leads to psychological risk factors (anxiety and uncertainty).

Several studies (Bandura, 1999; Martin 2008; Perry, 2005) have found a negative impact of uncertain control and anxiety on the achievement of students’ such as cognitive functioning and impaired memory. Academic anxiety risk factors or Cognitive mufflers include anxiety and uncertain control (Martin, 2008) are predictors

of academic achievement and numerous studies confirmed that psychological factors such as anxiety and depression negatively influenced on academic performance of the students (Williamson, 2005). Similarly, the researcher found the same result and indicated that anxiety and depression negatively correlated with the performance of students (Yasin, 2011).

According to Andrews (2004), 40% of University College London students visited a student health clinic for psychological risk factors such as anxiety, tension, and poor concentration. The cohort as a whole also had higher neuroticism scores than the average. Their levels of depression were found to be linked with poor academic performance.

Worley (2007) examined the relationship between at-risk factors and students' academic achievement and found the risk factors that negatively impacted students' performance. 12th-grade urban school students were taken for the study. Multiple regression was used for the analysis purpose. Findings of the study revealed that at-risk factors (teacher-student relationship, motivation, peer influence, parent relationship) significantly affect the students' academic performance.

Safree and Dzulkifli (2009) examined the differences in psychological factors between low and high-achieving students. Data was taken from 120 students of Malaysia. Results found a significant difference among students in their psychological factors.

Gale (2010) considered neuroticism a risk factor and studied neuroticism and cognitive functioning among adolescents. The findings of the study indicated that higher levels of neuroticism were associated with lower levels of performance among students.

Bowen (2010) explored variables that can be used to predict undergraduates' everyday academic buoyancy. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

Lucio (2012) identified the necessary risk factors for predicting academic failure (GPA< 2.0), and results of the study revealed that academic engagement, academic

expectations, academic self-efficacy, school relevance, school safety, teacher-student relationship, school mobility, homework completion, and grade retention were significantly related to GPA.

Martin (2013) found a "reciprocal relationship between psychological risk and academic buoyancy." Data was collected from 2971 students from Australian high schools. After analyses, it was confirmed that psychological risk (academic anxiety, uncertain control, fear of failure, neuroticism, and emotional instability) impacts academic buoyancy, and buoyancy impacts psychological risk.

The relationship between risk factors, perceptions of school membership, academic and behavioral engagement was explored by Ahn (2013). The sample was taken from students in alternative schools. The technique of surveying was used to analyze the data. Research results showed that the perception of school membership was not influenced by risk factors (minority, SES, no participation in school activities). Moreover, the result showed that the risk factor did not significantly affect the students' academic performance. In addition, academic, behavioral outcomes, and other factors were related to each other, such as race, ethnicity, and grade level.

Mihaela (2015) established the correlation between psychological factors of academic success and proposed some implications of non-academic factors on the school outcome of adolescents who used the personality test. The findings of the study showed a significant difference between superior and poor results among pupils and the study confirmed that students' academic performance depends not only on cognitive or intellectual aptitudes but also on some personality factors such as emotional sensitivity, common-sense, self-assertion, and scrupulosity.

Arthur (2015) examined the role of risk factors on the academic performance of students. The hierarchical linear model was used to predict the relationship. Results found that risk factors significantly predicted the academic performance of students.

Malau et al., (2017) studied the risk factors with academic difficulty among regionally located Australian students. Results revealed that remote backgrounds, scores were high risk factors associated with academic difficulty.

Nayak (2017) studied on risk factor of academic underperformance in rural schools. Data was collected from adolescents of Odisha, India. Interview and questionnaires were used to analyze the data. The findings of the study revealed that family factors (parental illiteracy, domestic violence) and social factors influenced the students' academic performance.

Lavanya (2017) examined emotion regulation and psychological factors among Indian students. Data was collected from 418 students. Results found a significant correlation between emotion regulation and psychological factors. Moreover, female scores were high in psychological problems as compared to male students.

Assari (2018) investigated the multiplicative effects of social factors (financial difficulty, victimization, violence) and psychological factors (depression, anxiety, drug use) among students' suicidal behavior. Data was collected from 27,961 students of the United States. Results showed the multiplicative effect of social and psychological risk factors on the risk of suicide on students significantly.

Kim (2020) studied the effects of school abuse, school safety issues, and depression on academic performance by gender. Students in grades 9 through 12 were sampled. Students' school safety issues and depression were strongly associated with fighting, intimidation, and bullying, resulting in more unsatisfactory academic results for females and males.

2.3.1 Summary Reviews on Psychological Risk Factors

The above review of related literature summarized that psychological risk factors are related to mental disorders which include thoughts, personality traits (Openness, extraversion, neuroticism) attitudes, anxiety, stress levels and emotions that help a person to develop disorders related to mental health (cognitive, behavioral, and emotional). Several studies (Bandura, 1999; Martin 2008; Perry, 2005) have found a negative impact of uncertain control and anxiety on the achievement of students. Psychological risk factors or Cognitive mufflers are predictors of academic achievement (Martin, 2008). Numerous studies confirmed that psychological factors such as anxiety and depression negatively influenced on academic performance of the students (Williamson, 2005). Bowen (2010) found that parental attachment, self-

efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

In addition, Martin (2013) found a “reciprocal relation between psychological risk and academic buoyancy.” Moreover, it was confirmed that psychological risk (academic anxiety, uncertain control, fear of failure, neuroticism, and emotional instability) impacts academic buoyancy, and buoyancy impacts psychological risk. Lavanya (2017) found a significant correlation between emotion regulation and psychological factors. Moreover, female scores were high in psychological problems as compared to male students.

2.4 ENGAGEMENT

Engagement is a famous theoretical orientation, and it has achieved attention from several researchers. Several authors offered numerous terms of engagement, such as study engagement (Schaufeli, 2002), student and academic engagement (Fredricks, 2004), and student's course engagement (Handelsman, 2005). *Engagement* is a term that emphasizes several patterns of cognition, behavior, and motivation among adolescents (Appleton, 2008; Sharma, 2013). Engagement is understood as a set of connections: "between the students and school community, adults from students and schools, students and peers, students and instructions, and students and curriculum" (Yazzie, 2010). Engagement in the academic context (academic engagement) contributed to the students' learning and GPA (Craini, 2006), persistence (Hughes, 2003), also reduced the level of distress (Schaufeli, 2002). *Student academic engagement* is a multidimensional construct with main components such as behavioral, cognitive, and emotional engagement (Sakurai, 2018). Student's active participation (behavior) in school enhances the performance level of students. Students' emotional bond with their school prevents them from the detrimental impact of delinquency (Carbonaro, 2005). Similarly, cognitive engagement becomes those self-regulated learners.

The research was performed by Connel et al. (1995) on combined behavioral and emotional engagement measures. The research was conducted in urban districts among African American students in middle and high school. Competence perceived support for autonomy and relatedness was found to be correlated with engagement.

Lower at-risk behaviors were correlated with engagement. The engagement has been linked to males remaining in the school.

Past studies highlighted that student academic engagement is an essential construct for student personal development and learning. Astin, (1993); Pascarella, (1991); Jelfs, (2004); Ginns, 2007) and many studies have shown a positive correlation between student academic engagement and academic achievement (Sirin, 2005; Sbrocco, 2009; Wang, 2010). Furthermore, Dehyadegary (2011) examined the relationship between academic achievement, involvement in parental school, and academic engagement. Samples were taken from 382 Iranian high school students. Multiple regression analysis was used. The findings revealed that engagement plays a mediating role in the relationship between student engagement and achievement. The study also found that engagement plays a role in mediating the relationship between the student engagement and achievement.

The association between engagement and academic buoyancy was found by Cole (2002). The result showed that engagement was directly (positively) predict students' academic buoyancy. This study supports previous studies (Pike and Kuh, 2005) showing that undergraduates who engage themselves in their coursework are more likely to overcome difficulties and pressures within academia.

Ogbu (2003) conducted an ethnographic study among 28 elementary, middle, and high school students. For most students, the results showed that peer pressure negatively impacts academic engagement. Academic disengagement was linked to students' perceptions of an unequal opportunity framework, but some students were motivated to work hard.

An abundance of the literature confirmed that social media significantly increases student engagement (Patera, 2008; Annetta, 2009; Chen, 2010; Junco, 2012). By encouraging student engagement with media, most learners develop their links with peers and increase their overall academic learning (Nelson, 2005; Heafner, 2008; Yu, 2010; Liu, 2011; Fewkes, 2012).Another study byzhang (2007) identified the association between perfectionism, burnout, and engagement among students. Data was collected from 482 Chinese students. Results confirmed that perfectionism is positively correlated with burnout and engagement.

Lee (2008) examined the influence of school socialization style on student engagement and academic performance of students. Data was collected from 2,849 students. Multilevel analysis was used for this study and the result showed that school socialization style significantly effect on engagement and performance of the students.

Student performance was related to greater motivation and engagement, according to Archambault and colleagues (2009). Overall, student academic performance has been negatively impacted by school engagement (Wang & Holcombe, 2010).

Bowen (2010) explored variables that can be used to predict undergraduates' everyday academic buoyancy. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

Reyes (2012) investigated the link between classroom emotional climate and academic achievement, as well as the function of student participation as a mediator. Data was collected from 63 fifth and sixth-grade classrooms (a total of 1,399 children) and included classroom observations, student reports, and report card grades. Multilevel mediation analyses showed that engagement mediated the positive relationship between the classroom and grades' emotional climate while controlling for teacher characteristics and observations of both the organizational and educational environments.

The relationship between the level of use of Facebook, participation in Facebook activities, and student engagement was examined by Junco (2012). A sample of 2368 students was taken, and the findings showed that the use of Facebook negatively predicted engagement and was positively related to curricular activities.

Dharmayana (2012) shows that emotional competence and student engagement in schools play a positive role in students' academic achievement, which means increasing emotional competence students, will increase student engagement in schools that play a direct role in student academic achievement.

Hassan (2013) examined the predictor of academic engagement. Data was collected from the 600 students of Tehran. Hierarchical regression was used, and results found that the strongest predictor of engagement was academic self-efficacy.

Ayenew (2014) researched sexual harassment, self-esteem, and academic engagement as predictors of female students' academic success. Data from 366 female students was collected, and multistage random sampling was used for the study. Data was collected via numerous questionnaires; for research, multiple linear regressions were used. Study results have shown that self-esteem, harassment, and engagement are strong predictors' female students' performance.

Wang and Degol (2014) examined that student engagement has been a notable point in the last two decades in psychology and education due to its ability to recognize obstacles, lack of interest, and student achievement. If students are engaged in their learning, they spend time, emphasize the issue when faced, emphasize it, and struggle to keep in touch with teachers and classmates (Wang and Eccles 2012a, 2012b). The engagement of students is, therefore, a critical factor for fruitful learning

Bilge (2014) examined the levels of burnout, engagement, academic success, study beliefs, and students' self-efficacy. The study sample comprised 605 Turkish students. Multivariate analysis was used. After analysis, the findings showed that students with low self-efficacy beliefs had higher levels of burnout. Another result was that there was also high self-efficacy in students with high academic success. Unexpectedly, it was found that students with poor research skills and low expectations in self-efficacy beliefs had high self-efficacy. There were also levels of high school engagement for students with adequate study skills and firm self-efficacy beliefs.

Dogan (2015) studied "student engagement, academic self-efficacy, and academic motivation as a predictor of academic performance." data collected from 578 high school students. Study results indicate that sub-dimensions of engagement significantly predict the academic performance of students.

Brokeckelman (2016) investigated "the relationship between teacher misbehavior and its effect on student engagement and interest." the sample consisted of 815 students. After analyses, the result showed that teacher behavior was significantly related to

student interest. Furthermore, the result indicated that teacher behavior is negatively related to student engagement.

Kizildag (2017) examined the connection between school engagement with absenteeism, academic achievement, peer relationship, and fear of failure. Data was collected from 515 high school students. In this descriptive study, multiple regressions were used to analyze the data. Study results showed that absenteeism and peer relationships are predictors of student engagement, and they found that the engagement is not expected to be fear of failure and achievement.

Ghasemi (2018) studied factors affecting the academic engagement of students. Data collected from Indian students. A conventional content analysis approach is used for analysis purposes. The result showed that factors such as individual motivation and interest, mental concentration, participation in extracurricular activities, and learning self-direction, and a sense of satisfaction with learning could play essential roles in creating academic engagement.

Anierobi (2019) determined the predictive influence of parental involvement on academic engagement and academic self-confidence. Participants were 560 secondary school students of Nigeria. Results showed that parental involvement has a positive relationship with academic engagement and academic self-confidence.

In higher education, Dunn (2019) researched technology-enhanced learning (tel), motivation, engagement, and academic achievement. Sixteen thousand one hundred fifty students were taken for the study. The results showed that motivation significantly predicted the engagement. In addition, engagement and tel were performance-predictive.

Hope (2020) revealed significant differences in student engagement from different socioeconomic groups, with 2.5 times more students from upper socioeconomic classes reporting feeling engaged in their classes and coursework than their lower-income counterparts.

Lo (2021). Studied on ‘student engagement in mathematics flipped classrooms: implications of journal publications from 2011 to 2020’. To summaries the effects of this instructional style on students’ emotional, behavioral and cognitive engagement with mathematics course, researcher looked at the outcomes of comparative research

published between 2011-2020. Thirty three articles were included. The findings suggested that using a flipped classroom method can improve emotional, behavioral and cognitive engagement.

2.4.1 Summary Reviews on Engagement

From the above review of related literature, it summarised that engagement in the academic context (academic engagement) contributed to the students' learning and GPA (Carini, 2006), persistence (Hughes, 2003), also, reduced the level of distress (Schaufeli, 2002). Past studies highlighted that student academic engagement is an essential construct for student personal development and learning. (Astin, 1993; Pascarella, 1991; Jelfs, 2004; Ginns, 2007) Moreover, many studies have shown a positive correlation between student academic engagement and academic achievement (Sirin, 2004; Sbrocco, 2009; Wang, 2010). Furthermore, Dehyadegary (2011) found that the role of engagement in the relationship between student involvement and achievement is mediating. The study also showed that engagement in the relationship between student involvement and achievement is mediating—the association between engagement and academic buoyancy was found by Cole (2002). The result showed that engagement was directly predicting students' academic buoyancy. This study supports previous studies (Pike and Kuh, 2005) showing that undergraduates who engage themselves in their coursework are more likely to overcome difficulties and pressures within academia.

Lee (2008) found that school socialization style significantly effect on engagement and performance of the students. Bowen (2010) found that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

Dogan (2015) found that sub-dimensions of engagement significantly predict the academic performance of students. In addition, research has shown that self-efficacy and motivation are academic performance predictors. Ghasemi (2018) found that factors such as individual motivation and interest, mental concentration, participation in extracurricular activities, and learning self-direction, and a sense of satisfaction with learning could play essential roles in creating academic engagement. Anierobi (2019) found that motivation significantly predicted engagement.

2.5 BUOYANCY

It is a psycho-educational construct and introduced by (Martin and Marsh (2006; 2008; 2009)) as a way to explore the constructive responses of various setbacks and difficulties faced by the learners in their daily academic life such as exam pressure, obtaining bad grades or marks, difficult schoolwork, minor negative interactions with teachers and competing deadlines. Martin and Marsh (2008, 2009) described "academic buoyancy as a capacity to overcome setbacks, stress, challenges, any difficulties or problems that are part of the student's everyday academic life." in addition, academic buoyancy refers to an optimistic, productive, and adaptable response to the form of challenges faced in the current or constant academic field (Putwain and Symes, (2012)). Moreover, academic buoyancy refers to the capacity of a student to deal with daily academic challenges, including the negative feelings associated with academic life (Bouteyre, Maurel, and Bernaud 2007). In addition, martin and marsh (2005) concluded that there was a significant gender difference among students; moreover, they found that male students scored more in buoyancy than female students.

Bowen (2010) explored variables that can be used to predict undergraduates' everyday academic buoyancy. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of undergraduates' academic buoyancy.

Martin (2013) found "a reciprocal relationship between psychological risk and academic buoyancy." data was collected from 2971 students from Australian high schools. After analyses, it was confirmed that psychological risk (academic anxiety, uncertain control, fear of failure, neuroticism, and emotional instability) impacts academic buoyancy, and buoyancy impacts psychological risk.

Martin (2013) researched 'academic buoyancy' and 'academic resilience:' in the face of academic adversity 'exploring' everyday 'and' classic resilience. The findings showed that buoyancy correlates more strongly with low-level adverse outcomes such as academic anxiety, uncertain control, and failure avoidance, whereas resilience correlates more strongly with more severe adverse outcomes such as disengagement from schooling.

Academic buoyancy is linked to a number of adaptive educational outcomes, including school enjoyment, classroom engagement, academic self-efficacy, planning, persistence, and low academic and test anxiety(Martin, 2013; Martin and Marsh, 2008a; Martin et al., 2010; Putwain et al., 2012; Putwain and Daly, 2014).

In Chinese adolescents, Flett (2014) studied 'academic buoyancy and essential factors of resilience: a study of guilt, social anxiety, and psychological distress. Data from a sample of 232 adolescents was collected. After the study, the result showed that buoyancy and mattering were linked to each other and the degree of depression, social anxiety, and shame were all significantly reduced.

Putwain and Daly (2013) investigated the relationship between buoyancy and anxiety-related achievement. After analysis, the high achievement was shown by those high in buoyancy and low in anxiety, while those higher in anxiety scored lower.

A study was carried out by Reisy (2014) to analyze the mediating effect of self-efficacy on the pattern of family communication and academic buoyancy. Three hundred twenty students consisted of the sample. In the sample, 150 female and 170 male students were included. A multi-stage sampling technique was used. The study's findings showed the mediating effect of general self-efficacy on both variables after path analysis.

Strickland (2015) studied 'academic buoyancy as an explanatory factor for college student achievement and retention.' data was collected from 120 students. Multiple regression was used for the study, and the result showed that academic buoyancy was a significant predictor of academic achievement. Furthermore, findings showed that motivational variables (self-sabotage, uncertain control, persistence, and failure avoidance) were predictive of academic success.

Among secondary level school students, Comerford (2015) found different features of academic buoyancy. In addition, the researcher investigated the concept of buoyancy, which helps to stay in school or leave school early in decision making. They received a higher score in buoyancy in order to school early. Data was collected from 581 students from Ireland for this mixed analysis after an examination study confirmed that learners who reported being less likely to leave school early obtained a higher buoyancy.

Collie (2017) conducted a study on "social support, academic adversity, and academic buoyancy: a person-centered analysis and academic outcome implications." the research participants were 249 students. In this analysis, cluster sampling was applied and found that social support and academic buoyancy were significantly linked to student positive performance.

Collie &Martin (2017) conducted a study on 'academic buoyancy, achievement of students, and control position linkage.' Data was collected from 2,971 Australian students. Cross-lagged analysis was used, and the outcome demonstrated that regulation overtime was correlated with academic buoyancy and academic achievement.

Shaikholeslami (2017) investigated the relationship between parental attachments, academic buoyancy, and cognitive emotion regulation. The sample was taken from 360 school students. Multi-stage cluster sampling was used, and path analysis was used for analysis purposes. Results showed that parental attachment and cognitive emotion regulation predict academic buoyancy positively.

Olendo (2019) explored the relationship between academic buoyancy, self-efficacy. The sample was taken from 469 students of Kenya schools. For the study, an inferential and descriptive method was carried. Study results showed that academic buoyancy is predicted by self-efficacy.

Martin (2020) investigated the relationship between academic adversity and academic buoyancy. According to his results, prior academic buoyancy predicted lower subsequent academic adversity, but prior academic adversity did not predict higher subsequent academic buoyancy. However, there was a minor interaction impact, meaning that students who had experienced academic adversity but had high academic buoyancy were less likely to face adversity.

Al-Bawi (2021) investigated the relationship between academic buoyancy and academic achievement. The sample was taken from 814 students. Results showed the strong and positive relationship between the buoyancy and academic achievement.

2.5.1 Summary Reviews on Buoyancy

The above review of related literature summarised that Bowen (2010) explored variables that can be used to predict undergraduates' everyday academic buoyancy. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were indicative of undergraduates' academic buoyancy.' Martin (2013) found a reciprocal relationship between psychological risk and academic buoyancy. After analyses, they confirmed that psychological risk (academic anxiety, uncertain control, fear of failure, neuroticism, and emotional instability) impacts academic buoyancy, and buoyancy im1pacts psychological risk.

In addition, research has shown that motivational constructs such as self-efficacy, school valuation, and mastery orientation are often higher among academically buoyant students (Martin, Yu, & Hau, 2013). Shaikholeslami (2017) found that parental attachment and cognitive emotion regulation predict academic buoyancy positively. Marwani (2019) found no significant stream difference in the buoyancy of adolescents; moreover, they found that science students have more academic buoyancy than arts students.

2.6 SIGNIFICANCE OF THE STUDY

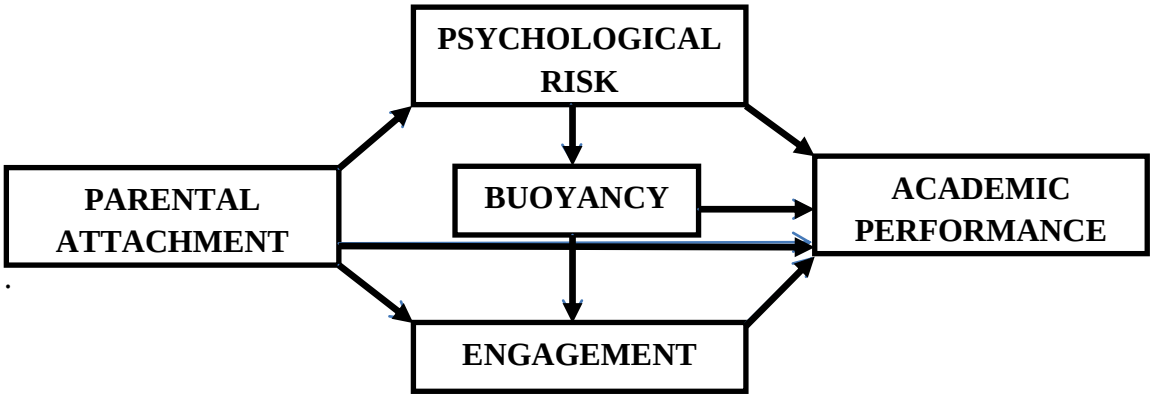

Figure 2.1: Proposed Model/ Significance of the Study

The above-proposed model has been used for the present study, and research work has been executed in the Indian setting. Senior secondary education is the basis of the higher level of education, so there is a need to give attention to every dimension. Also, it is necessary to find out the numerous factors that affect the development of the senior secondary education system and bring out the various remedies to get rid of

the obstacles. The investigator hopes that this type of research finds out the numerous factors that affect the performance of senior secondary school students in academic research, which is an emerging problem. The present study tries to know the impact of parental attachment on the academic performance of senior secondary school students: Role of psychological risk, engagement, and buoyancy.

Academic is based not on practical skills and experience but on learning from books and studies. When it comes to performance, it refers to completing a task to the best of one's ability, as measured by accuracy and completeness. Any educational institution's success or failure is assessed in terms of its students' academic results. Not only schools but also parents have high expectations from their children's academic success. They believe that better academic performance will lead to more job opportunities and future stability. Therefore, it can be said that parental attachment is essential for academic performance. Ramsdal (2015) showed that parental attachment contributes to students' school dropout process and performance. Therefore, the present study has aimed to find the impact of parental attachment on the student's academic performance.

Adolescents, the leaders of tomorrow, need to be armed with a strong value system and enabling habits which can help them lead a better and more rewarding life. Nowadays, academic performance is considered as a parameter of success. It is looked upon as a reflection of an individual's intelligence. The academic performance score is the aggregate of an individual's hard work, optimism, support from peers and parents, and teachers. High achievement is the result of positive support from these factors and low achievement is the result of the absence of these factors.

Academic performance is a quantitative construct that uses different measures for the assessment part. The outcome efforts of the students are gradable and primarily expressed in terms of the attainment of their skills, learning objectives and transfer it into the Grade point average (GPA) scores (York, 2015). Adolescents are eager on monitoring their performance related to their academics because for students that they receive from their academic status also influence their identity (Sherman, 2013), and effective feedback from teachers helps them to achieve their long term goals in life and become effective learners (Fletcher et al., 2012). According to different

researchers, it has been found that students who actively engaged in classroom learning and actively perform in the learning process have more abilities to improve their academic performance (Fredricks, 2012).

It is the need of the hour to develop and enhance the skills to improve students' performance. So, academic performance is studied as a latent variable in the present study. Nowadays, students are suffering from factors and problems that disturb their academic performance badly, and these types of problems come from low parental attachment, psychological factors (which include anxiety, stress, depression), low engagement in the classroom, and buoyancy.

In the educational context, these problems for students in senior secondary education to failure in their academic performance, unrealistic worry, low self-efficacy, fear, and test anxiety, create problems to function them usually. Although in many cases, researcher emphasized that parental attachment promotes grade point average, cognitive engagement, academic persistence, and academic attainment among children, early and late adolescents (Bell, Hauser, and Oconner, 1996; Finn 1997; Hoffman 1987; Cutrona, Colangelo and Russell 1994; Moss, 2001; Peng, 1994). Contrary to the above, a low level of parental attachment has identified as a risk factor for poor child-parent relationships (Ekstrom and Pollack, 1986), less educational expectations and poor academic achievement. In addition, secure attachment plays a significant role in healthy adolescent adjustment (Morreti, 2004) and a protective factor for mental health. The present research focuses on psychological risk factors, and martin divides them into academic factors (academic anxiety, fear of failure, and uncertain control) and non-academic (emotional instability and neuroticism) Marsh (2007) and Mccrae (1997).

Several studies (Bandura, 1999; Martin, 2008; perry, 2005) have found a negative impact of uncertain control and anxiety on the achievement of students' such as cognitive functioning and impaired memory. Academic risk factors or Cognitive mufflers include anxiety and uncertain control (Martin, 2008) are predictors of academic achievement, and numerous studies confirmed that psychological factors such as anxiety and depression negatively influenced on academic performance of the students (Williamson, 2005).

In addition, engagement is a way of improving students motivation, improving disaffection, avoiding student boredom and student involvement in different activities, enhance performance, and developing positive student development (Appleton and Furlong 2008; Appleton and Thompson, 2012; Li, 2011; National Research Council & Institute of Medicine, 2004; Upadhyaya, 2013). They received higher grades (Diseth, 2007) performed efficiently, and demonstrated a higher understanding for those constantly engaged and motivated. Moreover, students are faced with different obstructions, challenges in everyday academic life, including levels of stress, poor grades, low self-confidence, less interaction, and reduction in motivation. They experience chronic life problems in their academic lives (Marsh and Martin, 2007) and confront different academic challenges that affect their daily lives (Marsh and Martin, 2007). This concept has been termed academic buoyancy. Collie (2017) found that social support and academic buoyancy were significantly related to the positive performance of students. Different variables have been used to predict academic performance and buoyancy. Results showed that parental attachment, self-efficacy, cognitive mufflers (anxiety and control), and engagement were found to be indicative of academic buoyancy (Bowen, 2010) and academic performance (Duchesne (2007); Eduwen (2017); Sharma (2012); and Putwain (2013)). Some have suggested that psychological factors among students may adversely influence their academic performance and buoyancy (Stewart, 1999). As yet, no research has been conducted on Indian students. Moreover, this study attempted to address some of the suggestions for further study that Bowen (2010) proposed. They specifically recommended that further study understand the role of psychological risk factors (anxiety, fear of failure, and uncertain control), buoyancy, engagement, and parental attachment on the students' performance. There is a scarcity of literature related to psychological risk factors and other variables. In terms of area, population, and sample, the present study differs from the above studies. Therefore, this research aims to figure out the variables that negatively affect the output of the students and try to find out if psychological risk factors influence the other variables. It is to be noted that significantly less research has been done to assess these constructs on the sample group studying senior secondary school students of India, especially in Punjab.

Therefore, the present study's findings may help understand the relationship between independent and dependent variables more clearly, especially in the Indian setting. There is a need to identify the buoyancy level of a student and foster it with the help of numerous strategies and guidelines. This study would also assist educators, practitioners, teachers, and parents consider the significance of psychological risk, engagement, and buoyancy. So, in Indian settings, an investigator has the opportunity to do it. Therefore, in the present study, the investigator intended to understand the impact of parental attachment on the academic performance of senior secondary students as well as to understand the mediating role of psychological risk, engagement, and buoyancy on students' academic performance.

2.7 STATEMENT OF THE PROBLEM

The present study is entitled as, **"Impact of Parental Attachment on Academic Performance of Senior Secondary School Students: Role of Psychological Risk, Engagement and Buoyancy."** In the present study, the relationship of parental attachment on student academic performance has been studied. The mediation of psychological risk, buoyancy, and engagement has been studied on the relationship between parental attachment and academic performance. Further, psychological risk and engagement has been studied as mediator on the relationship between parental attachment and buoyancy. The differences due to gender, stream, locality, and type of institution have also been indicated for parental attachment, academic performance, psychological risk, engagement, and buoyancy.

2.8 OPERATIONAL DEFINITIONS

Parental attachment: Parental attachment is "an enduring emotional bond that develops over the life span between the parent and the child." It is operationalised as a degree of mutual trust, quality of communication, and alienation in the relationship with parents.

Psychological risk: Psychological risk is an "individual-level processes and meanings that influence mental states." In the present study, psychological risk is operationalised as academic anxiety, failure avoidance, uncertain control, neuroticism, and emotional instability.

Engagement: Engagement is "a persistent, positive affective motivational state of fulfillment." In the present study student engagement is operationalised as cognitive, behavioral, affective, and agentic engagement.

Buoyancy: In the present study buoyancy is operationalised as "a capacity to overcome setbacks, stress, challenges, and difficulties or problems that are part of the student's everyday academic life."

Academic performance: In the present study, academic performance has been considered as the result of their performance in XIIth class.

2.9 DELIMITATIONS OF THE STUDY

The study has been delimited to the following areas.

1. The study was delimited to the class XII senior secondary school students studying in P.S.E.B affiliated school of Punjab state only. The class XII students were taken in order to take the performance of the students in board exams as academic performance.
2. It was delimited only to two streams i.e arts and science.

2.10 OBJECTIVES

Objectives of the study are listed below:

1. To classify the level of parental attachment, academic performance, psychological risk, engagement, and buoyancy of the senior secondary school students w.r.t gender, stream, locality and type of institution.
2. To find out the difference among senior secondary school students in parental attachment, academic performance, psychological risk, engagement, and buoyancy based on gender, stream, locality, and type of institution.
3. To study the relationship between parental attachment, academic performance, psychological risk, engagement, and buoyancy among senior secondary school students.
4. To study parental attachment as the predictor of academic performance among senior secondary school students.

5. To study the role of psychological risk and engagement in the relationship between parental attachment and buoyancy of senior secondary school students.
6. To examine the role of engagement, buoyancy and psychological risk in the impact of parental attachment on the academic performance of senior secondary school students.

2.11 HYPOTHESES

Following hypotheses are framed to fulfill the objectives of the proposed study:

1) There is no significant difference in parental attachment, academic performance, psychological risk, engagement and buoyancy of the senior secondary school students' based on:
   a) gender
   b) stream
   c) locality
   d) type of school
2) There is no significant relationship between
   a) Parental attachment and academic performance
   b) Parental attachment and Psychological risk
   c) Parental attachment and Engagement
   d) Parental attachment and Buoyancy
   e) Psychological risk and Academic performance
   f) Psychological risk and Engagement
   g) Psychological risk and buoyancy
   h) Buoyancy and Academic performance
   i) Buoyancy and Engagement
   j) Academic performance and Engagement
3) There is no significant impact of parental attachment on the academic performance of senior secondary school students.

Research Questions

1) Research Question

   a) Does the relationship between parental attachment and buoyancy of the senior secondary school students mediated by psychological risk.

   b) Does the relationship between parental attachment and buoyancy of the senior secondary school students mediated by engagement.

2) Research Question

   a) Does the impact of parental attachment on the academic performance of senior secondary school students mediated by psychological risk.
   b) Does the impact of parental attachment on the academic performance of senior secondary school students mediated by engagement.

   c) Does the impact of parental attachment on the academic performance of senior secondary school students mediated by buoyancy.

CHAPTER – 3

METHODOLOGY

The methodology is one of the most important aspects of any study. It is a way to investigate the research problem systematically. It gives various steps in conducting the research systematically and logically. A well-defined procedure provides the researcher a plan of action for selecting, collecting, and analyzing the data economically and effectively. It systematically helps the researcher proceed while conducting the research and ultimately saves the researcher's time, effort and money. In research, it is necessary to adopt a systematic procedure to collect the relevant data. The relevant data should be adequate in quantity and quality. It should be sufficient, reliable, and valid. The nature of the problem determines the selection of techniques and devices for an investigation. The selection of proper methods, tools, and techniques is challenging and must handle with every caution, care, and consideration regarding time, cost, and procedure. A stratified random sampling technique has been used to keep in view the research evidence, objectives, and hypotheses of the study. A list of government and private senior secondary schools has been procured from District Education Office, and out of that list, schools have been selected based on urban and rural background. The total sample has been comprised of 1500 senior secondary school students.

3.1 RESEARCH METHOD AND SAMPLING

Keeping in view the research evidences, objectives of the study and hypotheses; the investigator followed the descriptive survey method. The descriptive survey is a quantitative method, with the help of which the investigator can collect quantified information of the population by using the sample of that population. For the selection of the sample from Punjab, three regions of the Punjab state were selected (i.e. Majha, Malwa, and Doaba region). The sample was taken from the different districts of the three regions of the Punjab state. To keep the study manageable enough, a proportion stratified random sampling procedure was used. A list of government and Private senior secondary schools has been procured from PSEB (Mohali), and out of that list, schools were selected based on urban and rural background stratification of the sample.

3.1.1 Population

The population for the present study was 12th class students of Punjab, enrolled in the government and private schools affiliated to Punjab School Education Board (PSEB) in the academic year of (2018-19). The number of students enrolled in PSEB government and private schools was 2 74,186. The distribution of the districts of Punjab and the total number of PSEB schools has been presented in below table:

Table 3.1: Distribution of the Districts of Punjab

Majha	Doaba	Malwa
Amritsar	Hoshiarpur	Firozpur
Gurdaspur	Kapurthala	Bathinda
Pathankot	Jalandhar	Ludhiana
Tarn-Taran	Nawanshahr	Moga
		Barnala
		Mansa
		Roopnagar
		Faridkot
		Fatehgarh Sahib
		Sangrur
		Sri Muktsar Sahib
		Mohali
		Fazilka
		Patiala

Table 3.2 : Distribution of PSEB Schools in Punjab

SCHOOLS	TOTAL NUMBER
Senior Secondary Government Schools	1774
Senior Secondary Private Schools	1548

3.1.2 Sample Size

To select the statistically significant sample size for the present study, an online sample calculator was used, which considers the following values viz population, confidence level, and margin of error. This online calculator was based on the following formula developed by Krejcie and Morgan (1970).

$S= \chi^2NP\ (1\text{-}P) \div d^2\ (N\text{-}1) + \chi^2P\ (1\text{-}P)$

'S' is the required sample size.

'$\chi^{2'}$ is the table value of chi-square for degree 1 of freedom at the desired confidence level (0.05=3.841)

'N' is the population size.

'P' is the population proportion (assumed to be 0.50 since this would provide the maximum sample size.

'd' is the degree of accuracy expressed as a proportion (error margin) (0.05).

Population of 12^{th} class students from PSEB government and private schools = 2, 74,186, Confidence level=95% Error margin =5 and calculated sample size= 384. However, the actual collected data from PSEB students was 1500. The convenience sampling technique was used to collect data from three regions of Punjab, i.e., Majha, Malwa, and Doaba. In the present study, 60 schools which include six districts (18 Govt. and 18 private schools) had been taken from Malwa, two districts (6 Govt. and 6 private schools) had been taken from Mahja, and two districts (6 Govt. and 6 private schools) had been taken from Doaba. Twenty five students (arts and science stream) were randomly selected from each school. The investigator personally visited the classroom after getting permission from the principal of the schools. Thus, 1500 students of the 12th class filled the scale of Parental attachment, psychological risk, engagement, and buoyancy on hard copies. After removing 54 incomplete forms, a data of 1446 forms were considered for data analysis.

Table 3.3 : List of Schools from Three Regions of Punjab

Region	District	GOVT/ PVT	Name of PSEB schools
Majha	Amritsar	Govt	S.S.S.S School, Sathiala, Amritsar
			Govt. Senior Secondary School, Jandiala
			Govt Senior Secondary School, Amritsar
		PVT	Dashmesh Public Senior Secondary School,Mehta Chowk, Amritsar.
			S.M.S Karamjot Model Senior Secondary School, Baba Bakala, Amritsar
			Ajit Vidyalaya Senior Secondary School, Ajit Nagar, Amritsar
	Tarn-Taran	Govt.	Govt Senior Secondary School, Kassel, Tarn-Taran
			Khalsa Senior Secondary School, Tarn-Taran
			Govt Co-ed Senior Secondary School, Tarn-taran
		PVT	S.D. Senior Secondary School, Sarhali road.
			M.G Collegiate Senior Secondary School, Nehru Gate, Tarn-Taran
			G.N. Public Senior Secondary School, Tarn-Taran
	Jalandhar	Govt.	Govt. Senior Secondary School, Hazara, Jalandhar
			Govt. Senior Secondary School,Talhan, Jalandhar
			Cantonment Board Senior Secondary School, Jalandhar Cantt.
		PVT	Gobind Senior Secondary School, Nakodar road

Region	District	GOVT/ PVT	Name of PSEB schools
Doaba			Jalandhar Public Senior Secondary School, Patara road, Jalandhar.
			St.Soldier Senior Secondary School, Rama mandi
	SBS Nagar	Govt	Govt Senior Secondary School, Banga, SBS Nagar.
			Govt. Senior Secondary School, Kahma, SBS Nagar.
			Govt. Model Senior Secondary School, SBS Nagar
		PVT	Amar Senior Secondary School, Mehta Road, SBS Nagar.
			Guru Public Senior Secondary School, SBS Nagar
			New Adarsh Senior Secondary School, Garhshankar, SBS Nagar.
Malwa	Ludhiana	GOVT	Govt. Senior Secondary School, Hebowal, Ludhiana
			Govt. Senior Secondary School, Gill Road, Ludhiana.
			Govt. Model Senior Secondary School, Ludhiana
		PVT	Anuvrat public Senior Secondary School, Shastri Nagar, Ludhiana
			Puran Singh Senior Secondary School, model gram, Ludhiana
			Hargobind Public Senior Secondary School, Pakhowal Road, Ludhiana
	Patiala	GOVT	Govt. Co-ed Senior Secondary School, Patiala
			Govt. Senior Secondary School, Rajpura Road, Patiala
			Govt Multipurpose Senior Secondary School, Cantt, Patiala
		PVT	Kay-Kay Unternational Senior Secondary School, Hassanpur, Patiala

Region	District	GOVT/ PVT	Name of PSEB schools
			Victoria Public Senior Secondary School, nearBus Stand, Patiala
			Jyoti Public Senior Secondary School, Ward 23, Patiala
	Ferozpur	GOVT.	Govt. Senior Secondary School, Ferozpur
			Govt Co-ed Senior Secondary School, Adarsh Nagar, Ferozpur
			Guru Nanak Govt. Senior Secondary School, Ferozpur
		PVT	Model Public Senior Secondary School, Ferozpur
			Guru Nanak Public Senior Secondary School, Adarsh Colony, Ferozpur
			SSD Senior Secondary School, Ferozpur
	Roop Nagar	GOVT.	Govt. Senior Secondary School, Morinda, Roop Nagar
			Govt.Co-education Senior Secondary School, Shakti Nagar.
			Govt. Senior Secondary School,Ropar.
		PVT	Bibi Sharan Kaur Senior Secondary School, Chamkaur Sahib
			Shri Guru Gobind Singh Public Senior Secondary School, Chamkaur Sahib.
			B.A.S.J Khalsa Senior Secondary School, Roopnagar.
	Fathegarh	GOVT.	Govt. Senior Secondary School, Mandi Gobindgarh, Fathegarh sahib
			Govt. Senior Secondary School, Fathegarh Sahib
			Govt.Co-ed Senior Secondary School, Fathegarh

Region	District	GOVT/ PVT	Name of PSEB schools
	Sahib		Sahib
		PVT	Adarsh Public Senior Secondary School, Gobindgarh road, Fategarh Sahib.
			National Senior Secondary School, Fathegarh sahib.
			Modern Public Senior Secondary School, Fathegarh sahib.
	Barnala	GOVT	Govt. Higher Secondary School, Sukhpur, Barnala.
			Govt. Senior Secondary School, Mandi road, Barnala.
			Govt Senior Secondary School, Tapa, Barnala
		PVT	M.R Senior Secondary School, Barnala
			Gobind Public Senior Secondary School, Barnala
			Dashmesh Model Senior Secondary School, Main road, Barnala

3.1.3 Sample Design

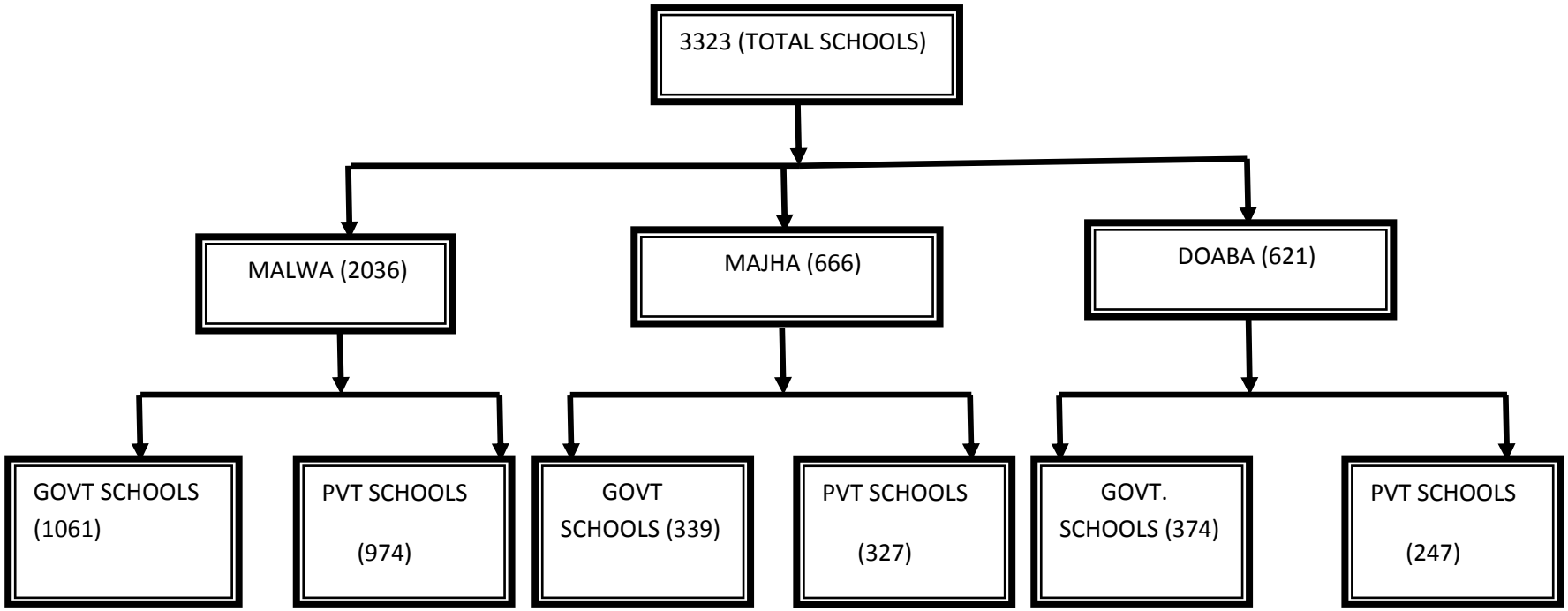

Figure 3.1: Systematic Representation of Sample based on Region and Type of School

3.1.4 Sample Structure

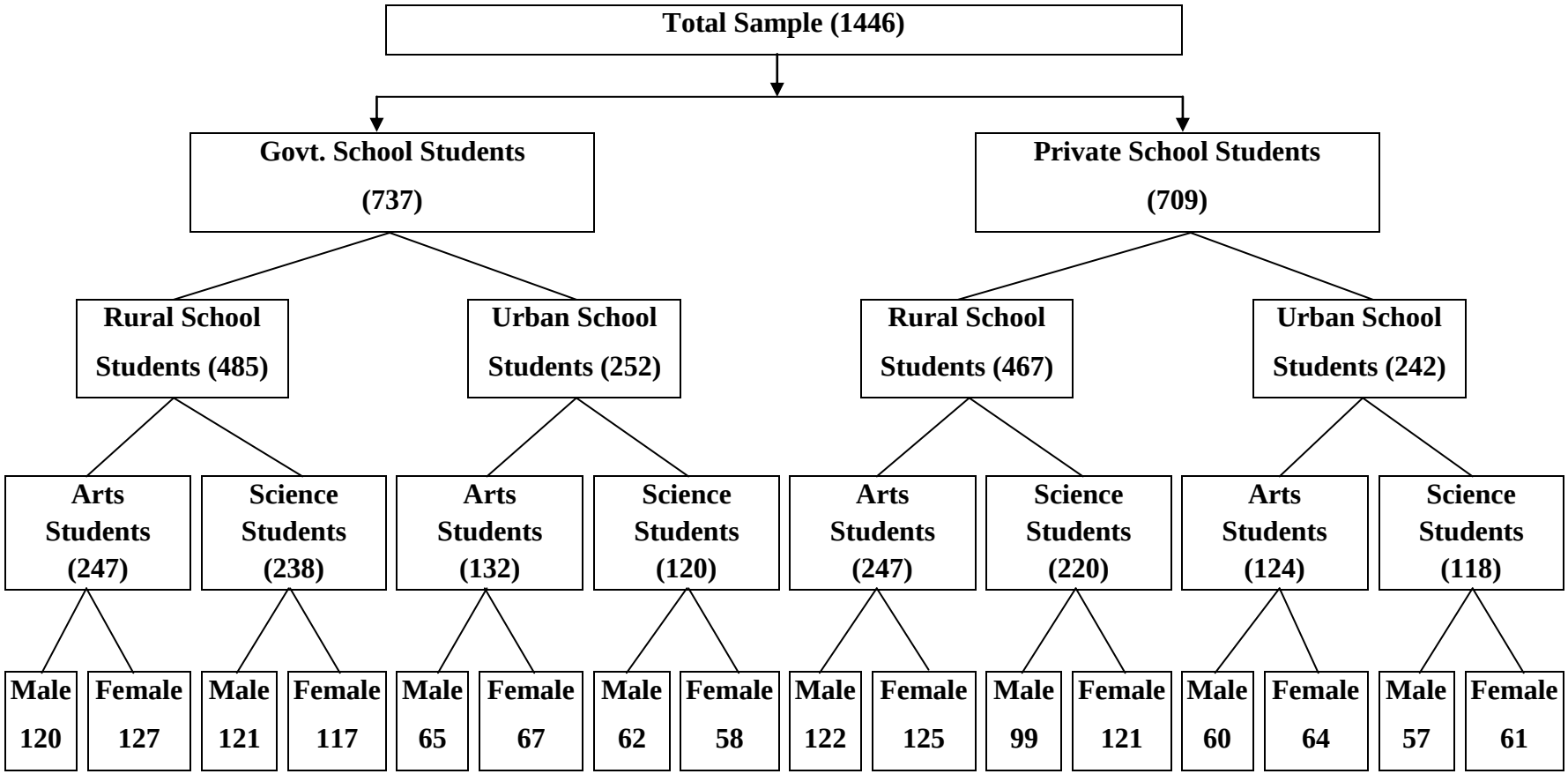

Figure 3.2: Systematic Representation of Sample Based on Type of School, Locality, Stream and Gender.

3.1.5 Sampling Technique

Since the entire geographical area of the state of Punjab, consisting three regions (Malwa, Majha, and Doaba) has been covered. Stratified random sampling was selected as a sampling technique, the proportion of schools in a particular region considered in the study was done by taking the ratio between the total number of schools in a region by the total number of schools in Punjab multiply by hundred (Table 3.4). The final proportion was calculated based on the proportionate number of schools obtained in particular region. From Malwa region (2036 total schools), 36 (60% approx) schools were selected randomly. From Majha region (666 total schools), 12 (20%) schools were selected randomly and from Doaba region (621 total schools), 12 (20% approx) schools were selected randomly. In total data was collected from 60 schools. From each school 25 students were selected randomly in accordance with permission of the school authorities. Finally, the sample subject of the identified school was selected using simple random technique.

Table 3.4: Sample from the Regions

Regions	No.of school/Govt Schools	No.of school/Pvt Schools	Total Schools	Percentage
Malwa	1061	974	2036	61.26
Majha	339	327	666	20.04
Doaba	374	247	621	18.68
Total	1774	1548	3323	100%

3.1.6 Procedure

The study has been conducted in three regions of Punjab state. At the first stage, from each region 50% of districts have been selected for data collection such that Doaba (2 out of 4), Majha (2 out of 4), and Malwa (6 out of 14) were selected based on the population in each district of Punjab has been taken as per Census, 2011. Hence, from each region high population districts and other districts with lower population have been selected. The same is presented below in Table 3.5.Thus, in total 10 districts out

of the 22 districts of Punjab were selected. At the second stage, 60 schools based on the proportion of schools in region were selected randomly such that 36 schools (18 Govt. and 18 private schools) from six districts had been taken from Malwa, 12 schools (6 Govt. and 6 private schools) from two districts had been taken from Mahja and 12 schools (6 Govt. and 6 private schools) from two districts had been taken from Doaba. At the third stage, from each school, 25 students (arts and science stream) had been selected randomly as permitted by school authorities. The investigator personally visited the schools for getting permission from the principal of schools. Thus, 1500 students of 12^{th} class filled the scale on hard copies. Although, the sample was selected based on stream (arts and science), locality (rural and urban), and type of school (Government and private) of senior secondary school students. The questionnaires were supplied to the students after developing good rapport with the students and apprising them of the purpose of the questionnaires on different variables. For the academic performance of the students the class 12^{th} results were considered and hence investigator herself personally visited Punjab school education Board (Mohali) and collected gazette copy from the board to get the result of selected school students. The collected data had been tabulated and subjected to statistical analysis and interpretation as per the hypotheses.

Table 3.5 : List of Districts from Different Regions with their Population (As per Census, 2011)

Regions	Districts	Population	Remarks
MAJHA	**Amritsar**	24,90,891	**Highly Populated**
	Gurdaspur	22,99,026	
	Pathankot	14,89,370	
	Tarn-Taran	11,20,070	**Least Populated**
Doaba	**Jalandhar**	21,81,753	**Highly Populated**
	Hoshiarpur	15,82,793	
	Kapurthala	8,17,668	
	Nawanshahr	6,14,362	**Least Populated**

Regions	Districts	Population	Remarks
Malwa	**Ludhiana**	34,87,882	**Highly Populated**
	Ferozpur	20,26,831	
	Patiala	18,92,282	
	Sangrur	16,54,408	
	Bathinda	13,88,859	
	Moga	9,92,289	
	Mohali	9,86,147	
	Muktsar	9,02,702	
	Mansa	7,68,808	
	Faridkot	6,83,349	
	Rup Nagar	6,18,008	
	FatheGarh Sahib	5,99,814	
	Barnala	5,96,294	**Least Populated**

3.2 STATISTICAL TECHNIQUES

Following statistical techniques, i.e t-test, correlational, regression analysis, and mediation analysis was employed to conduct the analysis. The statistical techniques further explained in the following parts:

3.2.1 t-Test

a) t-Test was employed on the scores of parental attachment to find out the significant differences due to gender, locality, stream, and type of school.

b) t-Test was employed on the scores of academic performance to find out the significant differences due to gender, locality, stream, and type of school.

c) t-Test was employed on the scores of psychological risk to find out the significant differences due to gender, locality, stream, and type of school.

d) t-Test was employed on the scores of Engagement to find out the significant differences due to gender, locality, stream, and type of school.

e) t-Test was employed on the scores of Buoyancy to find out the significant differences due to gender, locality, stream, and type of school.

3.2.2 Correlational

a) Correlation was employed for bi-variate relationship between the scores of Parental attachment and academic performance;

b) Parental attachment and Psychological Risk;

c) Parental attachment and Engagement;

d) Parental attachment and Buoyancy;

e) Psychological Risk and Academic Performance;

f) Psychological Risk and Buoyancy;

g) Psychological Risk and Engagement;

h) Buoyancy and academic performance;

i) Buoyancy and engagement;

j) Engagement and academic performance.

3.2.3 Regression Analysis

Regression analysis was employed to predict the outcome variable academic performance of students due to parental attachment as a criterion variable.

3.2.4 Mediation Analysis

Baron and Kenny's (1986) method was used to see the mediation of the variables viz. Psychological Risk, Engagement, and Buoyancy.

3.3 VALIDATION AND DESCRIPTION OF TOOLS

The following tools have been validated and administered to conduct the present study

1) Parental Attachment Inventory extracted from inventory of Parent and Peer Attachment (IPPA) by Gulone (2005).

2) Psychological Risk statements extracted from motivation and engagement wheel(anxiety, uncertain control and fear of failure) by (Martin, 2011), Neuroticism and emotional instability statements extracted from NEO Five factor inventory by Paul and Coasta (2010) and Dr. Bhargav (2010).

3) Engagement:- Student engagement scale by Viega (2012)

4) Buoyancy - Academic buoyancy scale by Martin & Marsh (2008).

3.3.1 The Validation of Parental Attachment Scale

Operationalization of Parental Attachment Scale

The Inventory of parent and peer attachment (IPPA) has been measured with 28 items on three-point rating scale ranging from 3= "Always true", 2= "Sometimes True" and 1=" Never True" and reverse rating for negative items. Parental attachment is a multi-dimensional construct comprising trust, communication, and alienation as its sub-dimensions. Trust measures "the degree of mutual understanding and respect in the attachment relationship;" communication that assesses "the extent and quality of spoken communication;" and alienation that assesses "feelings of anger and interpersonal alienation". The following items were selected for the parental attachment scale:

Table 3.6: Items Selected for Parental Attachment

Item No	Statement	Factor Loading
1	"My parents respect my feelings."	0.67
2	"My parents are good parents."	0.68
*3	"I wish I had different parents."	0.65
4	"My parents accept me as I am."	0.74
*5	"I can't depend on my parents to help me solve a problem."	0.48
6	"I like to get my parents' view on things I am worried about."	0.64
*7	"It does not help to show my feelings when I am upset."	0.51
8	"My parents can tell when I am upset about something"	0.68
9	"I feel silly or ashamed when I talk about my problems with my parents"	0.41
10	"My parents expect too much from me"	0.39
*11	"I easily get upset at home"	.66
*12	"I get upset a lot more than my parents know about"	0.47
13	"When I talk about things with my parents they listen to what I think."	0.72
14	"My parents listen to my opinions."	0.79
*15	"My parents have their own problems, so I don't bother them with mine."	0.52
16	"My parents help me to understand myself better."	0.69
17	"I tell my parents about my problems and troubles."	0.21
*18	"I feel angry with my parents."	0.63
*19	"I don't get much attention at home."	0.51
20	"My parents support me to talk about my worries."	0.74
21	"My parents understand me."	0.75
*22	"I don't know who I can depend on."	0.41
23	"When I am angry about something, my parents try to understand."	0.64
24	"I trust my parents."	0.78
*25	"My parents don't understand my problems."	0.65
26	"I can count on my parents when I need to talk about a problem."	0.41
*27	"No one understands me."	0.63
28	"If my parents know that I am upset about something, they ask me about it."	0.64

*** Negative Statements**

3.3.1.1 Administration of Scale

A pilot study was conducted on senior secondary school students to collect their responses for parental attachment scale. Formal permission was taken from the school principal, and with the support of the school teachers, the scale was administered to the students during the class. Data was collected from 400 senior secondary school students of Punjab. After the collection of data, the technique used to check the internal consistency was Cronbach's alpha. The Cronbach's alpha value for the construct was found to be 0.86, and Composite reliability was found to be reliable with CR= 0.8, for ensuring the validation of parental attachment scale. Hence, it can be concluded that the parental attachment used in the present study indicated a high degree of convergence.

Table 3.7: Reliability Statistics of Parental Attachment Scale

Dimensions	Calculated value of Cronbach's Alpha	Original Scale Value of Cronbach's Alpha	Composite Reliability
Trust	0.73	0.78	0.89
Communication	0.66	0.82	0.79
Alienation	0.64	0.79	0.80
N of items(28)	0.86	0.84	0.86

Further, for analyses of the raw score of "Parental Attachment Scale" a separate norm has been developed using median which is presented in the below table

Table 3.8 : Norms for Interpretation of the Level of Parental Attachment based on Raw Scores

Range of raw scores	Level of Parental Attachment
69-84	High
0-68	Low

3.3.1.2 Results of Confirmatory Model of Parental Attachment Scale

Before applying factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett Test of Sphericity have been calculated. The KMO value should be 0.60 or more (Tabachnick and Fidell, 1996) for a good and effective factor structure. The KMO value is found to be 0.872 and the statistics of Bartlett test of Sphericity, $\chi 2$ (378, N=400) = 3143.749, p= 0.000, which is found to be significant. Hence, the value of KMO and Bartlett test in the present study fulfills the criteria to run further analysis.

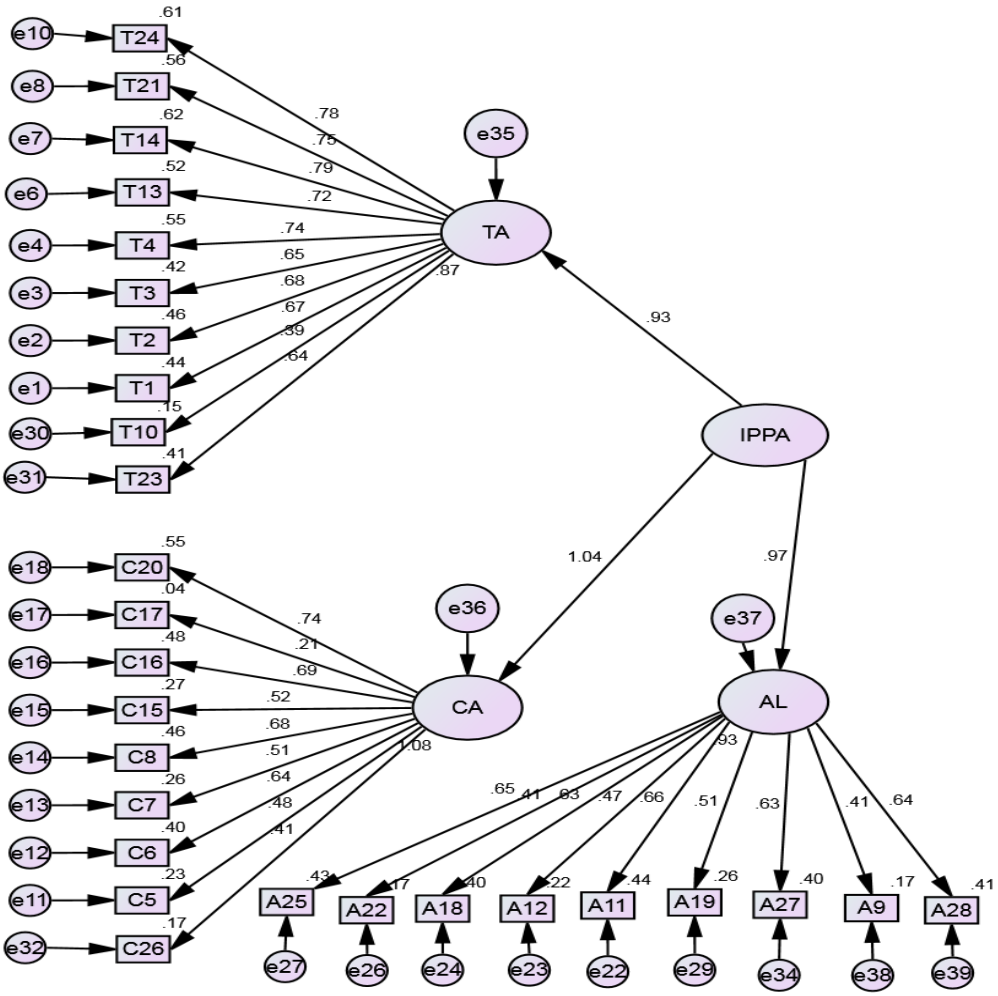

Fig 3.3 : Confirmatory Model of Parental Attachment Scale

Table 3.9 : Model Fit Indices for Parental Attachment Scale

Measure	p-value	CMIN/DF	RMR	RMSEA	GFI	IFI	TLI	CFI
Benchmark	**>0.05**	**<3**	**<0.08**	**<0.08**	**>0.93**	**>0.93**	**>0.93**	**>0.93**
Result	.000	2.94	.079	.063	0.92	0.90	0.89	0.90

The results of current analysis revealed that the hypothesized model of scale was found to provide an excellent fit to the data with Goodness-of fit-index, GFI =0.92,which isshowing good fit to the data. Along with it, statistics of Root Mean Square Error of Approximation (RMSEA) = 0.063 which is also acceptable and advocate good model fit(Browne and Cudeck, 1993). Further, statistics viz. Root Mean Square Residual (RMR) = 0.07, Bollen 89 Index, Incremental Fit Index (IFI) = 0.90, Comparative Fit Index (CFI) =0.90, Tucker- Lewis Index (TLI) = 0.89. Hence, all values are satisfying the threshold criteria and contributing in confirming the model fit.

3.3.2 Academic Performance

Class XII total scores have been considered for judging the academic performance of the students (PSEB, Mohali). Levels of the academic performance have been considered according to their grades in the annual examination which is given below:

Table 3.10: Levels of Academic Performance

Levels or Grades	Percentage
A+	90%& above
A	75-89.9%
B	60-74.9%
C	45-59.9%
D	33-44.9%

3.3.3 The Validation of Psychological Risk Scale

Operationalization of Psychological Risk Scale

Psychological risk factors are related to mental disorders which include thoughts, personality traits, attitudes, stress levels and emotions. Psychological risk scale has been measured with 34 items on five-point rating scale ranging from 1="Strongly Disagree", 2= "Disagree", 3= "Neither Agree nor Disagree", 4="Agree", and 5= "Strongly Agree", and reverse rating for negative items. The scale items were taken

from the Motivation and Engagement Scale (Martin, 2011) and Paul Costa, JR and Robert MacCare (2010).

The five dimensions for psychological risk are given below:

3.3.3.1 Dimensions of the Psychological Risk Scale

Dimensions of the psychological risk scale are given below:

- **Anxiety:** According to the American Psychological Association (APA) defined "Anxiety as an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure".

- **Failure Avoidance (Fear of failure):** It is also known as "atychiphobia," and it comes when we allow fear to stop us from doing things and individuals can go ahead to achieve goals. This happens when the primary reason students do their schoolwork is to avoid doing badly or to avoid being seen as doing badly.

- **Uncertain Control:** Control refers to "the extent to which learners believe that they can avoid failure and achieve success." Students who feel that they have little or no control over outcomes are increasingly uncertain as to whether they can avoid failure or bring achieve a great deal of success. Uncertain control assesses learners' uncertainty about how to do better or how to avoid doing poorly.

- **Neuroticism:** Neuroticism term has also been used with the word "negative affectivity" interchangeably (McCrae, 1990; Suls, 1999).Zobel (2004) defined, "*neuroticism* as a temperamental sensitivity to negative stimuli."

- **Emotional Instability:** In this, individuals are affected by feelings, emotionally less secure, easily irritated and upset with low frustration tolerance for unsatisfactory circumstances, highly anxious and worried, afraid, sensitive, touchy, given to mood swings, and sad when faced with stressful situations.

Table 3.11: Items selected to measure Anxiety, Failure Avoidance, and Uncertain Control

Dimensions	Item No	Statement	Sources and Total Items
Anxiety	1	"When exams and assignments are coming up, I worry a lot."	Andrew J. Martin (2011)
	2	"I worry about failing exams and assignments."	
	3	"When I do tests or exams, I don't feel very good."	
	4	"In terms of my schoolwork, I would call myself a worrier."	
Failure Avoidance	5	"Often, the main reason I work at school because I don't want people to think that I am dumb."	
	6	"Often the main reason I work at school is because I don't want people to think bad things about me."	
	7	"Often the main reason I work at school is because I don't want to disappoint my parents."	
	8	"Often the main reason I work at school is because I don't want my teacher to think less of me."	
Uncertain Control	9	"When I don't do so well at school I am often unsure how to avoid that happening again."	
	10	"When I get a good mark I am often not sure how I am going to get that mark again."	
	11	"When I get a bad mark I am often unsure how I am going to avoid getting that mark again."	
	12	"I am often unsure how I can avoid doing poorly at school."	

Dimensions	Item No	Statement	Sources and Total Items
Items Selected to Measure Neuroticism and Emotional Instability			
Neuroticism	13	"I am not a worrier."	Paul Costa, JR and Robert MacCare (2010) and Dr BharGav (2010)
	*14	"I often feel inferior to others."	
	15	"When I am under a great deal of stress, sometimes I feel like I am going to pieces."	
	*****16	"I rarely feel lonely or blue."	
	17	"I often feel tense and jittery."	
	18	"Sometimes I feel completely worthless."	
	*19	"I rarely feel fearful or anxious."	
	20	"I often get angry at the way people treat me."	
	21	"Too often, when things go wrong, I get discouraged and feel like giving up."	
	*22	"I am seldom sad or depressed."	
	23	"I often feel helpless and want someone else to solve my problems."	
	24	"At times I have been so ashamed I just wanted to hide."	
Emotional Instability	25	"My mood keeps fluctuating without any reason."	Dr BharGav (2010)
	26	"I quickly get angry and irritated."	
	27	"I take a lot of time to return to a balanced state of mind after being baffled and dejected."	
	28	"Owing to present conditions in the family I generally wish to run away somewhere."	
	29	"Every word pricks me quickly."	
	30	"On thinking that some calamity and grief may happen in future, I generally feel distressed."	

Dimensions	Item No	Statement	Sources and Total Items
	31	"Occasionally, I get so angry that I feel it appropriate not to say anything."	
	32	"I feel grieved over a disagreement with other persons."	
	33	"At times, good-looking things suddenly appear to me as bad."	
	34	"All of a sudden, I begin to feel panic."	

*** Negative Statements**

3.3.3.2 Administration of Psychological Risk Scale

A pilot study was conducted on senior secondary school students to collect their responses for scale. Formal permission was taken from the school principal, and with the support of school teachers, the scale was administered to the students during the class. Data was collected from 400 senior secondary school students of Punjab. After the collection of data, the technique used to check the internal consistency was Cronbach's alpha. The Cronbach's alpha value of construct was found to be 0.71, and Composite reliability was found to be reliable with CR= 0.87, for ensuring the validity of the psychological risk scale. Hence, it can be concluded that the psychological risk used in the present study indicates a high degree of convergence. Further, for analyses of the raw score of the "Psychological Risk Scale," a separate norm has been developed using quartiles (Q1 and Q3) which is presented in the below table:

Table 3.12: Norms for Interpretation of the Level of Psychological Risk based on Raw Scores

Range of raw scores	Level of Psychological Risk
109-170	High
66-108	Average
0-65	Low

3.3.3.3 Results of Kaiser-Meyer-Olkin (KMO)

KMO test was conducted to check the suitability of data and measure the adequacy of the sample for factor analysis. It measures the proportion of variance among variables and the lower proportion is considered more suitable for factor analysis. Kaiser (1974) has interpreted the values of KMO from 0.80 to 0.89 as meritorious. For this tool, the result obtained shows that, KMO is 0.802 indicating an acceptable value which shows the data is adequate.

3.3.3.4 Resuls of Bartlett's Test of Sphericity

Bartlett's Test of Sphericity (Bartlett, 1950) is also a measure of sampling adequacy used to examine the appropriateness of factor analysis and check the significance, validity, and suitability of the data. It tests the null hypothesis that the correlation matrix's variables are uncorrelated. So, for this tool, the statistic of Bartlett's Test of Sphericity is χ^2= 4001.946, $p < 0.000$, proving the value as significant.

3.3.3.5 Results of Exploratory Factor Analysis

Five factors contributing a total of 42.179% variance and producing loadings between 0.387-0.775 were extracted by computing principal component analysis and varimax rotation and scree plot in exploratory factor analysis. The results are presented in the figure and table. The first factor was named 'anxiety,' which consisted of four items. The second factor was named 'fear of failure,' which consisted of four items. The third factor was named 'uncertain control,' which consisted of four items. The fourth factor was named 'neuroticism,' which consisted of 12 items. The fifth factor was named 'emotional instability,' which consisted of 10 items.

3.3.3.6 Scree Plot Diagram

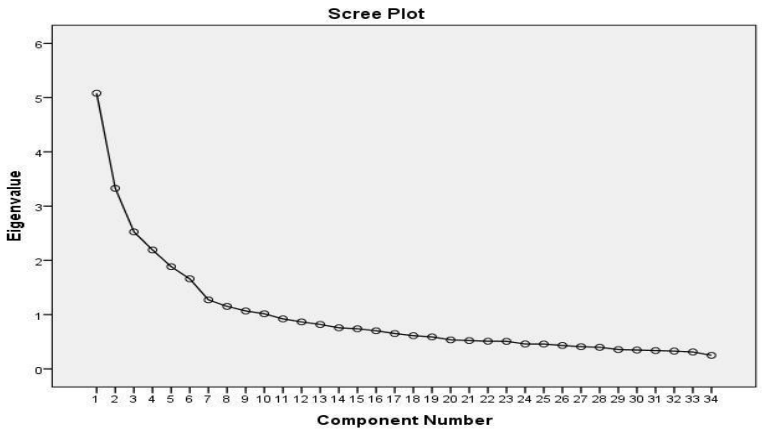

Table 3.13 : Factor structure of Psychological Risk Scale

S.No	Subscale 1: Academic Anxiety (factor of % variance= 13.208)	Factor loading
1	"When exams and assignments are coming up, I worry a lot."	0.48
2	"I worry about failing exams and assignments."	0.61
3	"When I do tests or exams I don't feel very good."	0.60
4	"In terms of my schoolwork, I would call myself a worrier."	0.60
	Subscale 2: Fear of Failure (factor of % variance= 16.515)	
5	"Often the main reason I work at school is because I don't want people to think that I am dumb."	0.64
6	"Often the main reason I work at school is because I don't want people to think bad things about me."	0.65
7	"Often the main reason I work at school is because I don't want to disappoint my parents."	0.61
8	"Often the main reason I work at school is because I don't want my teacher to think less of me."	0.69
	Subscale 3: uncertain control(factor of % variance= 16.402)	
9	"When I don't do so well at school I am often unsure how to avoid that happening again."	0.54
10	"When I get a good mark I am often not sure how I am going to get that mark again."	0.42
11	"When I get a bad mark I am often unsure how I am going to avoid getting that mark again."	0.52
12	"I am often unsure how I can avoid doing poorly at school."	0.70
	Subscale 4: Neuroticism(factor of % variance= 11.940)	
13	"I am not a worrier."	0.77
14	"I often feel inferior to others."	0.59
15	"When I am under a great deal of stress, sometimes I feel like I am going to pieces."	0.54
16	"I rarely feel lonely or blue."	0.46
17	"I often feel tense and jittery."	0.45
18	"Sometimes I feel completely worthless."	0.59
19	"I rarely feel fearful or anxious."	0.38

20	"I often get angry at the way people treat me."	0.49
21	"Too often, when things go wrong, I get discouraged and feel like giving up."	0.59
22	"I am seldom sad or depresses."	0.45
23	"I often feel helpless and want someone else to solve my problems."	0.46
24	"At times I have been so ashamed I just wanted to hide."	0.45
	Subscale 5: Emotional Instability(factor of % variance= 17.515)	
25	"My mood keeps fluctuating without any reason."	0.60
26	"I quickly get angry and irritated."	0.55
27	"I take a lot of time to return to a balanced state of mind after being baffled and dejected."	0.60
28	"Owing to present conditions in the family I generally wish to run away somewhere."	0.41
29	"Every word pricks me quickly."	0.56
30	"On thinking that some calamity and grief may happen in future, I generally feel distressed."	0.66
31	"Occasionally, I get so angry that I feel it appropriate not to say anything."	0.65
32	"I feel grieved over a disagreement with other persons."	0.60
33	"At times, good-looking things suddenly appear to me as bad."	0.54
34	"All of a sudden, I begin to feel panic."	0.66

3.3.3.7 Reliability

To determine the "internal consistency" of the whole scale and each subscale, coefficient Alpha (Cronbach, 1951) was calculated with a sample size of 400 by using IBM SPSS. Results indicated that the coefficient alpha of the whole scale was 0.71, which was considered an acceptable score. Moreover, internal consistencies for each dimension were as follows:

Table 3.14 : Reliability of Psychological Risk

S.No	Dimensions	Cronbach's Alpha
1	Anxiety	.78
2	Fear of Failure	.70
3	Uncertain Control	.71
4	Neuroticism	.76
5	Emotional Instability	.82
	Overall	0.71

3.3.3.8 SCORING PROCEDURE

Psychological Risk scale is a 5 point Likert type scale. Each item has 5 response options namely: "Strongly disagree", "Disagree", "Neither agree nor disagree", "Agree", and "Strongly Agree". For obtaining the value of score for each item, each response of the item has an assigned number. Scoring of positive items was done by giving 5, 4,3,2,1, and reverse order was followed for negative items.

Table 3.15: Rating on Psychological Risk Scale

Statements					
No. of Items	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
	1	2	3	4	5

3.3.4 The Validation of Engagement Scale

Engagement scale has been measured with 20 items on a 6 point rating scale ranging from 1= "Total disagreement," 2= "Disagreement," 3= "More disagreement than agreement," 4= "More agreement than disagreement," 5="Agreement," and 6= "Total Agreement" and the reverse rating was followed for negative statements. Five dimensions were used (Cognitive, affective, behavioral, and agency). Each dimension has five indicators. The below table presents the items of the engagement scale:

Table 3.16: Present the Items of Engagement Scale.

Item No	Statement	Factor Loading
1	"When writing my work, I begin by making a plan for drafting the text."	0.76
2	"I try to connect what I learn in one discipline with what I learn in others."	0.69
3	"I spend a lot of my free time looking for more information on topics discussed in class."	0.72
4	"When I am reading, I try to understand the meaning of what the author wants to transmit."	0.59
5	"I review my notes regularly, even if a test is not coming up."	0.51
*6	"My school is a place where I feel excluded."	0.39
7	"My school is a place where I make friends easily."	0.57
8	"My school is a place where I feel integrated."	0.76
9	"My school is a place where it seems to me that others like me."	0.66
*10	"My school is place where I feel alone."	0.47
*11	"I am absent from school without a valid reason."	0.67
*12	"I am absent from classes while in school."	0.41
*13	"I deliberately disturb classes."	0.71
*14	"I am rude toward teachers."	0.72
*15	"I am distracted in the classroom."	0.39
16	"During classes, I put questions to the teachers."	0.33
17	"I talk to my teachers about my likes and dislikes."	0.59
18	"I comment with my teachers when something interests me."	0.57
19	"During lessons, I intervene to express my opinions."	0.55

Item No	Statement	Factor Loading
20	"I make suggestions to teachers about how to improve classes."	0.52

***Negative statements**

3.3.4.1 Administration of Engagement Scale

A pilot study was conducted on senior secondary school students to collect their responses for scale. Formal permission was taken from the school principal, and with the support of the school teachers, the scale was administered to the students during the class. Data was collected from 400 senior secondary school students of Punjab. After the collection of data, the technique used to check the internal consistency was Cronbach's alpha. The Cronbach's alpha value of construct was found to be 0.77, and Composite reliability was found to be reliable with CR= 0.87, for ensuring the validation of the engagement scale. Hence, it can be concluded that the engagement used in the present study indicated a high degree of convergence.

Table 3.17: Reliability of Engagement Scale

Dimensions	Calculated value of Cronbach's Alpha	Original Scale Value of Cronbach's Alpha	Composite Reliability
Cognitive	0.80	0.60	0.79
Affective	0.74	0.60	0.71
Behavioral	0.72	0.72	0.72
Agency	0.74	0.58	0.64
Overall (20 items)	0.77	0.79	0.87

Further, for analyses of the raw score of "Engagement Scale" a separate norm has been developed using quartiles (Q1 and Q3) which is presented in the below table

Table: 3.18 : Norms for Interpretation of the Level of Engagement based on Raw Scores

Range of raw scores	Level of Engagement
93-120	High
63-92	Average
0-62	Low

3.3.4.2 Results of Confirmatory Model of Engagement Scale

Before applying factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett Test of Sphericity have been calculated. The KMO value should be 0.60 or more (Tabachnick and Fidell, 1996) for a good and effective factor structure. The KMO value is found to be 0.787, and the statistics of Bartlett test of Sphericity, $\chi 2$ (378, N=400) = 2195.347, p= 0.000, which is found to be significant. Hence, the value of KMO and Bartlett test in the present study fulfills the criteria to run further analysis.

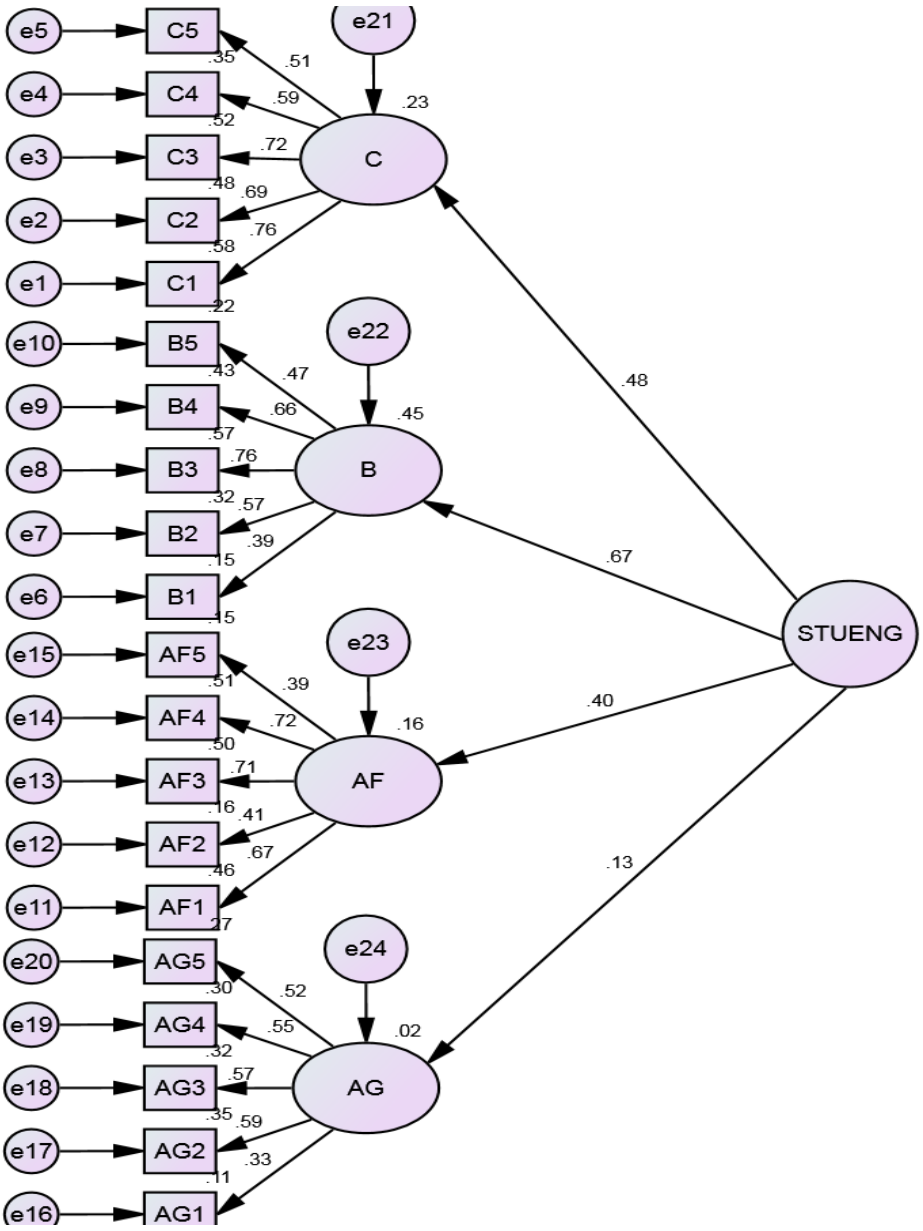

Figure3.4 : Confirmatory Model of Engagement Scale

Table 3.19: Model Fit Indices for Engagement Scale

Measure	p-value	CMIN/DF	RMR	RMSEA	GFI	IFI	TLI	CFI
Benchmark	**>0.05**	**<3**	**<0.08**	**<0.08**	**>0.93**	**>0.93**	**>0.93**	**>0.93**
Result	.000	2.194	.05	.055	0.91	0.90	0.89	0.90

The results of the current analysis revealed that the hypothesized model of the scale was found to provide an excellent fit to the data with Goodness-of fit-index, GFI =0.91,which is showing good fit to the data. Along with it, statistics of Root Mean

Square Error of Approximation (RMSEA) = 0.055 which is also acceptable and advocates good model fit (Browne and Cudeck, 1993). Further, statistics viz. Root Mean Square Residual (RMR) = 0.05, Bollen 89 Index, Incremental Fit Index (IFI) = 0.90, Comparative Fit Index (CFI)=0.90, Tucker- Lewis Index (TLI) = 0.89. Hence, all values are satisfying the threshold criteria and contributing in confirming the model fit.

3.3.5 Validation of Buoyancy Scale

Academic buoyancy is a simple uni-dimensional Scale (Martin & Marsh, 2008a).It has been measured using four items on a 7 point Likert-scale of 1 (strongly disagree) to 7 (strongly agree). The Academic Buoyancy Scale was adapted from (ABS; Martin & Marsh, 2008a, 2008b).

Table 3.20: Items selected to measure Academic Buoyancy (ACB) Scale

Item No	Statement	Sources and Total items
1	"I am good at dealing with setbacks at school e.g. Bad mark, negative feedback on my work."	Martin & Marsh, 2008a, 2008b
2	"I don't let study stress get on top of me."	
3	"I think I am good at dealing with schoolwork pressures."	
4	"I don't let a bad mark affect my confidence."	
	Total Items	**04**

3.3.5.1Administration of Academic Buoyancy Scale

A pilot study was conducted on senior secondary school students to collect their responses for 'Academic Buoyancy Scale' (ABC). Formal permission was taken from the school principal, and with the support of the school teachers, the scale was administered to the students during the class. Data was collected from 400 senior secondary school students of Punjab.

3.3.5.2 Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. The Cronbach's alpha value of the Academic buoyancy construct was found to be 0.80, which was acceptable. Composite reliability (CR) = 0.823, ensuring the

validation of the Academic Buoyancy scale. Hence, it can be concluded that the Academic Buoyancy (AB) used in the present study indicated a high degree of convergence.

Table 3.21 : Reliability of Academic Buoyancy

Cronbach's Alpha	N of items	Composite Reliability
0.80	04	.823

Further, for analyses of the raw score of "Buoyancy Scale" a separate norm has been developed using quartiles (Q1 and Q3) which is presented in the below table

Table 3.22 : Norms for Interpretation of the Level of Buoyancy based on Raw Scores

Range of raw scores	Level of Buoyancy
17 & above	High
9-16	Average
0-8	Low

3.3.5.3 Results of Confirmatory Model of Academic Buoyancy Scale

Academic buoyancy is a simple uni-dimensional construct. The Academic Buoyancy Scale was adapted from (ABS; Martin & Marsh, 2008a, 2008b). Academic buoyancy was measured with four items as shown in the figure presented below.

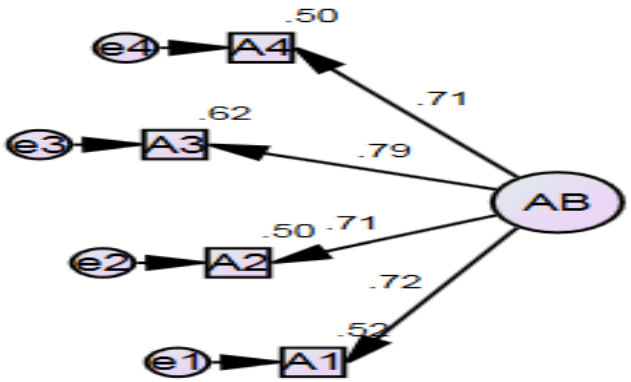

Figure 3.5 : Confirmatory Model of Academic Buoyancy Scale

Table 3.23: Model Fit Indices for Academic Buoyancy Scale

Measure	p-value	CMIN/DF	RMR	RMSEA	GFI	IFI	TLI	CFI
Benchmark	**>0.05**	**<3**	**<0.08**	**<0.08**	**>0.93**	**>0.93**	**>0.93**	**>0.93**
Result	0.088	2.434	0.032	0.060	0.994	0.995	0.984	0.995

The current analysis results revealed that the hypothesized model of academic buoyancy scale was found to provide an excellent fit to the data with Goodness-of fit-index, GFI =0.994, which is showing a good fit to the data. Statistics of Root Mean Square Error of Approximation (RMSEA) = 0.060, which is also acceptable and advocates good model fit (Browne and Cudeck, 1993). Further, statistics viz. Root Mean Square Residual (RMR) = 0.032, Bollen 89 Index, Incremental Fit Index (IFI) = 0.934, Comparative Fit Index (CFI) =0.995, Tucker- Lewis Index (TLI) = 0.984. Hence, all values are satisfying the threshold criteria and contributing to confirming the model fit.

Chapter– 4

RESULTS AND INTERPRETATION

In the preceding chapter, theoretical orientation of the problem, review of related literature, the significance of the study, objectives, hypotheses, tools, sample, research design, procedure, and statistical technique was discussed. The present chapter deals with the analyses and interpretation of results. The study investigates the parental attachment, academic performance, psychological risk, engagement, and buoyancy of senior secondary school students in Punjab. To accomplish the goal, self-made and standardized tools were adapted in Indian situations and administered to collect the data.

4.1 DATA SCREENING

The primary purpose of data screening is to identify and remove the errors and minimize their effect on obtained results. Prior to analysis, all the entries were rigorously analysed for missing values and outliers. Incomplete forms were excluded from the dataset while entering the data. After the removal of incomplete forms, the actual number of forms considered for analysis of data was 1446.

4.2 NORMALITY AND DESCRIPTIVE ANALYSIS OF PARENTAL ATTACHMENT, ACADEMIC PERFORMANCE, PSYCHOLOGICAL RISK, ENGAGEMENT AND BUOYANCY AMONG SENIOR SECONDARY SCHOOL STUDENTS.

Descriptive statistics enable the researcher to understand the basic features of the data which further helps to analyse summarize and interpret data in a significant manner. The present study implied univariate as well as multivariate analysis techniques. In the present chapter descriptive statistics tables provides summaries about the responses of the sample on the construct used in the study. The descriptive tables include mean, median, Std.Deviation, Skewness and kurtosis are provided for all five variables i.e parental attachment, academic performance, psychological risk, engagement and buoyancy on the basis of gender, stream, locality, and type of school used in the present study. The below tables provide a variable-wise description.

Table 4.1: Summary of Descriptive Analysis of Parental Attachment, Academic Performance, Psychological Risks, Engagement, and Buoyancy on the Bases of Gender.

PARENTAL ATTACHMENT, ACADEMIC PERFORMANCE, PSYCHOLOGICAL RISKS, ENGAGEMENT, AND BUOYANCY(*GENDER)									
Variables	Gender	N	Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Parental Attachment	Male	706	67.40	68.00	7.61	-0.27	0.09	-0.28	0.18
	Female	740	68.11	68.00	6.94	-0.27	0.09	0.00	0.17
	Total	1446	67.76	68.00	7.28	-0.38	0.06	-0.11	0.12
Academic Performance	Male	706	68.10	67.56	9.58	0.15	0.09	-0.16	0.18
	Female	740	71.17	71.56	9.45	-0.17	0.09	-0.30	0.17
	Total	1446	69.67	69.78	9.63	-0.01	0.06	-0.32	0.12
Psychological Risk	Male	706	84.18	84.00	18.94	0.28	0.09	-0.58	0.18
	Female	740	89.92	91.00	22.84	0.03	0.09	-1.05	0.17
	Total	1446	87.12	87.00	21.22	0.19	0.06	-0.55	0.12
Engagement	Male	706	76.85	78.00	14.84	-0.12	0.09	-0.36	0.18
	Female	740	78.41	78.00	14.61	0.05	0.09	-0.41	0.17
	Total	1446	77.65	78.00	14.74	-0.03	0.06	-0.37	0.12
Buoyancy	Male	706	12.89	13.00	3.96	-0.26	0.09	-0.26	0.18
	Female	740	12.19	12.00	4.23	0.03	0.09	-0.60	0.17
	Total	1446	12.53	13.00	4.11	-0.14	0.06	-0.54	0.12

The descriptive statistics of the variables in the present analysis are shown in Table 4.1. The parental attachment variable was measured on a three-point scale, whereas academic performance was measured according to students' score performance in their annual examination (PSEB). Moreover, the psychological risk and buoyancy scale has measured on a five-point Likert scale. To check the normal distribution of scores, we considered the value of skewness and kurtosis.

For the independent construct parental attachment, the mean score of male students is 67.40 with a median of 68.00; the standard deviation is 7.61, the skewness is - 0.27, and kurtosis is -0.28. The mean score of female students is 68.11 with a median of 68.00; the standard deviation is 6.94, the skewness is -0.27, and kurtosis is 0.17. In

total, the mean score of parental attachment based on gender is 67.76 with a median of 68.00, the standard deviation of 7.28, the skewness is -0.38, and kurtosis is -0.11, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In the academic performance, the mean score of male students is 68.10 with a median of 67.56; the standard deviation is 9.58, the skewness is 0.15, and kurtosis is -1.19. The mean score of female students is 71.17 with a median of 71.56; the standard deviation is 9.45, the skewness is -0.17, and kurtosis is 0.30. In total, the mean score of academic performance based on gender is 69.67 with a median of 69.78; the standard deviation 9.63, the skewness is -0.01, and kurtosis is -0.32, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In the psychological risk, the mean score of male students is 84.18 with a median of 84.00; the standard deviation is 18.94, the skewness is 0.28, and kurtosis is -0.58. The mean score of female students is 89.92 with a median of 91.00; the standard deviation is 22.84; the skewness is 0.03, and kurtosis is -1.05. In total, the mean score of psychological risk based on gender is 87.12 with a median of 87.00; the standard deviation is 21.22, the skewness is 0.19, and kurtosis is -0.55, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In the engagement, the mean score of male students is 76.85 with a median of 78.00; the standard deviation is 14.84, the skewness is -0.12, and kurtosis is -0.38. The mean score of female students is 78.41 with a median of 78.00; the standard deviation is 14.61, the skewness is 0.05, and the kurtosis is -0.41. In total, the mean score of engagement based on gender is 77.65 with a median of 78.00; the standard deviation is 14.74, the skewness is -0.03, and kurtosis is -0.37, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In buoyancy, the mean score of male students is 12.89 with a median of 13.00; the standard deviation is 3.96, the skewness is 0.26, and the kurtosis is -0.26. The mean score of female students is 12.19 with a median of 12.00; the standard deviation is 4.23, the skewness is 0.03, and the kurtosis is -0.60. In total, the mean score of

buoyancy based on gender is 12.53 with a median of 13.00; the standard deviation 4.11, the skewness is -0.11, and kurtosis is -0.54, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. George and Mallery (2010), stated that the value of skewness and kurtosis if ranged from -2 to +2, are considered acceptable to prove the distribution of data normal. Whereas Hair et al. (2010) and Bryne (2010) argued and considered it normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Therefore, the values of skewness and kurtosis in descriptive tables for different construct based on gender were within the acceptable limits indicating that the data was fit for further analysis. The below figure shows the graphical representation of variables based on gender.

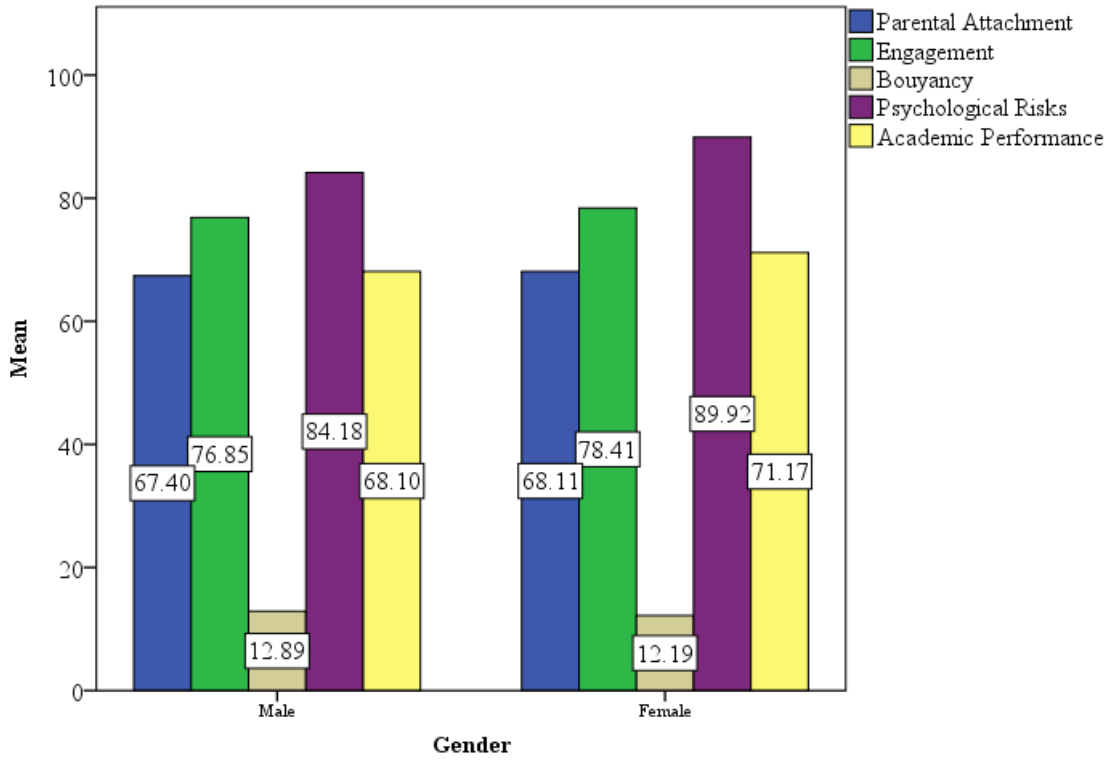

Figure 4.1: Graphical Representation of Variables on the basis of Gender

Table 4.2: Descriptive Analysis of Parental Attachment, Academic Performance, Psychological Risks, Engagement, and Buoyancy on the basis of Stream

PARENTAL ATTACHMENT, ACADEMIC PERFORMANCE, PSYCHOLOGICAL RISKS, ENGAGEMENT, AND BUOYANCY (*STREAM)									
Variable	Stream	N	Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Parental Attachment	Arts	750	67.79	68.00	7.38	-.10	.089	-.013	.178
	Science	696	67.73	68.00	7.19	-.35	.093	-.24	.185
	Total	1446	67.76	68.00	7.28	-.38	.064	-.11	.129
Academic Performance	Arts	750	69.38	69.11	9.28	-.05	.089	-.49	.178
	Science	696	69.98	70.00	9.99	.00	.093	-.21	.185
	Total	1446	69.67	69.78	9.63	-.01	.064	-.32	.129
Psychological Risk	Arts	750	87.02	87.00	20.90	.20	.089	-.60	.178
	Science	696	87.22	87.00	21.57	.18	.093	-.55	.185
	Total	1446	87.12	87.00	21.22	.19	.064	-.55	.129
Engagement	Arts	750	76.65	78.00	15.29	-.13	.089	-.36	.178
	Science	696	78.73	78.00	14.05	.13	.093	-.53	.185
	Total	1446	77.65	78.00	14.74	-.03	.064	-.37	.129
Buoyancy	Arts	750	12.46	13.00	4.05	-.06	.089	-.54	.178
	Science	696	12.61	13.00	4.18	-.16	.093	-.54	.185
	Total	1446	12.53	13.00	4.11	-.11	.064	-.54	.129

The descriptive statistics of the variables in the present analysis are shown in Table 4.2. The parental attachment variable was measured on a three-point scale, whereas academic performance was measured according to students' score performance in their annual examination (PSEB). Moreover, the psychological risk and buoyancy scale has measured on a five-point Likert scale. To check the normal distribution of scores, we considered the value of skewness and kurtosis.

For the independent construct parental attachment, the mean score of art students is 67.79 with a median of 68.00; the standard deviation is 7.38, the skewness is - 0.10, and kurtosis is -0.13. The mean score of science students is 68.73 with a median of 68.00; the standard deviation is 7.18, the skewness is -0.35, and kurtosis is -0.24. In total, the mean score of parental attachment based on stream is 67.76 with a median of

68.00; the standard deviation is 7.28, the skewness is -0.38, and kurtosis is -0.11, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In addition, in the academic performance, the mean score of art students is 69.38 with a median of 69.11; the standard deviation is 9.28, the skewness is - 0.05, and kurtosis is -0.49. The mean score of science students is 69.98 with a median of 70.00; the standard deviation is 9.99, the skewness is -0.035, and kurtosis is -0.21. In total, the mean score of academic performance based on stream is 69.67 with a median of 69.78; the standard deviation 9.63, the skewness is -0.01, and kurtosis is -0.32, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

Moreover, in the psychological risk, the mean score of art students is 87.02 with a median is 87.00, the standard deviation is 20.90, the skewness is - 0.20, and kurtosis is -0.60. The mean score of science students is 87.22 with a median of 87.00; the standard deviation is 21.57, the skewness is -0.19, and kurtosis is -0.55. In total, the mean score of psychological risk based on stream is 87.12 with a median of 87.00; the standard deviation 21.22, the skewness -0.19, kurtosis is -0.55, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

Furthermore, in the engagement, the mean score of art students is 76.65 with a median is 78.00; the standard deviation is 15.29, the skewness is - 0.13, and kurtosis is -0.36. The mean score of science students is 78.73 with a median of 78.00; the standard deviation is 14.05; the skewness is -0.13, and kurtosis is -0.53. In total, the mean score of engagement based on stream is 77.65 with a median of 78.00; the standard deviation 14.74, the skewness is -0.03, and kurtosis is -0.37, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In addition, in buoyancy, the mean score of art students is 12.46 with a median is 13.00; the standard deviation is 4.05, the skewness is - 0.06, and kurtosis is -0.54. The mean score of science students is 12.61 with a median of 13.00; the standard deviation is 4.18, the skewness is -0.16, and kurtosis is -0.54. In total, the mean score of buoyancy based on stream is 12.53 with a median of 13.00; the standard deviation

4.11, the skewness -0.11, kurtosis is -0.54, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. George and Mallery (2010) stated that the value of skewness and kurtosis, if ranged from -2 to +2, are considered acceptable to prove the distribution of data normal. Whereas Hair et al. (2010) and Bryne (2010) argued and considered it normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Therefore, the values of skewness and kurtosis in descriptive tables for different construct based on stream were within the acceptable limits indicating that the data was fit for further analysis. Below, the figure 4.2 shows the graphical representation of variables based on the stream.

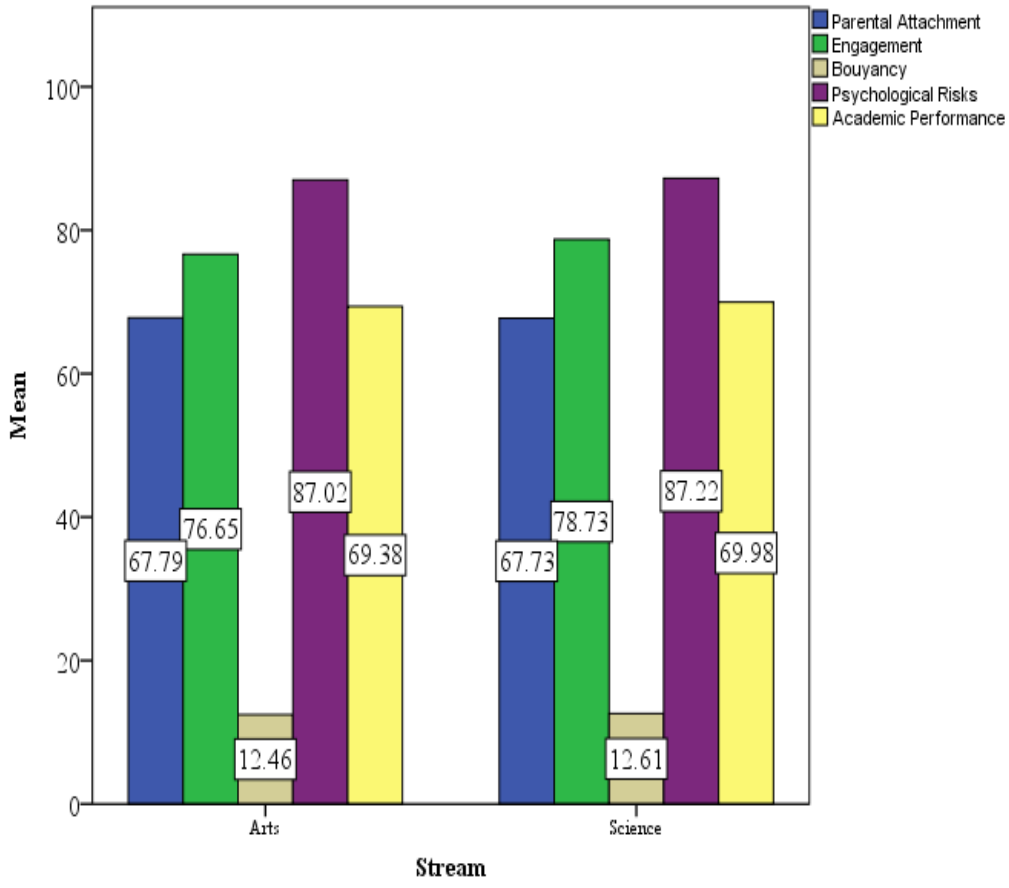

Figure 4.2: Graphical Representation of Variables on the basis of Stream

Table 4.3: Descriptive Analysis of Parental Attachment, Academic Performance, Psychological Risks, Engagement, and Buoyancy on the basis of Locality

PARENTAL ATTACHMENT, ACADEMIC PERFORMANCE, PSYCHOLOGICAL RISKS, ENGAGEMENT, AND BUOYANCY (*LOCALITY)									
Variables	Locality	N	Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Parental Attachment	Urban	494	68.38	68.50	7.27	-.32	.110	.048	.219
	Rural	952	67.44	68.00	7.27	-.19	.079	-.21	.158
	Total	1446	67.76	68.00	7.28	-.38	.064	-.11	.129
Academic Performance	Urban	494	70.84	70.67	9.10	.03	.110	-.12	.219
	Rural	952	69.06	68.44	9.84	-.01	.079	-.43	.158
	Total	1446	69.67	69.78	9.63	-.01	.064	-.32	.129
Psychological Risk	Urban	494	85.07	87.00	19.38	.01	.110	-.60	.219
	Rural	952	88.18	87.00	21.22	.22	.079	-.55	.158
	Total	1446	87.12	87.00	21.22	.19	.064	-.55	.129
Engagement	Urban	494	78.98	79.00	14.89	-.09	.110	-.35	.219
	Rural	952	76.96	77.00	14.62	-.01	.079	-.36	.158
	Total	1446	77.65	78.00	14.74	-.03	.064	-.37	.129
Buoyancy	Urban	494	13.00	13.00	4.02	-.14	.110	-.50	.219
	Rural	952	12.29	12.00	4.14	-.08	.079	-.56	.158
	Total	1446	12.53	13.00	4.11	-.11	.064	-.54	.129

The descriptive statistics of the variables in the present analysis are shown in Table 4.3. The parental attachment variable was measured on a three-point scale, whereas academic performance was measured according to students' score performance in their annual examination (PSEB). Moreover, the psychological risk and buoyancy scale has measured on a five-point Likert scale. To check the normal distribution of scores, we considered the value of skewness and kurtosis. For the independent construct parental attachment, the mean score of urban students is 68.38 with a median of 68.50; the standard deviation is 7.27, the skewness is - 0.32, and kurtosis is -0.48. The mean score of rural students is 67.44 with a median of 68.00; the standard deviation is 7.27, the skewness is -0.19, and kurtosis is -0.21.

In total, the mean score of parental attachment based on locality is 67.76 with a median of 68.00; the standard deviation 7.28, the skewness -0.38, kurtosis is -0.11, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. In addition, in the academic performance, the mean score of urban students is 70.67 with a median of 70.67; the standard deviation is 9.10, the skewness is - 0.32, and kurtosis is -0.12. The mean score of rural students is 69.06 with a median of 68.44; the standard deviation is 9.84; the skewness is -0.19, and kurtosis is -0.43.

In total, the mean score of academic performance based on locality is 69.67 with a median of 69.78; the standard deviation 9.63, the skewness -0.1, kurtosis is -0.32, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. Moreover, in the psychological risk, the mean score of urban students is 85.07 with a median of 87.00; the standard deviation is 19.38, the skewness is - 0.01, kurtosis is -0.60. The mean score of rural students is 88.18 with a median of 87.00; the standard deviation is 21.22, the skewness is -0.22, and kurtosis is -0.55.

In total, the mean score of psychological risk based on locality is 87.12 with a median of 87.00; the standard deviation 21.22, the skewness -0.19, kurtosis is -0.55, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. Furthermore, in the engagement, the mean score of urban students is 78.98 with a median of 79.00; the standard deviation is 14.89, the skewness is - 0.09, and kurtosis is -0.11. The mean score of rural students is 76.96 with a median of 77.00; the standard deviation is 14.62; the skewness is -0.12, kurtosis is -0.36. In total, the mean score of engagement based on locality is 77.65 with a median of 78.00; the standard deviation 14.74, the skewness -0.03, kurtosis is -0.37, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group.

In addition to it, in buoyancy, the mean score of urban students is 13.00 with a median of 13.00; the standard deviation is 4.02, the skewness is - 0.14, kurtosis is -0.50. The mean score of rural students is 12.29 with a median of 12.00; the standard deviation is 4.14, the skewness is -0.08, and the kurtosis is -0.56.

In total, the mean score of buoyancy based on locality is 12.53 with a median of 13.00; the standard deviation of 4.11, the skewness -0.11 and kurtosis is -0.54, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. George and Mallery (2010), stated that the value of skewness and kurtosis, if ranged from -2 to +2, are considered acceptable to prove the distribution of data normal. Whereas Hair et al. (2010) and Bryne (2010) argued and considered it normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Therefore, the values of skewness and kurtosis in descriptive tables for different construct based on locality were within the acceptable limits indicating that the data was fit for further analysis. Below the figure 4.3 shows the graphical representation of variables based on the type of school.

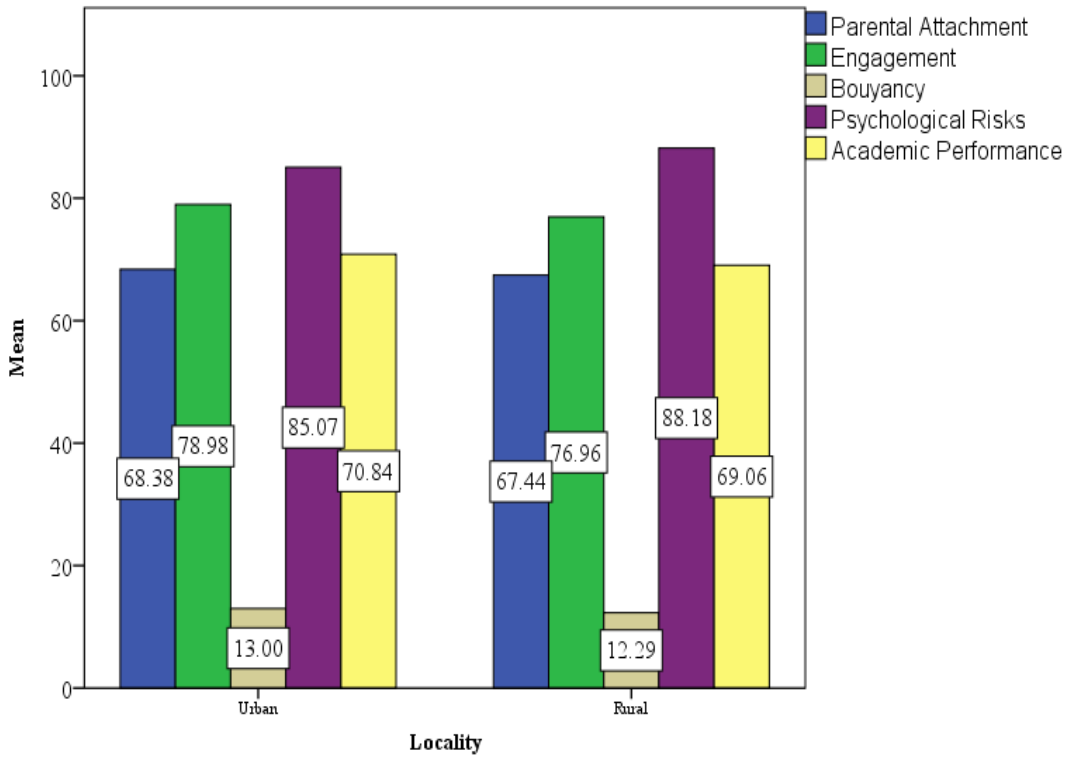

Figure 4.3: Graphical Representation of Variables on the Bases of Locality

Table 4.4: Descriptive Analysis of Parental Attachment, Academic Performance, Psychological Risks, Engagement, and Buoyancy on the basis of Type of School

PARENTAL ATTACHMENT, ACADEMIC PERFORMANCE, PSYCHOLOGICAL RISKS, ENGAGEMENT, AND BUOYANCY (*TYPE OF SCHOOL)									
Variables	Type of School	N	Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Parental Attachment	Govt.	737	67.35	68.00	7.18	-.23	.090	-.16	.180
	Private	709	68.19	69.00	7.37	-.28	.092	-.05	.183
	Total	1446	67.76	68.00	7.28	-.23	.064	-.11	.129
Academic Performance	Govt.	737	69.10	69.00	9.64	.015	.090	-.34	.180
	Private	709	70.26	70.00	9.59	-.048	.092	-.28	.183
	Total	1446	69.67	69.78	9.63	-.016	.064	-.32	.129
Psychological Risk	Govt.	737	89.05	89.00	20.18	.115	.090	-.60	.180
	Private	709	85.11	84.00	21.46	.291	.092	-.55	.183
	Total	1446	87.12	87.00	21.22	.194	.064	-.54	.129
Engagement	Govt.	737	76.22	76.00	14.23	.071	.090	-.28	.180
	Private	709	79.14	79.00	15.12	-.167	.092	-.37	.183
	Total	1446	77.65	78.00	14.74	-.038	.064	-.37	.129
Buoyancy	Govt.	737	12.23	12.00	4.12	-.066	.090	-.51	.180
	Private	709	12.85	13.00	4.09	-.164	.092	-.56	.183
	Total	1446	12.53	13.00	4.11	-.114	.064	-.54	.129

The descriptive statistics of the variables in the present analysis are shown in Table 4.4. The parental attachment variable was measured on a five-point scale, whereas academic performance was measured according to students' score performance in their annual examination (PSEB). Moreover, the psychological risk and buoyancy scale has measured on a five-point Likert scale. To check the normal distribution of scores, we considered the value of skewness and kurtosis. For the independent construct parental attachment, the mean score of government school students is 67.35 with a median of 68.00; the standard deviation is 7.18, the skewness is - 0.23, kurtosis is -0.16. The mean score of private school students is 68.19 with a median of 68.00; the standard deviation is 7.27, the skewness is -0.28, and the kurtosis is -0.053.

In total, the mean score of parental attachment based on the type of school is 67.76 with a median of 68.00; the standard deviation 7.28, the skewness -0.23, kurtosis is -0.11, and both the values are within the acceptable range. So, the score in the group is normally distributed in the group. In addition, in the academic performance, the mean score of government school students is 69.10 with a median of 69.00; the standard deviation is 9.64, the skewness is - 0.15, kurtosis is -0.34. The mean score of private school students is 70.26 with a median of 70.00; the standard deviation is 9.59; the skewness is -0.48, kurtosis is -0.28.

In total, the mean score of academic performance based on the type of school is 69.67 with a median of 69.78; the standard deviation 9.63, the skewness -0.16, kurtosis is -0.32, and both the values are within the acceptable range. Moreover, in the psychological risk, the mean score of government school students is 89.05 with a median of 89.00; the standard deviation is 20.18, the skewness is - 0.11, kurtosis is -0.60. The mean score of private school students is 85.11 with a median of 84.00; the standard deviation is 21.46, the skewness is -0.29, kurtosis is -0.55. In total, the mean score of psychological risk based on the type of school is 87.12 with a median of 87.00; the standard deviation 21.22, the skewness -0.19, kurtosis is -0.54, and both the values are within the acceptable range. Furthermore, in the engagement, the mean score of government school students is 76.22 with a median of 76.00; the standard deviation is 14.23, the skewness is - 0.07, kurtosis is -0.28. The mean score of private school students is 79.14 with a median of 79.00; the standard deviation is 15.12, the skewness is -0.16, kurtosis is -0.37. In total, the mean score of engagement based on the type of school is 77.65 with a median of 78.00; the standard deviation 14.74, the skewness -0.03, kurtosis is -0.37, and both the values are within the acceptable range.

In addition, in buoyancy, the mean score of government school students is 12.23 with a median of 12.00; the standard deviation is 4.12, the skewness is - 0.06, and kurtosis is -0.51. The mean score of private school students is 12.85 with a median of 13.00; the standard deviation is 4.09, the skewness is -0.16, and kurtosis is -0.56. In total, the mean score of buoyancy based on the type of school is 12.53 with a median of 13.00; the standard deviation 4.11, the skewness -0.11, kurtosis is -0.54, and both the values are within the acceptable range. George and Mallery (2010) stated that the value of skewness and kurtosis if ranged from -2 to +2, are considered acceptable to prove the distribution of data normal. Whereas Hair et al. (2010) and Bryne (2010) argued and

considered it normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Therefore, the values of skewness and kurtosis in descriptive tables for different construct based on type of school were within the acceptable limits indicating that the data was fit for further analysis. Below, the figure 4.4 shows the graphical representation of variables based on the type of school.

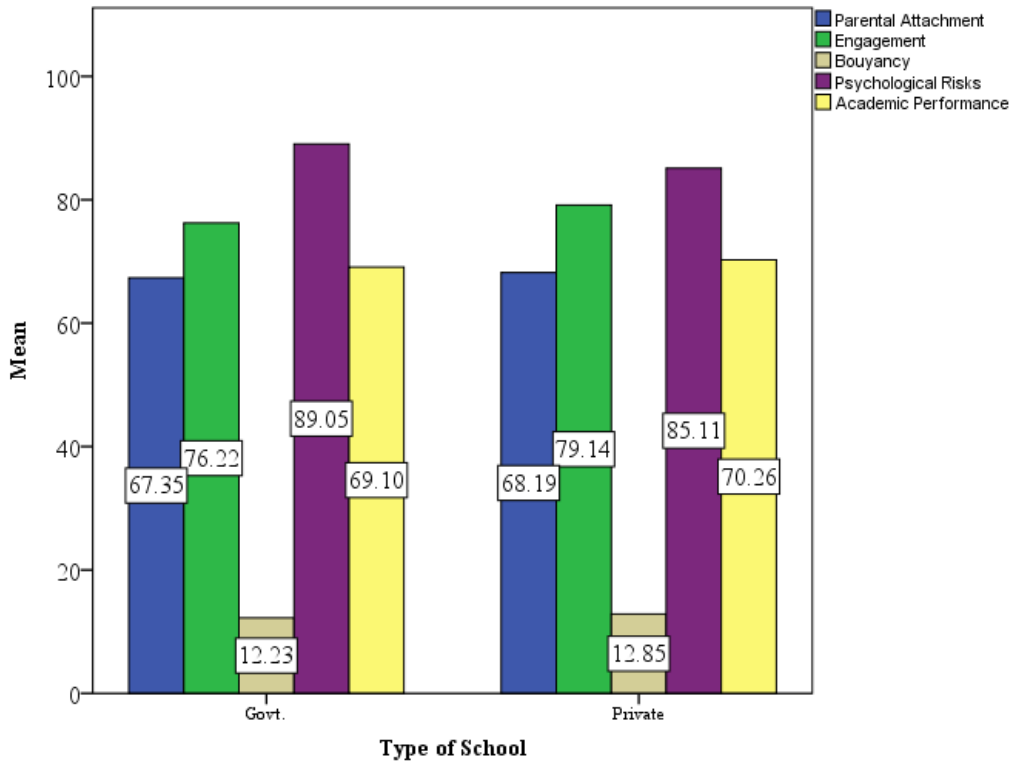

Figure 4.4: Graphical Representation of Variables on the basis of Type of School

4.3 TESTING OF CONCEPTUAL MODEL

The present section deals with the validation of the hypotheses formulated to achieve the objectives of the study. Therefore, objectives were framed as:

4.3.1 Objective: 1 - To classify the Level of Parental Attachment, Academic Performance, Psychological Risk, Engagement, and Buoyancy of Senior Secondary School Students w.r.t. gender, stream, locality and type of school.

4.3.1.1 Parental Attachment of Senior Secondary School Students.

The present section classified the levels of parental attachment of senior secondary school students, and these levels have been identified on the basis of gender, stream,

locality, and type of school. The presentation of the data follows the below given in Table 4.5.

Table: 4.5 Classifications of Senior Secondary School Students on their Parental Attachment

Level	Low		High		Total	
Variables	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Male	361	51.1%	345	48.9%	706	100.0%
Female	387	52.3%	353	47.7%	740	100.0%
Arts	386	51.5%	364	48.5%	750	100.0%
Science	362	52.0%	334	48.0%	696	100.0%
Urban	247	50.0%	247	50.0%	494	100.0%
Rural	501	52.6%	451	47.4%	952	100.0%
Govt.	400	54.3%	337	45.7%	737	100.0%
Private	348	49.1%	361	50.9%	709	100.0%
Total	748	51.7%	698	48.3%	1446	100.0%

RESULTS

Table 4.5 shows the data relating to senior secondary school students' percentage-wise presentation in different levels of parental attachment. The table is preceded by showing the frequency and percentage of senior secondary students in different levels of parental attachment in gender, stream, locality, and type of school. Table 4.5 shows the gender-wise distribution of senior secondary students, 51.1% senior secondary male students and 52.3% senior secondary females possess a low parental attachment level. It is also observed that 48.9% of senior secondary male and 47.7% senior secondary female students possess a high level of attachment.

Table 4.5 shows the stream-wise distribution of senior secondary school students; 51.5% of arts senior secondary students and 52.0% science senior secondary students fall under a low level of parental attachment. There are 48.5% arts senior secondary

school students and 48.0% science senior secondary school students fall under this category in the high level. Similarly, in locality-wise distribution, 50.0% of urban senior secondary school students and 52.6% rural senior secondary school students fall under a low parental attachment level. There are 50.0% urban senior secondary students at a high level, and 47.4% of rural senior secondary school students fall under this category. In addition, in the type of school-wise distribution, there is 54.3%.

Government senior secondary school students and 49.1% of private senior secondary school students fall under a low level of parental attachment. There are 45.7% Govt. senior secondary school students and 50.9% private senior secondary school students who fall under this level of parental attachment at a high level. In total, 51.7% of senior secondary school students fall under a low level of parental attachment and 48.3% to a high level of parental attachment. The below figure 4.5 shows the graphical representation of levels of parental attachment of senior secondary school students.

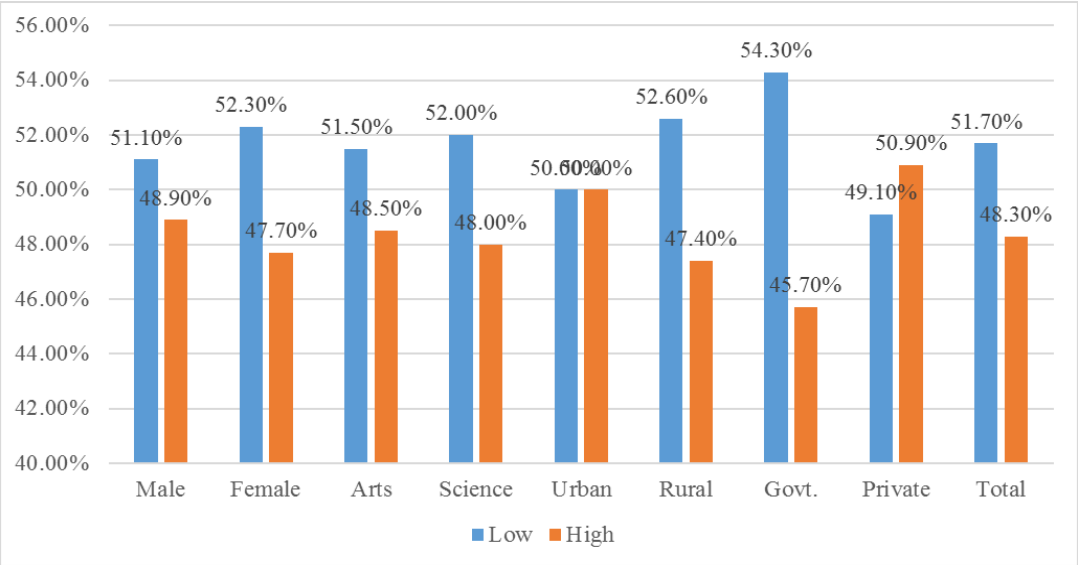

Figure 4.5: Graphical Representation on Levels of Parental Attachment on the basis of Gender, Stream, Locality and Type of School

4.3.1.2 Academic Performance of Senior Secondary School Students

The present section classified the levels of academic performance of senior secondary school students, and these levels have been identified on the basis of gender, stream,

locality, and type of school. Presentation of the data follows the below given in Table 4.6:

Table 4.6 Classifications of Senior Secondary School Students on their Academic Performance

Levels	**C Level**		**B Level**		**A Level**		**A+ Level**		**Total**	
Variable	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Male	116	16.4%	401	56.8%	178	25.2%	11	1.6%	706	100.0%
Female	74	10.0%	392	53.0%	262	35.4%	12	1.6%	740	100.0%
Arts	98	13.1%	419	55.9%	226	30.1%	7	.9%	750	100.0%
Science	92	13.2%	374	53.7%	214	30.7%	16	2.3%	696	100.0%
Urban	42	8.5%	287	58.1%	154	31.2%	11	2.2%	494	100.0%
Rural	148	15.5%	506	53.2%	286	30.0%	12	1.3%	952	100.0%
Govt.	110	14.9%	412	55.9%	204	27.7%	11	1.5%	737	100.0%
Private	80	11.3%	381	53.7%	236	33.3%	12	1.7%	709	100.0%
Total	190	13.13%	793	54.84%	440	30.42%	32	2.21%	1446	100.0%

RESULTS

Table 4.6 shows the data relating to the percentage-wise presentation of senior secondary school students in different levels of academic performance. The table is preceded by showing the frequency and percentage of senior secondary students in different levels of academic performance in gender, stream, locality, and type of school. Table 4.6 shows the gender-wise distribution of senior secondary students, 16.4% senior secondary male students, and 10.0% senior secondary female possess under (C) level of performance. It is also observed that 56.8% senior secondary male and 53.0% senior secondary female students possess under the (B) level of performance. In the same way, 25.2% of senior secondary male students and 35.4% female students fall under the (A) level of performance. In addition, 1.6 senior secondary male students and 1.6% of female students fall under (A+) level of performance.

Table 4.6 shows the stream-wise distribution of senior secondary school students, 13.1% arts senior secondary students, and 13.2% science senior secondary students fall under the (C) level of academic performance. There are 55.9% arts senior secondary school students at the B level, and 53.7% science senior secondary school students fall under this level. Similarly, 30.1% of arts senior secondary school students and 30.7% science senior secondary school students fall under the A level of

performance. In addition, 0.9% of arts senior secondary school students and 2.3% science senior secondary school students fall under the A+ level of performance.

It is also observed in the locality-wise distribution of students, in which 8.5 % urban senior secondary school students and 15.5% rural senior secondary school students fall under the C level of performance. There are 58.1% urban senior secondary school students at the B level, and 53.2% rural senior secondary school students fall under this level of performance. Similarly, 31.2% of urban senior secondary school students and 30.0% of rural senior secondary school students fall under the A level of performance. In addition, 2.2% of urban senior secondary students and 1.3% of rural senior secondary school students fall under the A+ level of academic performance.

Moreover, type of school-wise distribution, there is 14.9% Govt. senior secondary school students and 11.3% private senior secondary school students who fall under the C level of their academic performance. Similarly, there are 55.9% government senior secondary school students and 53.7% private senior secondary school students who fall under this level of academic performance in B level. It is also observed in A level that 27.7% Govt. senior secondary school students and 33.3% private senior secondary school students fall under this level of academic performance. In addition, there are 1.5% government senior secondary school students and 1.7% private senior secondary school students who fall under the A+ level of their academic performance. 13.13% senior secondary students fall under C level, 54.84% of senior secondary school students fall under B level of academic performance, 30.42% to the A level of academic performance, and 2.21% senior secondary school students under A+ level of their academic performance. 51.7% of senior secondary school students fall under low-level parental attachment, 48.3% to the high level of academic performance. In total, 13.13% of senior secondary school students fall under the C level of academic performance, 54.84% to the B level of academic performance, 30.42% of students fall under the A level of academic performance, and 2.21% of students fall under A+ level of academic performance. The below figure 4.6 shows the graphical representation of levels of academic performance among senior secondary school students.

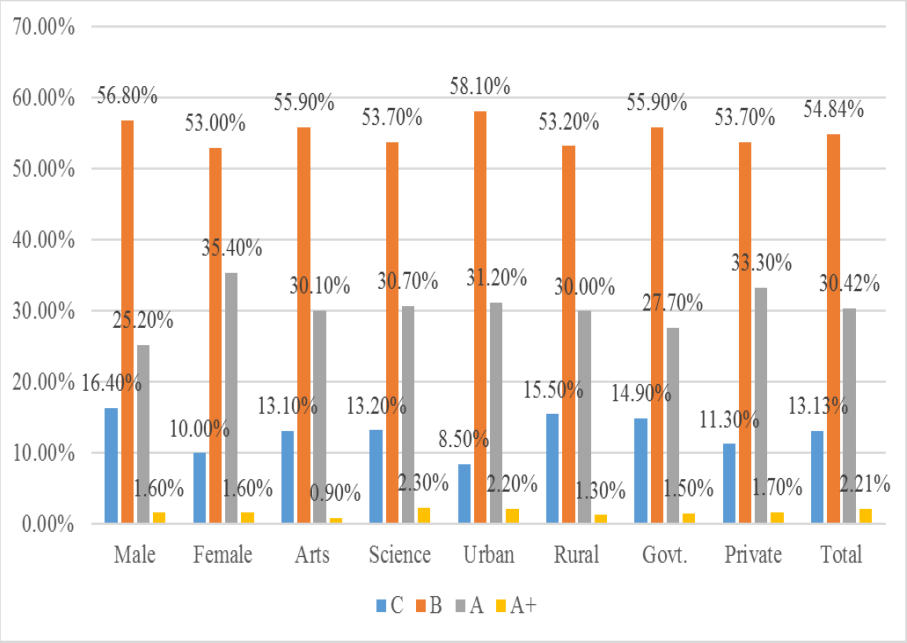

Figure 4.6: Graphical Representation on Levels of Academic Performance on the basis of Gender, Stream, Locality and Type of School

4.3.1.3 Psychological Risk of Senior Secondary School Students

The present section classified the levels of psychological risk of senior secondary school students, and these levels have been identified on the basis of gender, stream, locality, and type of school. Presentation of the data follows the below given in Table 4.7.

Table 4.7: Classifications of Senior Secondary School Students on their Psychological Risk

Level	Low		Average		High		Total	
Variables	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Male	132	18.7%	496	70.3%	78	11.0%	706	100.0%
Female	133	18.0%	438	59.2%	169	22.8%	740	100.0%
Arts	129	17.2%	501	66.8%	120	16.0%	750	100.0%
Science	136	19.5%	433	62.2%	127	18.2%	696	100.0%
Urban	103	20.9%	347	70.2%	44	8.9%	494	100.0%
Rural	162	17.0%	587	61.7%	203	21.3%	952	100.0%
Govt.	114	15.5%	483	65.5%	140	19.0%	737	100.0%
Private	151	21.3%	451	63.6%	107	15.1%	709	100.0%
Total	265	18.32%	934	64.59%	247	17.08%	1446	100.0%

RESULTS

Table 4.7 shows the data relating to the percentage-wise presentation of senior secondary school students in different levels of psychological risk. The table is preceded by showing the frequency and percentage of senior secondary students in different levels of psychological risk in gender, stream, locality, and type of school. Table 4.7 shows the gender-wise distribution of senior secondary students; 18.7% senior secondary male students and 18.0% senior secondary female possess a low level of psychological risk. It is also observed that 70.3% of senior secondary male and 59.2% senior secondary female students possess an average level of psychological risk. Similarly, 11.0% senior secondary male and 22.8% senior secondary female students possess a high level of psychological risk.

Table 4.7 shows stream-wise distribution of senior secondary school students, 17.2% arts senior secondary students, and 19.5% science senior secondary students fall under average level of psychological risk. On an average level, there are 66.8% of arts senior secondary school students and 62.2% of science senior secondary school students fall under this category. There are 16.0% arts senior secondary school students and 18.2% science senior secondary school students fall under this category in high level.

In addition, locality-wise distribution, there are 20.9% urban senior secondary school students and 17.0% rural senior secondary school students' fall under a low level of psychological risk. Similarly, 70.2 % of urban senior secondary school students and 61.7% of rural senior secondary school students fall under the average level of psychological risk. There are 8.9% urban senior secondary school students at a high level, and 21.3 % of rural senior secondary school students fall under this category.

Furthermore, the type of school-wise distribution, 15.5% of Govt. senior secondary school students and 21.3% private senior secondary school students fall under a low level of psychological risk. In addition, there are 65.5% Govt. senior secondary school students, and 63.6% of private senior secondary school students fall under the average level of the psychological risk level. There are 19.0% Govt. senior secondary school students at a high level, and 15.1% private senior secondary school students fall under this psychological risk level. In total, 18.32% of senior secondary school students fall under a low level of psychological risk; on average, 64.59% of senior students fall

under this category. There are 17.08% of senior secondary school students under this level of psychological risk at a high level. Most of the senior secondary school students fall under the average level of the psychological risk level. The below figure 4.7 shows the graphical representation of levels of psychological risk of senior secondary school students.

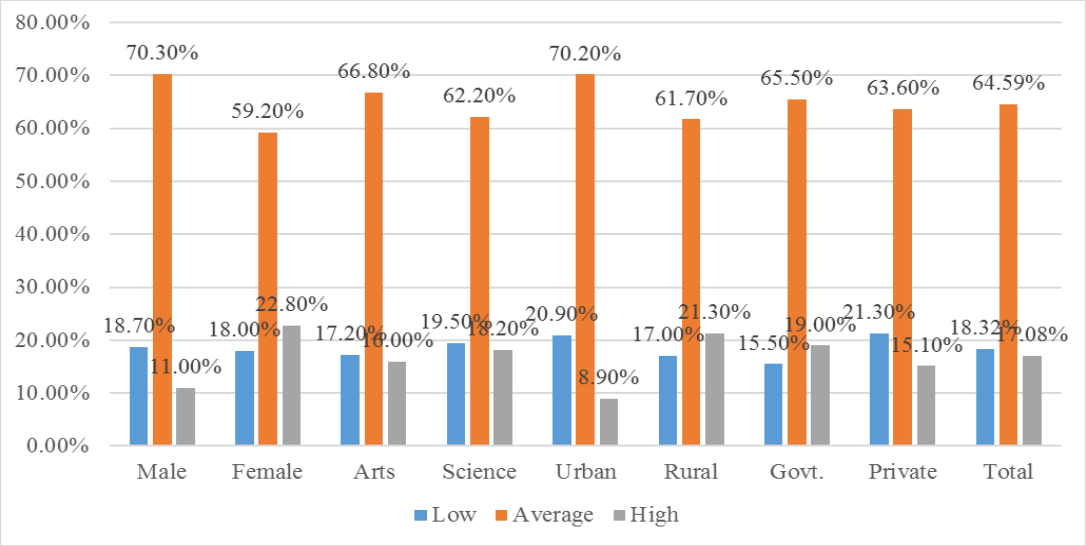

Figure 4.7: Graphical Representation on Levels of Psychological Risk on the basis of Gender, Stream, Locality and Type of School

4.3.1.4 Engagement of Senior Secondary School Students

The present section classified the levels of engagement of senior secondary school students, and these levels have been identified on the basis of gender, stream, locality, and type of school. Presentation of the data follows the below given in Table 4.8:

Table 4.8: Classifications of Senior Secondary School Students on their Engagement

Level	Low		Average		High		Total	
Variables	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Male	118	16.7%	485	68.7%	103	14.6%	706	100.0%
Female	92	12.4%	512	69.2%	136	18.4%	740	100.0%
Arts	121	16.1%	514	68.5%	115	15.3%	750	100.0%
Science	89	12.8%	483	69.4%	124	17.8%	696	100.0%
Urban	62	12.6%	341	69.0%	91	18.4%	494	100.0%
Rural	148	15.5%	656	68.9%	148	15.5%	952	100.0%
Govt.	118	16.0%	526	71.4%	93	12.6%	737	100.0%
Private	92	13.0%	471	66.4%	146	20.6%	709	100.0%
Total	210	14.52%	997	68.94%	239	16.52%	1446	100.0%

RESULTS

Table 4.8 shows the data relating to the percentage-wise presentation of senior secondary school students in different levels of engagement. The table is preceded by showing the frequency and percentage of senior secondary students in different levels of engagement in gender, stream, locality, and type of school. Table 4.8 shows the gender-wise distribution of senior secondary students, 16.7% senior secondary male students and 12.4% senior secondary female possess a low level of engagement. It is also observed that 68.7% of senior secondary male and 69.2% senior secondary female students possess an average level of engagement. Similarly, 14.6% senior secondary male and 18.4% senior secondary female students possess a high level of engagement.

Referring to the table, 4.8 shows stream-wise distribution of senior secondary school students, 16.1% arts senior secondary students, and 12.8% science senior secondary students fall under average level of engagement. On an average level, there are 66.5% of arts senior secondary school students and 69.4% of science senior secondary school students fall under this category. There are 15.3% arts senior secondary school students and 17.8% science senior secondary school students fall under this category in high level. In addition, locality-wise distribution, there are 12.6% urban senior secondary school students and 15.5% rural senior secondary school students' fall under a low level of engagement. Similarly, 69.0% of urban senior secondary school students and 68.9% of rural senior secondary school students fall under the average level of engagement. There are 18.4% urban senior secondary school students in high level, and 15.5% of rural senior secondary school students fall under this category.

Furthermore, type of school-wise distribution, there is 16.0% Govt. senior secondary school students and 13.0% private senior secondary school students who fall under a low level of engagement. In addition, there are 71.4% Govt. senior secondary school students and 66.4% private senior secondary school students who fall under an average level of Engagement level. There are 12.6% Govt. senior secondary school students and 20.6% private senior secondary school students who fall under this level of engagement in high level. In total, 14.52% of senior secondary school students fall under a low level of engagement; on average, 68.94% of senior students fall under this category. There are 16.52% senior secondary school students falling under this

category, this level of engagement at a high level. Most of the senior secondary school students fall under the average level of Engagement level. The below figure 4.8 shows the graphical representation of levels of engagement of senior secondary school students.

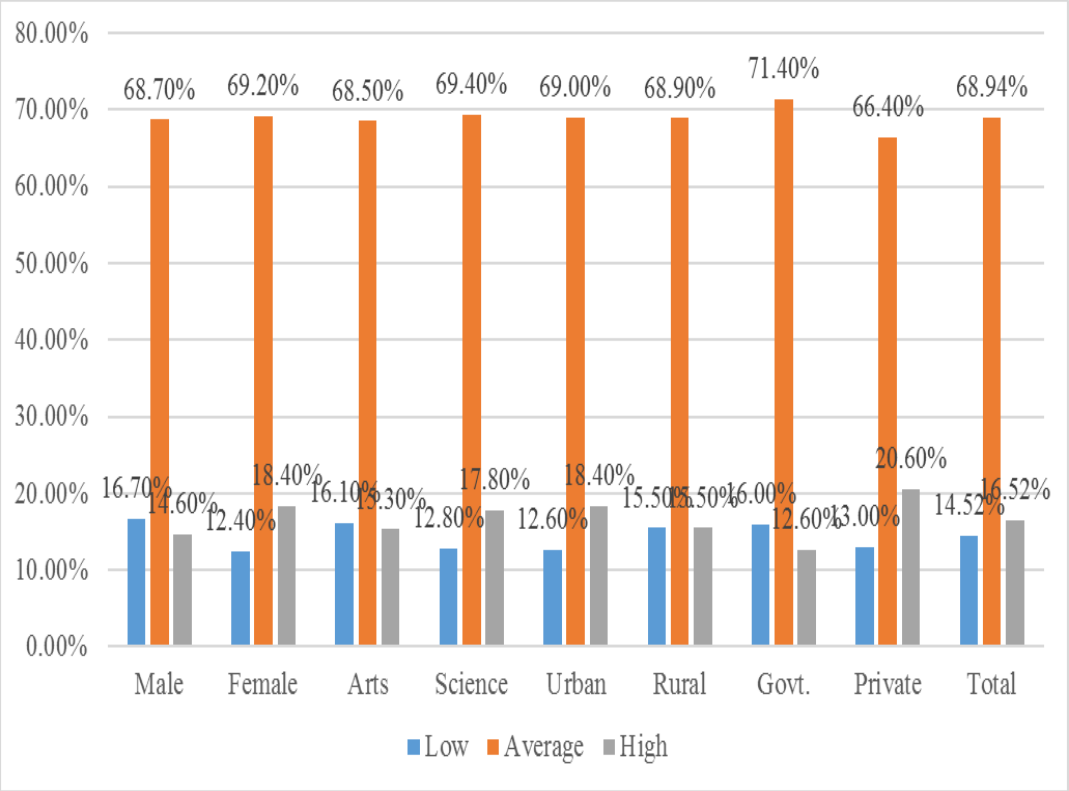

Figure 4.8: Graphical Representation on Levels of Engagement on the basis of Gender, Stream, Locality and Type of School

4.3.1.5 Buoyancy of Senior Secondary School Students

The present section classified the levels of buoyancy of senior secondary school students, and these levels have been identified on the basis of gender, stream, locality, and type of school. Presentation of the data follows the below given in Table 4.9:

Table 4.9 : Classifications of Senior Secondary School Students on their Buoyancy

Level	Low		Average		High		Total	
Variables	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Male	105	14.9%	483	68.4%	118	16.7%	706	100.0%
Female	167	22.6%	453	61.2%	120	16.2%	740	100.0%
Arts	148	19.7%	483	64.4%	119	15.9%	750	100.0%
Science	124	17.8%	453	65.1%	119	17.1%	696	100.0%
Urban	74	15.0%	324	65.6%	96	19.4%	494	100.0%
Rural	198	20.8%	612	64.3%	142	14.9%	952	100.0%
Govt.	150	20.4%	482	65.4%	105	14.2%	737	100.0%
Private	122	17.2%	454	64.0%	133	18.8%	709	100.0%
Total	272	18.81%	936	64.73%	238	16.45%	1446	100.0%

RESULTS

Table 4.9 shows the data relating to the percentage-wise presentation of senior secondary school students in different levels of buoyancy. The table is preceded by showing the frequency and percentage of senior secondary students in different levels of buoyancy in gender, stream, locality, and type of school. Table 4.9 shows the gender-wise distribution of senior secondary students; 14.9% senior secondary male students and 22.6% senior secondary female possess a low level of buoyancy. It is also observed that 68.4% of senior secondary male and 61.2% senior secondary female students possess an average level of buoyancy.

Similarly, 16.7% of senior secondary male and 16.2% of senior secondary female students possess a high level of buoyancy. The above table 4.9 shows the stream-wise distribution of senior secondary school students, 19.7% of arts senior secondary students, and 17.8% science senior secondary students fall under average level of buoyancy. There are 64.4% arts senior secondary school students at an average level, and 65.1% of science senior secondary school students fall under this category. There are 15.9% arts senior secondary school students at a high level, and 17.1% of science senior secondary school students fall under this category. In addition, locality-wise distribution, there are 15.0% of urban senior secondary school students and 20.8% of rural senior secondary school students' fall under a low level of buoyancy. Similarly, 65.6% of urban senior secondary school students and 64.3% of rural senior secondary school students fall under the average level of buoyancy. There are 19.4% of urban

senior secondary school students at a high level, and 14.9% of rural senior secondary school students fall under this category.

Furthermore, type of school-wise distribution, there are 20.4% of Govt. senior secondary school students and 17.2% of private senior secondary school students who fall under a low level of buoyancy. In addition, there are 65.4% of Govt. senior secondary school students and 64.0% of private senior secondary school students who fall under the average level of Buoyancy level. There are 14.2% of Govt. senior secondary school students at a high level, and 18.8 % of private senior secondary school students fall under this level of buoyancy. In total, 18.81% of senior secondary school students fall under a low level of buoyancy, on average, 64.73% of senior students fall under this category, and at a high level, there is 16.45% of senior secondary school students fall under this level of buoyancy. Most of the senior secondary school students fall under the average level of Buoyancy level. The below figure 4.9 shows the graphical representation of levels of buoyancy of senior secondary school students.

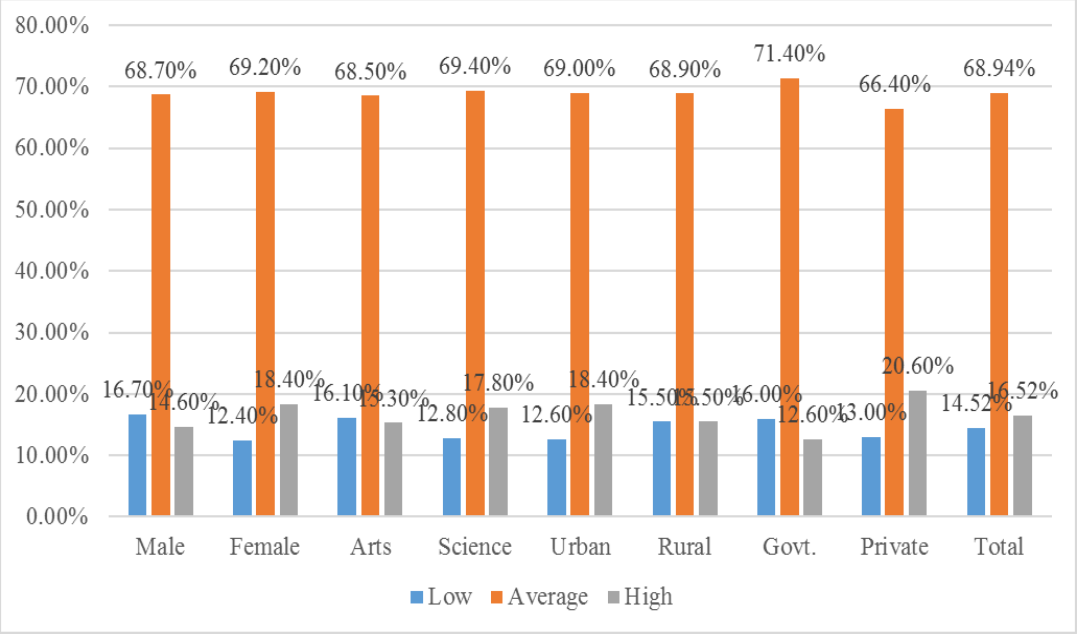

Figure 4.9: Graphical Representation on Levels of Buoyancy on the basis of Gender, Stream, Locality and Type of School

4.3.2 Objective 2:- To find out the difference among senior secondary school students in parental attachment, academic performance, psychological risk, engagement and buoyancy based on gender, stream, locality, and type of school.

To achieve the objectives following hypotheses were framed and tested.

H1: There is no significant difference in parental attachment, academic performance, psychological risk, engagement, and buoyancy of the senior secondary school students based on:

a) Gender
b) Stream
c) Locality
d) Type of school.

4.3.2.1. To find the differences in the parental attachment, on the bases of gender, stream, locality, and type of school in the present study the investigator applied t-test and results are discussed below:

Table 4.10: Significance of Mean Differences in the Parental Attachment on the Basis of Gender, Stream, Locality, and Type of School

	Variables	N	Mean	Std. Deviation	SED	't' value	df	Sig
Parental Attachment	**Male**	706	67.40	7.617	.383	-1.875	1444	.062
	Female	740	68.11	6.947				
	Arts	750	67.79	7.384	.501	-6.134	1444	.000*
	Science	696	67.73	7.189				
	Urban	494	68.38	7.276	.404	2.335	1444	.020**
	Rural	952	67.44	7.278				
	Govt.	737	67.35	7.185	.383	-2.199	1444	.028**
	Private	709	68.19	7.374				

*Significant at 0.05 level of Confidence **Significant at 0.01 level of Confidence

RESULTS

Table 4.10 provides a summary of the t-test for gender, stream, locality, and type of school differences on the score of Parental attachment. The table includes descriptive statistics for the group differences score, including a number of students (N) Mean and Standard Deviation.

Firstly, the mean score of males for parental attachment was 67.40. The mean score of female students for parental attachment was 68.11, which reveals that females were more attached to their parents than male students. The t-value for gender difference in

parental attachment is found to be 1.875, which is not significant even at the 0.05 level of confidence. Thus, the hypothesis one "There is no significant gender difference in parental attachment of the senior secondary school students" is accepted. The present result has support from previous researches of Haigler (1995) and Ma (2008), who found that there was no gender difference in parental attachment.

Secondly, the mean score of arts senior secondary school students for parental attachment was 67.79, and the mean score of science students for parental attachment was 67. 73, which reveals that arts students were more attached to their parents as compared to science students. The t-value for stream difference in parental attachment is found to be 6.134, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant stream difference in parental attachment of the senior secondary school students" is rejected. Hussain (2018) supported the present result who found a significant stream difference in the parental attachment of students.

Thirdly, the mean score of urban senior secondary school students for parental attachment was 68.38. The mean score of rural senior secondary students for parental attachment was 67.44, which reveals that urban senior secondary school students are more attached to their parents than rural students. The t-value for stream difference in parental attachment is found to be 2.335, which is significant at 0.05 level of confidence. Thus, the hypothesis one "There is no significant locality difference in parental attachment of the senior secondary school students" is rejected. The finding of the present result is supported by Hussain (2018) who found a significant locality difference in the parental attachment of students.

Government school students mean score for parental attachment was 68.38, and the mean score of private school students for parental attachment was 67.44, which reveals that Govt. senior secondary school students are more attached to their parents compared to private students. The t-value for a type of school difference in parental attachment is found to be 2.199, which is significant at 0.05 level of confidence. Thus, the null hypothesis "There is no significant difference in the parental attachment of students of government and private senior secondary schools" is rejected. A similar result was found by Rapheal (2018), a significant difference between private and government school students. In addition, he also found that private school students perform better as compared to government school students and suggested that parents

should provide support to their children to achieve good marks in this competent era. As a parent, they must show some interest in their ward studies and communicate with their teachers. According to Bowlby's theory of attachment, he defined that parent-child attachment is the essential factor in developing children's growth which can provide social control and emotional warmth (Bowlby, 1973 and Bannik, 2013). Parents can also join the parent-teacher meeting in school to reduce the problems of their ward. Parents can also organize educational trips for their children to understand their educational concept, and with these trips, their attachment can also be developed and enhanced.

4.3.2.2 To find the differences in the academic performance on the basis of gender, stream, locality, and type of school in the present study the investigator applied t-test and results are discussed below:

Table 4.11: Significance of Mean Differences in the Variables on the basis of Gender, Stream, Locality, and Type of School.

	Variables	N	Mean	Std. Deviation	SED	't' value	Df	Sig
Academic Performance	Male	706	68.10	9.581	.501	-6.134	1444	.000
	Female	740	71.17	9.453				
	Arts	750	69.38	9.284	.507	-1.177	1444	.239
	Science	696	69.98	9.997				
	Urban	494	70.84	9.105	.532	3.349	1444	.001
	Rural	952	69.06	9.849				
	Govt.	737	69.10	9.644	.506	-2.294	1444	.022
	Private	709	70.26	9.598				

*Significant at 0.05 level of Confidence

**Significant at 0.01 level of Confidence

RESULTS

Table 4.11 summarizes the t-test for gender, stream, locality, and type of school differences on academic performance scores. The table includes descriptive statistics for the group differences score, including the number of students (N) Mean and Standard Deviation.

The mean score of males for academic performance was 68.10, and the mean score of female students for academic performance was 71.11, which reveals that females

gained more scores than male students in their academic performance. The t-value for gender difference in academic performance is found to be 6.134, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant gender difference in academic performance of the senior secondary school students" is rejected. The present result has supported by the study of Dev (2016), who indicated significant gender differences in academic performance.

Similarly, the mean score of arts senior secondary school students for academic performance is 69.38. The mean score of science students for academic performance is 69.98, which reveals that science students gained high scores compared to art students in their academic performance. The t-value for stream difference in academic performance is found to be 1.177, which is not significant even at 0.05 level of confidence. Thus, the hypothesis one "There is no significant stream difference in academic performance of the senior secondary school students" is accepted. Similar findings reported by Pany (2014) who found that there was no significant difference between arts and science secondary school students.

In addition, the mean score of urban senior secondary school students for academic performance was 70.84, and the mean score of rural senior secondary students for academic performance was 69.06, which reveals that urban senior secondary school students gained more scores in their academic performance as compared to rural students. The t-value for stream difference in academic performance is found to be 3.348, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant locality difference in academic performance of the senior secondary school students" is rejected. The findings of the present result supported by the study of Owoeye (2011) who found that there was a significant locality difference in the academic performance of students.

Furthermore, the mean score of government senior secondary school students for academic performance is 69.10, and the mean score of private students for academic performance is 70.26, which reveals that private senior secondary school students gained more scores in their academic performance than government senior secondary school students. The t-value for the type of school difference in academic performance is found to be 2.294, which is significant at 0.05 level of confidence.

Thus, the hypothesis one "There is no significant difference in the academic performance of students of government and private senior secondary schools" is rejected. The findings of the present result supported by the study of Rasool (2017); there was a significant difference in government and private school students in their academic performance.

4.3.2.3. To find the differences in the psychological risk on the basis of gender, stream, locality, and type of school in the present study the investigator applied t-test and results are discussed below:

Table 4.12: Significance of Mean Differences in the Variables on the basisof Gender, Stream, Locality, and Type of School.

	Variables	N	Mean	Std. Deviation	SED	't' value	Df	Sig
Psychological Risk	Male	706	84.18	18.948	1.102	-5.205	1444	.000
	Female	740	89.92	22.845				
	Arts	750	87.02	20.901	1.117	.181	1444	.856
	Science	696	87.22	21.573				
	Urban	494	85.07	19.385	1.174	2.650	1444	.008
	Rural	952	88.18	22.047				
	Govt.	737	89.05	20.813	1.112	-3.538	1444	.022
	Private	709	85.11	21.466				

RESULTS

Above table 4.12 summarizes the t-test for gender, stream, locality, and type of school differences on the score of psychological risk. The table includes descriptive statistics for the group differences score, including the number of students (N) Mean and Standard Deviation.

Firstly, the mean score of males for psychological risk was 84.18. The mean score of female students for psychological risk was 89.92, which reveals that females score more than male students in their psychological risk. The t-value for gender difference in psychological risk is found to be 5.205, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant gender difference in psychological risk of the senior secondary school students" is rejected. The findings of the present study supported by the previous research of Gao (2010), who concluded that there exists a significant gender difference in risk factors among school students.

Secondly, the mean score of arts senior secondary school students for psychological risk was 20.90. The mean score of science students for psychological risk was 21.57, which reveals that science students score high than art students in their psychological risk. The t-value for stream difference in psychological risk is found to be .181, which is not significant even at 0.05 level of confidence. Thus, the hypothesis one "There is no significant stream difference in psychological risk of the senior secondary school students" is accepted.

Thirdly, the mean score of urban senior secondary school students for psychological risk was 19.38. The mean score of rural senior secondary students for psychological risk was 22.04, which reveals that rural senior secondary school students score high in their psychological risk compared to urban students. The t-value for locality difference in psychological risk is found to be 2.650, which is significant at 0.05 level of confidence. Thus, the null hypothesis one "There is no significant locality difference in psychological risk of the senior secondary school students" is rejected.

Fourthly, the mean score of government senior secondary school students for psychological risk was 20.81. The mean score of private students for psychological risk was 21.46, which reveals that private senior secondary school students high score in their psychological risk compared to government senior secondary school students. The t-value for the type of school difference in psychological risk is found to be 3.53, which is significant at 0.05 level of confidence. Thus, the hypothesis one "There is no significant difference in the psychological risk of students of government and private senior secondary schools" is rejected. The findings of the present result supported by the research of Sarita (2015) who found that there was a significant type of school difference in psychological risk factors.

4.3.2.4. To find the differences in the engagement on the basis of gender, stream, locality, and type of school in the present study the investigator applied a t-test and results are discussed below:

Table 4.13: Significance of Mean Differences in the Variables on the basis of Gender, Stream, Locality, and Type of School.

	Variables	N	Mean	Std. Deviation	SED	t-value	Df	Sig
Engagement	Male	706	76.85	14.848	.775	-2.009	1444	.045
	Female	740	78.41	14.612				
	Arts	750	76.65	15.292	.774	-2.698	1444	.007
	Science	696	78.73	14.059				
	Urban	494	78.98	14.895	.816	2.481	1444	.013
	Rural	952	76.96	14.624				
	Govt.	737	76.22	14.233	.772	-3.780	1444	.000
	Private	709	79.14	15.123				

RESULTS

Table 4.13 summarizes the t-test for gender, stream, locality, and type of school differences on the score of engagement. The table includes descriptive statistics for the group differences score, including the number of students (N) Mean and Standard Deviation.

Firstly, the mean score of males for engagement was 76.85, and the mean score of female students for engagement was 78.41, which reveals that females score more than male students in their engagement. The t-value for gender difference in engagement is found to be 2.009, which is significant at 0.05 level of confidence. Thus, the hypothesis one "There is no significant gender difference in engagement of the senior secondary school students" is rejected. Present result supported by the research of (Epstein et al., 1998) who found a significant gender difference in the engagement.

Secondly, the mean score of arts senior secondary school students for engagement was 76.65. The mean score of science students for engagement was 78.73, which reveals that science students score high scores than arts students in their engagement. The t-value for stream difference in engagement is found to be 2.698, which is significant at 0.05 level of confidence. Thus, the hypothesis one "There is no

significant stream difference in engagement of the senior secondary school students" is rejected.

Thirdly, the mean score of urban senior secondary school students for engagement was 78.98. The mean score of rural senior secondary students for engagement was 76.96, which reveals that urban senior secondary school students score high in their engagement than rural students. The t-value for locality difference in engagement is found to be 2.481, which is significant at 0.05 level of confidence. Thus, the hypothesis one "There is no significant locality difference in engagement of the senior secondary school students" is rejected. A similar result was found by Ayub (2007); there was a significant difference between urban and rural school students in the engagement.

Fourthly, the mean score of government senior secondary school students for engagement was 76.22, and the mean score of private students for engagement was 79.14, which reveals that private senior secondary school students high score in their engagement compared to government senior secondary school students. The t-value for the type of school difference in engagement is found to be 3.780, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant difference in the engagement of students of government and private senior secondary schools" is rejected. The Pearson survey has found it (2016) reported a significant difference in government and private school students and found that private school students are more engaged in their studies than government school students.

4.3.2.5. To find the differences in the buoyancy on the basis of gender, stream, locality, and type of school in the present study the investigator applied t-test and results are discussed below:

Table 4.14: Significance of Mean Differences in the Variables on the basis of Gender, Stream, Locality, and Type of School.

	Variables	N	Mean	Std. Deviation	SED	t-value	Df	Sig
Buoyancy	Male	706	12.89	3.960	.216	3.242	1444	.001
	Female	740	12.19	4.237				
	Arts	750	12.46	4.054	.217	-.688	1444	.492
	Science	696	12.61	4.186				
	Urban	494	13.00	4.026	.228	3.133	1444	.002
	Rural	952	12.29	4.145				
	Govt.	737	12.23	4.120	.216	-2.881	1444	.004
	Private	709	12.85	4.094				

Table 4.14 summarizes the t-test for gender, stream, locality, and type of school differences on buoyancy scores. The table includes descriptive statistics for the group differences score, including the number of students (N) Mean and Standard Deviation.

Firstly, the mean score of males for buoyancy was 12.89. The mean score of female students for buoyancy was 12.19, which reveals that males score more than female students in their buoyancy. The t-value for gender difference in buoyancy is found to be 3.242, which is significant at 0.01 level of confidence. Thus, the hypothesis of one "There is no significant gender difference in buoyancy of the senior secondary school students" is rejected.To support this hypothesis, a study by Martin and Marsh (2005) found a significant gender difference in buoyancy.

Secondly, the mean score of arts senior secondary school students for buoyancy was 12.46. The mean score of science students for buoyancy was 12.61, which reveals that science students score high scores than arts students in their buoyancy. The t-value for stream difference in buoyancy is found to be -.688, which is not significant even at 0.05 level of confidence. Thus, the hypothesis one "There is no significant stream difference in buoyancy of the senior secondary school students" is accepted. Similar result was found by Marwani et.al. (2019) revealed that there exists no significant stream difference in the buoyancy of adolescents.

In addition, the mean score of urban senior secondary school students for buoyancy was 13.00, and the mean score of rural senior secondary students for buoyancy was 12.29, which reveals that urban senior secondary school students score high in their buoyancy as compared to rural students. The t-value for stream difference in buoyancy is found to be 3.133, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant locality difference in buoyancy of the senior secondary school students" is rejected. A similar result was found by Duhan (2012) that there exists a significant locality difference in buoyancy.

Furthermore, the mean score of government senior secondary school students for buoyancy was 12.23. The mean score of private students for buoyancy was 12.84, which reveals that private senior secondary school students high score in their buoyancy compared to government senior secondary school students. The t-value for the type of school difference in buoyancy is found to be 2.881, which is significant at 0.01 level of confidence. Thus, the hypothesis one "There is no significant difference in the buoyancy of students of government and private senior secondary schools" is rejected.

4.3.3 Objective 3 :- To study the relationship between parental attachment, academic performance, psychological risk, engagement, and buoyancy among senior secondary school students.

To achieve the objectives following hypotheses were framed and tested:

H2: There is no significant relationship between:

a) Parental attachment and academic performance

b) Parental attachment and Psychological risk

c) Parental attachment and Engagement

d) Parental attachment and Buoyancy

e) Psychological risk and Academic performance

f) Psychological risk and Engagement

g) Psychological risk and buoyancy

h) Buoyancy and Academic performance

i) Engagement and Buoyancy

j) Engagement and Academic performance

To find the correlation between variables in the present study, the investigator applied the Pearson Correlation method, and the results are discussed below:

Table: 4.15 Coefficients of Correlation between the Variables

Variables	Pearson Correlation				
	Parental Attachment	**Academic Performance**	**Psychological Risk**	**Engagement**	**Buoyancy**
Parental Attachment	1	.418**	-.522**	.459**	.505**
Academic Performance	.418**	1	-.230**	.216**	.259**
Psychological Risks	-.522**	-.230**	1	-.264**	-.352**
Engagement	.459**	.216**	-.264**	1	.251**
Buoyancy	.505**	.259**	-.335**	.251**	1

**. Correlation is significant at the 0.01 level (2-tailed)

Table 4.15 shows the correlation between parental attachment, academic performance, psychological risks, engagement, and buoyancy.

a) Parental Attachment and Academic Performance

Table 4.15 shows the correlation between parental attachment and academic performance is .418, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between parental attachment and academic performance" is rejected. The positive correlation shows that with increased parental attachment, academic performance also increases, and with a decrease in parental attachment, academic performance also decreases. The present result is consistent with the research of Duchesne (2007), who found that parental attachment is positively correlated with academic performance. Thus, it can be concluded that parental attachment is an essential factor in enhancing the performance

of students. Parents can create an environment at home to encourage, support, and motivate them for better performance.

b) Parental Attachment and Psychological Risk

Table 4.15 shows the correlation between parental attachment and psychological risk is -.522, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant relationship between parental attachment and psychological risk" is rejected. The negative relationship shows that with increased parental attachment, psychological risk decreases. To support this hypothesis, Bowen (2010) found a significant negative relationship between parental attachment and psychological risk.

Another study concluded by McCarthy et al. (2001) a high level of parental attachment reported a lower level of psychological problems. Parental attachment reduces adolescent's psychological problems, including anxiety, control, and emotional disturbance (Operario et.al, 2006). So parents can spend more quality time with their wards to decrease the psychological problems for a better life. Moreover, parents can take help from teachers and counselors to get rid of psychological risk.

c) Parental Attachment and Engagement

Table 4.15 shows the coefficient of correlation between parental attachment and engagement is .459, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between parental attachment and engagement" is rejected. The positive relationship shows that with increased parental attachment, engagement also increases, and with a decrease in parental attachment, engagement also decreases. The result of present study result is supported by the research of Connell (1991) who found a positive relationship between parental attachment and student engagement. He suggested that increased attachment with parents enhanced student engagement in schools. Feedback from teachers and contact between parents and teachers can increase student engagement in the classroom.

d) Parental Attachment and Buoyancy

Table 4.15 shows the correlation between parental attachment and engagement is .459, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There

is no significant interrelationship between parental attachment and buoyancy" is rejected. The positive relationship shows that with increased parental attachment, buoyancy also increases, and with a decrease in parental attachment, buoyancy also decreases. The present finding of this study is supported by the findings of Shaikholeslami (2017) who found a positive significant relationship between parental attachment and academic buoyancy.

e) Psychological Risk and Academic Performance

Table 4.15 shows the correlation between psychological risk and academic performance is -.230, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between psychological risk and academic performance" is rejected. The negative relationship shows that with increased psychological risk, performance decreases. The findings of the present research is supported by the studies of Taragar (2009) and Eduwem (2017), who found that there exists a negative relationship between psychological factors and the performance of students.

f) Psychological Risk and Engagement

Table 4.15 also shows the correlation between psychological risk and engagement is -.264, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant relationship between psychological risk and engagement" is rejected. The negative relationship shows that with increased psychological risk, engagement decreases. To support this result, findings of Gao (2012) found that psychological factors were negatively related to student engagement and suggested that teachers and parents can help them to reduce psychological risk factors.

g) Psychological Risk and Buoyancy

Table 4.15 shows the correlation between psychological risk and buoyancy is -.352, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between psychological risk and buoyancy" is rejected. The negative relationship shows that with increased psychological risk, buoyancy decreases. A similar result is supported by Bowen (2010), who found that risk factors were negatively related to buoyancy. To support this review, Martin et al. (2013) also

found a reciprocal relationship between psychological risk and buoyancy among students.

h) Buoyancy and Academic Performance

Table 4.15 shows the correlation between buoyancy and academic performance is .259, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between buoyancy and academic performance" is rejected. The positive relationship shows that with an increase in buoyancy, academic performance also increases, and with a decrease in buoyancy, the performance also decreases. The findings of the present study are supported by Datu (2019) who found that academic buoyancy was correlated with students' performance.

i) Engagement and Buoyancy

Table 4.15 shows the correlation between engagement and buoyancy is .251, which is significant at 0.01 level of confidence. Thus, the hypothesis two "There is no significant interrelationship between engagement and buoyancy" is rejected. The positive relationship shows that engagement also increases with an increase in buoyancy and with a decrease in engagement, buoyancy also decreases. A similar result was found by Bowen (2010), who concluded that engagement was positively related to academic buoyancy of students.

j) Engagement and Academic Performance

Table 4.15 shows the correlation between engagement and academic performance is .216, which is significant at 0.01 level of confidence. Thus the hypothesis two "There is no significant interrelationship between engagement and academic performance" is rejected. The positive relationship shows that with increased engagement, academic performance also increases, and with a decrease in engagement, academic performance also decreases. A similar result was founded by Dogan (2015), who concluded that there is a significant positive relationship between engagement and the academic performance of students. Another study concluded that student engagement plays a vital role in the academic performance of students and he found that engagement was positively correlated with academic performance of students (Dharmayana, 2012).

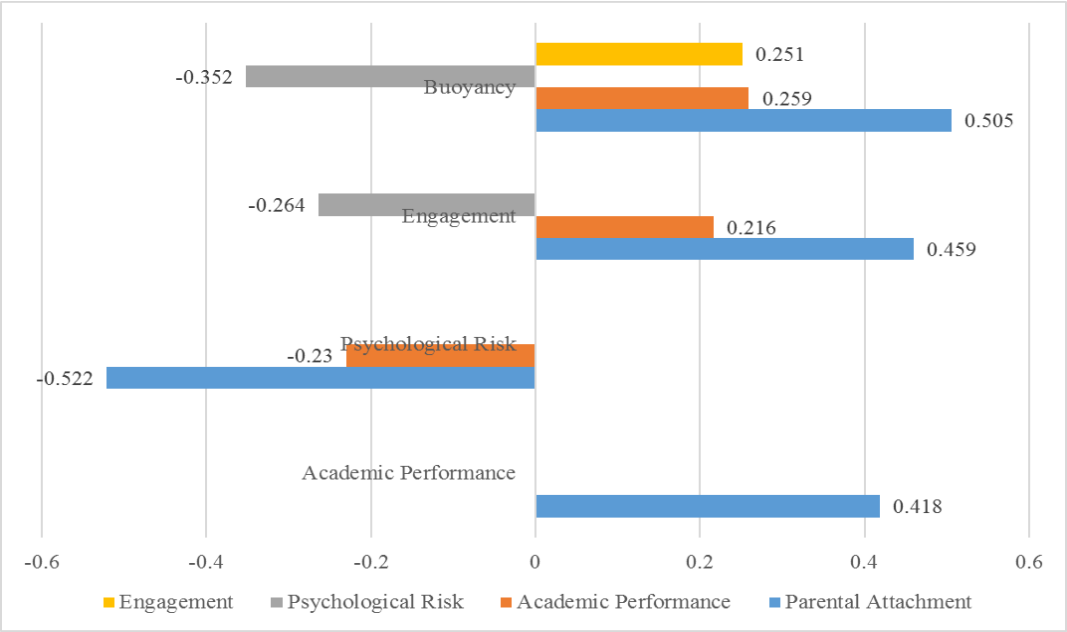

Figure 4.10: Graph on Co-relation between Variables

4.3.4 Objective 4 :- To study parental attachment as the predictor of academic performance among senior secondary school students.

To achieve the objectives following hypotheses were framed and tested:

H3: There is no significant impact of parental attachment on the academic performance of the senior secondary school students.

To explore the impact of parental attachment on academic performance among senior secondary school students in the present study investigator applied linear regression, and results are discussed below:

Table 4.16 : Model Summaries for Prediction of Academic Performance on basis of Parental Attachment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.418	.175	.174	8.756

Table 4.16 shows the coefficient of simple linear regression between dependent and independent variables involved in the model. The r square value for the model is .175. It means 17.5% variance will be explained by the model in the prediction of academic performance.

Table 4.17 : Summary of ANOVA for Regression Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	23460.638	1	23460.638	306.033	.000
	Residual	110697.793	1444	76.661		
	Total	134158.431	1445			

Table 4.17 presents a summary of ANOVA for predicting academic performance on the basis of parental attachment. The F value for the model is 306.03, which is significant at .01 level of confidence. It means the model is significantly predicting the dependent variable on the basis of the independent variable.

Table 4.18 : Summary of Significance of Predictor

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.20	2.15		14.95	.000
	Parental Attachment	.55	.032	.418	17.49	.000

Table 4.18 summarizes the significance of the predictor for predicting criterion variable. The t value for parental attachment is 17.49, which is significant at the 0.01 level of confidence. Thus, the hypothesis three "There is no significant impact of parental attachment on the academic performance of the senior secondary school students" is rejected. It means that parental attachment is a significant predictor for predicting academic performance.

The regression equation can be formulated as:

Academic performance = 0.55 x Parental Attachment + 32.20

DISCUSSION ON RESULTS

The positive relationship between parental attachment and academic performance indicates that increased parental attachment leads to increased student performance. A similar result reported by Demirtas et.al. (2018) concluded that parental attachment significantly predicts students' academic performance.

Thus, the quality of the parent-child relationship and the different ways parents monitor their ward behavior uniquely impact their child's academic performance. The parent-child relationship increases their children's academic performance and helps them in social activities (Zhan, 2006). Parent's constant encouragement and discussion about studies motivated them towards better learning. Specifically, students whose parents are more attached to their wards have higher performance levels than students whose parents are less attached. Some strategies can include promoting parent-child discussion, training programs, and trips to enhance parent-child relationships. With the help of parents, students can easily concentrate on their studies (Izzo *et al*., 1999). The fact that parental attachment in their children's lives was strongly correlated with their success shows a basic understanding of the critical role of parents at this point in their children's lives. Parents should not restrict their children's mobility and freedom, nor should they absolve them of responsibility. Parents must be available to talk with their children about topics that are relevant and important for them. Finally, parents should strive to extend rather than restrict their children's horizons.

4.3.5 Objective 5 :- To study the role of psychological risk and engagement in the relationship between parental attachment and buoyancy of the senior secondary school students.

Research Question

Does the relationship between parental attachment and buoyancy of the senior secondary school students is mediated by:

a) Psychological risk
b) Engagement

To examine the mediating role of psychological risk and engagement on the relationship between parental attachment and buoyancy, Baron and Kenny's (1986) method has been followed using SPSS(AMOS). The statistical method of structural equation modeling was used to estimate the role of psychological risk and engagement on the relationship of Parental attachment with buoyancy. Baron and Kenny method steps are given below:

Step 1: Independent variable (parental attachment) predicting the dependent variable (Buoyancy)

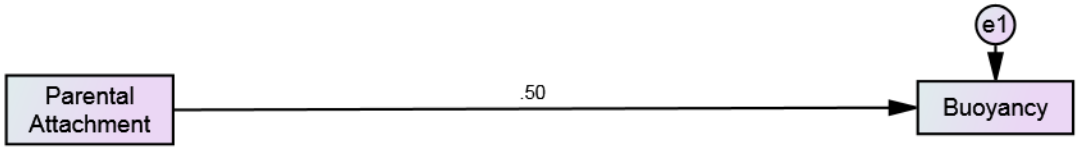

Figure 4.11: Direct Relationship between Parental Attachment and Buoyancy

The figure 4.11 shows a direct relationship between parental attachment and buoyancy. The standardized direct effect was found to be .50, which was significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and buoyancy was found to be 22.230, which was significant at a 0.01 level of confidence. It also shows a significant relationship between parental attachment and buoyancy. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. Table 4.19 shows that parental attachment is significantly related to buoyancy.

Table: 4.19 Regression Weights of Parental Attachment (PA) and Buoyancy (BUO)

			Estimate	S.E.	C.R.	P
Buo	<---	PA	.285	.013	22.230	.001

Step 2: Independent variable (Parental attachment) predicting the mediator (Psychological risk).

Step 3: Independent variable and mediator predicting the dependent variable

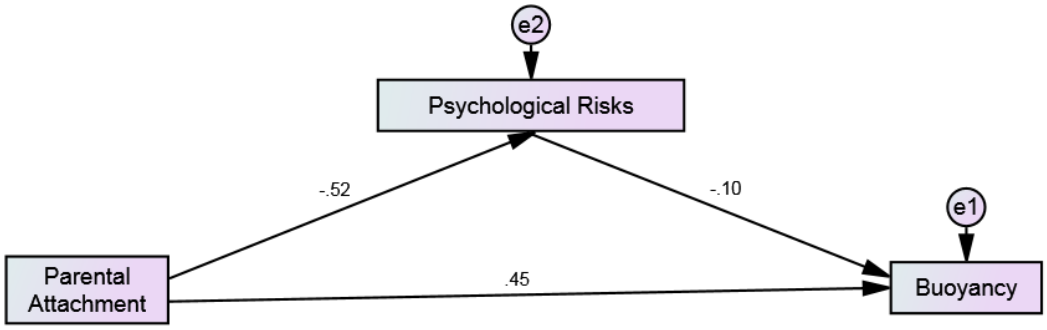

Fig 4.12: Mediation Effect of Psychological Risk between Relationship of Parental Attachment and Buoyancy.

It can be seen from the table 4.19 that the relationship between Parental attachment and psychological risks is significant at 0.01 level of confidence. Similarly, the relationship between psychological risk and buoyancy is found to be significant at a 0.01 level of confidence. Thus, both the paths are significant, which shows there exists an indirect path from parental attachment to buoyancy which psychological risks may mediate. Also, the standardized indirect effect is significant at the 0.01 level of confidence. This result fulfills the second condition of the mediation analysis. After that, the direct effect between parental attachment and buoyancy was found after adding psychological risks as a mediator. The value comes out to be .45. This result shows that the direct effect after adding the mediator has reduced slightly. It shows that there is partially mediation by psychological risks between the relationship of parental attachment and buoyancy. The indirect effect of parental attachment on psychological risks and psychological risks and buoyancy is -.019 ($p<.001$). Thus, it can be concluded that psychological risks partially mediate the relationship between parental attachment and buoyancy. Table 4.20 shows that parental attachment is significantly related to buoyancy and psychological risk.

Table: 4.20: Regression Weights of Parental Attachment, Psychological Risk and Buoyancy

			Estimate	S.E.	C.R.	P
PR	<---	PA	-1.520	.065	-23.274	***
Buo	<---	PA	.256	.015	17.104	***
Buo	<---	PR	-.019	.005	-3.724	***

(b)Does the relationship between parental attachment and buoyancy of the senior secondary school students is mediated by engagement.

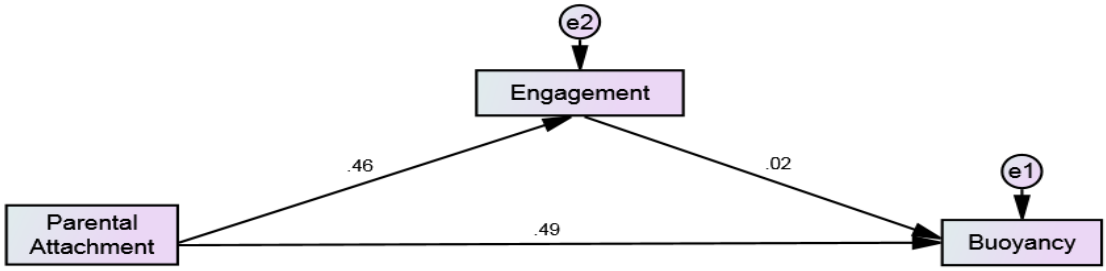

Fig 4.13: Mediation Effect of Engagement between Relationship of Parental Attachment and Buoyancy.

The figure 4.13 shows a direct relationship between parental attachment and buoyancy. The standardized direct effect was found to be .50, which is significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and buoyancy is found to be 22.230, which is significant at 0.01 level of confidence. It also shows a significant relationship between parental attachment and buoyancy. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. It can be seen from the table 4.21 that the relationship between Parental attachment and engagement is found to be significant at 0.01 level of confidence. The effect of Parental attachment on engagement was found to be .928 ($p<.001$), which was significant. This result fulfills the second condition of the mediation analysis. The relationship between engagement and buoyancy is not significant. Thus, both the paths are not significant, which means there is no indirect path from parental attachment to buoyancy which may be mediated by engagement. Also, the standardized indirect effect is not significant. It means that engagement is not mediating between parental attachment and buoyancy. Moreover, based on analysis it reveals that the model was accepted as adequate, and the indices of the model were (CMIN/DF) = .354, Comparative Fit Index (CFI) = 0.91, Goodness Fit Index (GFI) = 0.99, Adjusted Goodness of Fit Index (AGFI) = 0.99, Root Mean Square of Approximation (RMSEA) =, 0.018. Table 4.21, shows that parental attachment is positively and significantly related to buoyancy and engagement.

Table 4.21 : Regression Weights of Parental Attachment (PA), Psychological Risk (PR), and Buoyancy (BUO).

Estimate				S.E.	C.R.	P
Eng	<---	PA	.928	.047	19.638	***
Buo	<---	PA	.279	.014	19.321	***
Buo	<---	Eng	.007	.007	.948	.343

DISCUSSION ON RESULTS

The findings of this study seem to support previous findings that buoyancy is positively related to parental attachment, psychological risk, and engagement. In the buoyancy literature, parental attachment has received much attention as it has been discovered to be the most significant predictor of adaptive functioning in the literature (Kumpfer, 2006). Parents have a unique impact on their children's attitudes, values, and pursuits and can be either a source of buoyancy or a source of psychological risk (Condly, 2006). As a result, parents play a crucial role in their children's growth, with parent-child attachment responsible for a significant portion of a person's developmental and resilience outcome (Stanley, 2010). Indeed, those with a history of secure parental attachment are more likely to have a strong sense of security, success in performance, and increased sociability, while those with a history of parental attachment are more likely to have a weak sense of security. Many who have experienced stable parental attachment are more likely to be less anxious and socially inhibited (Gross, 2007).Other studies found psychological risk and engagement to be the strongest predictor of buoyancy (Martin, 2013; Bowen, 2010).

Moreover, previous research (Cole et al., 2002) has shown that students who actively engage in their studies are more likely to overcome academic challenges and pressures. As the literature review predicted, various factors are likely to underpin the connection between engagement and buoyancy. This study indicated that parental attachment underpins psychological risk and engagement and, therefore, mediates students' academic buoyancy positively. Existing research (Condly, 2006; Hsieh et al.,

2007; Ruthing et al., 2009) has identified various additional techniques and educational institutions to boost student's academic buoyancy. Firstly, schools must take a constructive approach to provide practical, supportive steps rather than student initiative. Moreover, give students various valuable and realistic opportunities to explore and improve fundamental skills (problem-solving, study skills, and time management).

4.3.6 Objective 6: - To examine the role of engagement, buoyancy and psychological risk in the impact of parental attachment on the academic performance of the senior secondary school students.

Research Question

Does the impact of parental attachment on the academic performance of the senior secondary school students mediated by:

a) Psychological risk
b) Engagement
c) Buoyancy.

To examine the mediating role of psychological risk, engagement, and buoyancy on the relationship between parental attachment and academic performance of senior secondary school students, Baron and Kenny's (1986) method has been followed using SPSS (AMOS). AMOS was used to test the hypothesized theoretical model via observed and latent variable path analysis using maximum likelihood parameter estimation. The statistical method of structural equation modeling was used to estimate the role of psychological risk, engagement, and buoyancy on the relationship of parental attachment with academic performance. Baron and Kenny method steps are given below:

Step 1: independent variable (parental attachment) predicting the dependent variable (academic performance)

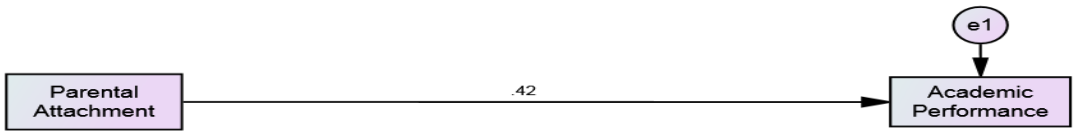

Figure 4.14 Direct Relationship between Parental Attachment and Academic Performance

The figure 4.14 shows a direct relationship between parental attachment and academic performance. The standardized direct effect was found to be .42, which was significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and academic performance is 17.5, significant at a 0.01 level of confidence. It also shows a significant relationship between parental attachment and academic performance. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. Table 4.22 shows that parental attachment is positively and significantly related to academic performance.

Table: 4.22 Regression Weights of Parental Attachment (PA) and Academic Performance (AP)

			Estimate	S.E.	C.R.	P
AP	<---	PA	.553	.032	17.500	***

Step 2: Independent variable (Parental attachment) predicting the mediator (Psychological risk).

Step 3: Independent variable and mediator predicting the dependent variable

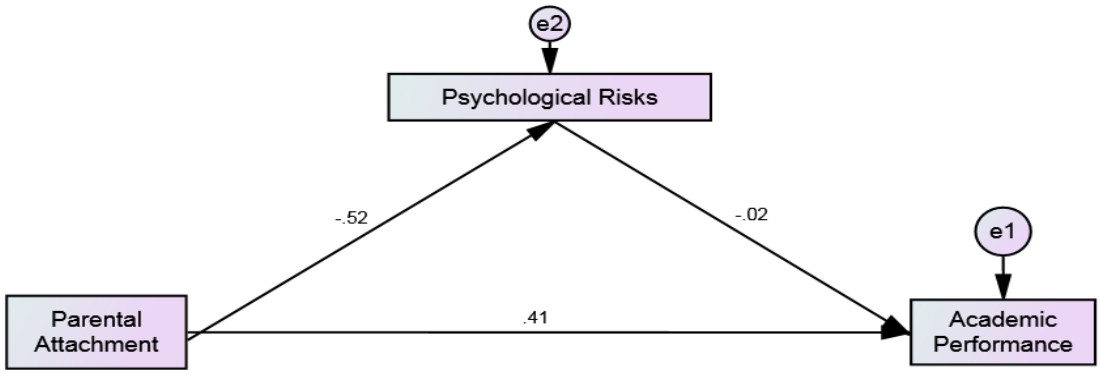

Figure 4.15: Mediation Effect of Psychological Risk between Relationship of Parental Attachment and Academic Performance.

The figure 4.15 shows a direct relationship between parental attachment and academic performance. The standardized direct effect is found to be .42, which is significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and academic performance is 17.5, significant at a 0.01 level of confidence. It also shows a significant relationship between parental attachment and

academic performance. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. It can be seen from the table that the relationship between Parental attachment and psychological risks is significant at 0.01 level of confidence. The effect of Parental attachment on psychological risk was found to be -1.520 (p<.001), which was significant. This result fulfills the second condition of the mediation analysis. The relationship between psychological risk and academic performance is not significant. It means that psychological risk is not mediating between parental attachment and academic performance.

Table 4.23 : Regression Weights of Parental Attachment (PA), Psychological Risk (PR) and Academic Performance (AP).

			Estimate	S.E.	C.R.	P
PR	<---	PA	-1.520	.065	-23.274	***
AP	<---	PA	.542	.037	14.623	***
AP	<---	PR	-.007	.013	-.580	.562

b) Does the relationship between parental attachment and performance of the senior secondary school students is mediated by Engagement.

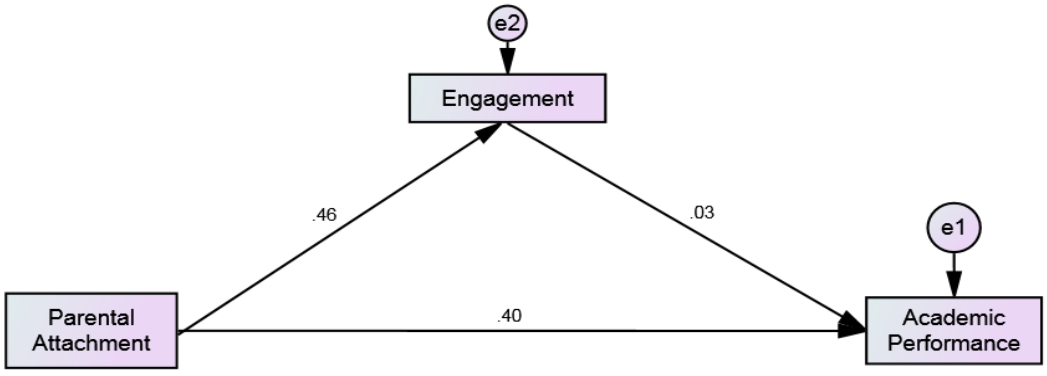

Figure 4.16: Mediation Effect of Engagement between Relationship of Parental Attachment and Academic Performance.

The figure 4.16 shows a direct relationship between parental attachment and academic performance. The standardized direct effect was found to be .42, which was significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and academic performance is 17.5, significant at 0.01 level of confidence. It also shows a significant relationship between parental

attachment and academic performance. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. It can be seen from the table 4.24 that the relationship between parental attachment and engagements is significant, which fulfills the second condition of mediation analysis. The relationship between engagement and academic performance is not significant. It means that engagement is not mediating between parental attachment and academic performance. As a result, educators can address student's abilities to effectively manage academic challenges and stresses by developing methods, services, and initiatives that each of the implicated variables.

Table 4.24 : Regression Weights of Parental Attachment (PA), Engagement (ENG) and Academic Performance (AP).

			Estimate	S.E.	C.R.	P
Eng	<---	PA	.928	.047	19.638	***
AP	<---	PA	.535	.036	15.043	***
AP	<---	Eng	.020	.018	1.115	.265

(c) Does the relationship between parental attachment and performance of the senior secondary school students is mediated by buoyancy.

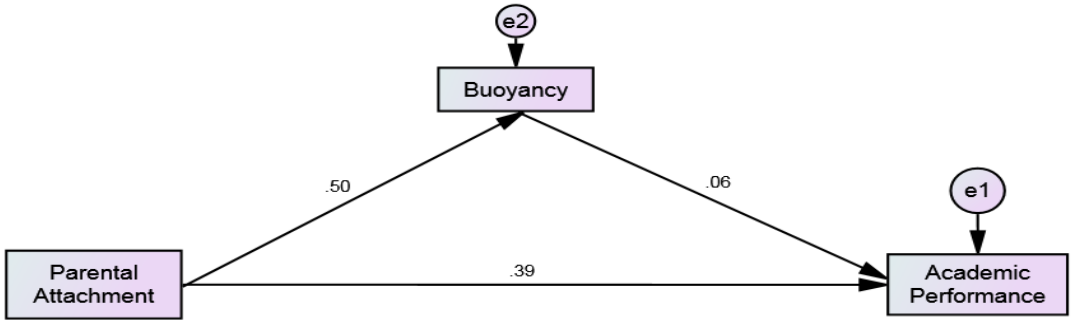

Figure 4.17: Mediation Effect of Buoyancy between Relationship of Parental Attachment and Academic Performance.

The figure 4.17 shows a direct relationship between parental attachment and academic performance. The standardized direct effect was found to be .42, which was significant at 0.01 level of confidence. Further, the critical value of the relationship between parental attachment and academic performance is 17.5, significant at 0.01 level of confidence. It also shows a significant relationship between parental

attachment and academic performance. This direct effect was found to be significant, which fulfills the first condition of mediation analysis. It can be seen from the table 4.25 that the relationship between parental attachment and buoyancy is significant at the 0.01 level of confidence, which fulfills the second condition of mediation analysis. The relationship between buoyancy and academic performance is not significant. It means that buoyancy is not mediating between parental attachment and academic performance. On the basis of analysis it reveals that the model was accepted as adequate and the indices of the model were (CMIN/DF) = .538, Comparative Fit Index (CFI) = 0.99, Goodness Fit Index (GFI) = 0.99, Adjusted Goodness of Fit Index (AGFI) = 0.97, Root Mean Square of Approximation (RMSEA) = 0.05.

Table 4.25 : Regression Weights of Parental Attachment (PA), Buoyancy (BUO) and Academic Performance (AP).

			Estimate	S.E.	C.R.	P
Buo	<---	PA	.285	.013	22.230	***
AP	<---	PA	.510	.037	13.959	***
AP	<---	Buo	.151	.065	2.329	.020

DISCUSSION ON RESULTS

The findings of this study seem to support previous findings that parental attachment is positively related to academic performance. In addition, academic performance can be influenced by numerous factors, including demographic factors, such as gender, age, and socioeconomic status of the family, as well as factors such as the quality of school teaching and the mode in which students with special needs are grouped. Nowadays, students are suffering from factors and problems that disturb their academic performance badly, and these types of problems come from low parental attachment, psychological factors (which include anxiety, stress, depression), low engagement in the classroom, and buoyancy. In an educational context, these problems for students in senior secondary education to failure in their academic performance, unrealistic worry, low self-efficacy, fear, and test anxiety create problems to function them normally.

Duchesne (2017) concluded that parental attachment was positively correlated with academic performance. Numerous studies confirmed that psychological factors such as anxiety and depression negatively influenced on academic performance of the students (Williamson *et.al*, 2005). Similarly, the researcher found the same result and indicated that anxiety and depression negatively correlated with students' performance (Yasin*et.al*, 2011).

Although in many cases, researcher emphasized that parental attachment promotes grade point average, cognitive engagement, academic persistence, and academic attainment among children, early and late adolescents (Bell, Hauser and Oconner, 1996; Finn, 1997; Hoffman 1987; Cutrona, Colangelo and Russell 1994; Moss, 2001; Peng, 1994). Support from parents has been found to reduce the psychological risk among students (Calvete and Connor-Smith, 2006). Thus, to foster students' performance, parents should provide support to their children to achieve good marks in this competent era. As a parent, they must show some interest in their ward studies and communicate with their teachers. It can be said that parental attachment is an essential factor in enhancing the performance of students.

Chapter –5

CONCLUSIONS, LIMITATIONS, RECOMMENDATIONS, EDUCATIONAL IMPLICATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 CONCLUSIONS

In the present study, objective wise conclusions have been drawn from the results which are present below:

Objective1:- To classify the levels of parental attachment, academic performance, psychological risk, engagement, and buoyancy.

a) The majority of senior secondary school students possess a low level of parental attachment. The same is found to be true for grouping based on gender, stream, locality, and type of school.

b) The majority of senior secondary school students possess a B level of academic performance. The same is found to be true for grouping based on gender, stream, locality, and type of school.

c) The majority of senior secondary school students possess an average level of psychological risk. The same is found to be true for grouping based on gender, stream, locality, and type of school.

d) The majority of senior secondary school students possess an average level of engagement. The same is found to be true for grouping based on gender, stream, locality, and type of school.

e) The majority of senior secondary school students possess an average level of buoyancy. The same is found to be true for grouping based on gender, stream, locality, and type of school.

Objective 2: - To find out the difference among senior secondary school students in parental attachment, academic performance, psychological risk, engagement, and buoyancy based on gender, stream, locality, and type of school.

- **Significance of mean difference in the parental attachment based on gender, stream, locality, and type of school.**

1) The parental attachment of art students is significantly more than science senior secondary school students.
2) The parental attachment of urban school students is significantly more than rural senior secondary school students.
3) The parental attachment of private school students is significantly more than government senior secondary school students.

- **Significance of mean difference in the academic performance on the basis of gender, stream, locality, and type of school.**

1) The academic performance of female students is significantly more than male senior secondary school students.
2) The academic performance of urban school students is significantly more than rural senior secondary school students.
3) The academic performance of private school students is significantly more than government senior secondary school students.

- **Significance of mean difference in the psychological risk on the basis of gender, stream, locality, and type of school.**

1) The psychological risk of female students is significantly more than male senior secondary school students.
2) The psychological risk of rural school students is significantly more than urban senior secondary school students.
3) The psychological risk of government school students is significantly more than private senior secondary school students.

- **Significance of mean difference in the Engagement on the basis of gender, stream, locality, and type of school.**

1) The engagement of female students is significantly more than male senior secondary school students.

2) The engagement of science students is significantly more than arts senior secondary school students.

3) The engagement of urban school students is significantly more than rural senior secondary school students.

4) The engagement of private school students is significantly more than government senior secondary school students.

- **Significance of mean difference in the Buoyancy on the basis of gender, stream, locality, and type of school.**

1) The buoyancy of male students is significantly more than female senior secondary school students.

2) The buoyancy of urban school students is significantly more than rural senior secondary school students.

3) The buoyancy of private school students is significantly more than government senior secondary school students.

Objective 3:- To study the relationship between parental attachment, academic performance, psychological risk, engagement, and buoyancy among senior secondary school students.

1) Parental attachment of senior secondary school students has a significant positive relationship with academic performance.

2) Parental attachment has a significantly negative correlation with the psychological risk of senior secondary school students.

3) Parental attachment of senior secondary school students and engagement has a significant positive relationship.

4) Parental attachment has a significantly positive relationship with the buoyancy of senior secondary school students.

5) The psychological risk has a significantly negative relationship with the academic performance of senior secondary school students.

6) The psychological risk has a significantly negative relationship with the engagement of senior secondary school students.

7) The psychological risk has a significantly negative relationship with the buoyancy of senior secondary school students.

8) The buoyancy has a significant positive relationship with the academic performance of senior secondary school students.

9) The engagement has a significant positive relationship with the buoyancy of senior secondary school students.

10) The engagement has a significant positive relationship with the performance of senior secondary school students.

Objective 4:- To study parental attachment as the predictor of academic performance among senior secondary school students.

Parental attachment is a significant predictor of senior secondary school students' academic performance. Furthermore, the positive relationship between parental attachment and performance indicates that high parental attachment increases senior secondary school students' performance.

Objective 5:- To study the role of psychological risk and engagement in the relationship between parental attachment and buoyancy of the senior secondary school students.

1) Psychological risk partially mediates the relationship between parental attachment and buoyancy of senior secondary school students.

2) Engagement is not mediating the relationship between parental attachment and buoyancy of senior secondary school students.

Objective 6:- To examine the role of engagement, buoyancy, and psychological risk in the impact of parental attachment on the academic performance of senior secondary school students.

1) Psychological risk is not mediating the relationship between parental attachment and performance of senior secondary school students.

2) Engagement is not mediating the relationship between parental attachment and academic performance of senior secondary school students.

3) Buoyancy is not mediating the relationship between parental attachment and performance of senior secondary school students.

5.2 LIMITATIONS

The study's limitations are those design or methodology that influences the interpretation and explanation of the results. For the present study, the researcher found the following limitations:

1) The lack of cooperation from school principals in the data collection process was a major obstacle since the sample of the study was board class students. The investigator had to approach more than 90 schools in order to collect data from the required 60 schools. Also, it took investigator around three months to collect the data from schools.

2) Research on psychological risk, engagement and buoyancy in the Indian context is limited. As a result, quality literature reviews to present state of art on this topic are insufficient.

5.3 RECOMMENDATIONS

The following recommendations are based on the results of this study:

- The result of the study indicated that psychological risk negatively impact the academic performance. So the study recommended that school based intervention and strategies can be used to decrease the psychological risk, and it will enhance their academic performance. For educators, this study may enable them to identify challenges that children are facing that may be affecting their performance.

- The findings revealed that parental attachment and student engagement have positive relationship. So it is recommended that parents must make it a priority to take quality time from their busy schedules to be aware of the happenings in the lives of their wards. Awareness would lead to providing timely guidance to the children, which will strengthen parental attachment, and in turn promote the sense of engagement among the students.

- Since the literature on psychological risk, engagement, and buoyancy in the Indian context are scarce, it is recommended that the limited works on these variables can be shared with the research community by forming seminars and workshops.

- The analysis indicated that engagement and buoyancy have a significant positive relationship. Thus, study recommended that teachers allow students to perform close analyses and equal opportunities should be given to participate in conducting experiments in the classroom to increase student engagement.

- It has been found that high parental attachment shows the high performance of students in their academics. So it is recommended that parents can create an environment at home that will encourage children to perform better in academics.

- Furthermore, this study indicated that parental attachment underpins psychological risk, engagement, and academic buoyancy, which are not mediating students' academic performance. Therefore, it is recommended that practices and pedagogies can be used to enhance students' abilities and skills which provide them opportunities to maximize their performance.

5.4 EDUCATIONAL IMPLICATIONS

- Academic performance plays an important role in the lives of adolescents and the present study throws light on academic performance, parental attachment, psychological risk, engagement, and buoyancy among senior secondary school students in Punjab. Thus, the produced results have clear implications for parents, teachers, school counselors, and principals.
- Parents can take help from teachers and administrators to identify and implement school-based policies and programs to enhance academic performance, at home level.
- The researcher found that parental attachment is a major predictor of academic success, indicating that a high level of parental attachment improves academic performance. As a result, students and parents can find ways to establish healthy relationships. In addition, the school should organize workshops and

seminars to provide resources such as websites and parent policy handbooks to resolve specific issues.

- The psychological risk was significantly negatively correlated with academic performance and poor academic performance may expose students to increased stress and psychological symptoms, which can be removed with proper planning and fostering a sense of control by providing students with appropriate goals and give attention to positive attitude and strategies to achieve good academic scores.
- It has been found that students experience buoyancy in academic lives. So it is essential for them to understand the academic difficulties they are facing, But the main aspect is, the adaptive approach adolescents should understand. Therefore, there is a need for effective strategies to protect youth from the different factors, and teachers can help them to understand their lessons, make planning for effective learning, and increase their efforts to understand their assignments for better academic performance.

5.5 SUGGESTIONS FOR FUTURE STUDIES

Based on this research, the following suggestions have been made for future research:

1) The present study was confined to Punjab state only, and still, very few studies have been conducted on psychological risk and buoyancy among students in India. So it is suggested that the same studies can be conducted from other states of India also.

2) In this study, parental attachment has been found as one of the significant independent factors that impacted the academic performance of senior secondary school students. So future studies can be conducted on CBSE and ICSE board students. Moreover, such studies can be conducted at various college and university students.

3) The scales' validation was done only on Punjab state. Hence, it is suggested that the scales be validated by collecting samples from other Indian states as well.

4) This study was descriptive rather than experimental. As a result, no definitive conclusions about the mediatory impacts of the predictors understudy on senior secondary school students' academic performance. So, experimental research

can be conducted, which may provide a more accurate reflection of the student's thinking.

5) Future research could focus on designing specific training techniques to improve students' academic buoyancy and performance, as well as investigating the impact of such training on students' academic buoyancy and performance.

6) Future studies should look at the additional relevant antecedent, mediator, and predictor variables (such as parent-teacher and peer attachment) that could contribute to students' academic success.

7) Parental attachment, psychological risk, and engagement were determined to be predictors of senior secondary school student's academic buoyancy and academic performance, based on the data's acceptable fit via SEM. As a result, educators and practitioners can use techniques, programs, and interventions that target each of the linked variables to address students' capacities to effectively manage the academic obstacles and pressures, and so maximize students' academic performance.

8) According to the findings, particular attention should be given to student's abilities at school and home. These skills will help them in better learning, planning, and ultimately improving their academic performance.

Conclusion: The present study established the quantitative relationship. Parental attachment has on academic performance, mediated through psychological risk, buoyancy and engagement on senior secondary school students of Punjab. Considering the significance of transient phase of life to which the subjects of this study belong, the findings of this study hold unique relevance for all the stakeholders associated with the subjects and the schools in which these subjects pursue education. It is hoped that the outcomes of this study eventually which reach wider audience and serve as guides for making appropriate course corrections.

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ANNEXURE

Section A: Dear students

The questionnaire being supplied to you are part of a research work. Thisinformation will not be shared to others and will be used only for researchpurpose.

Please fill in the following information:

Name: _____

Name of School: _____

Type of school: Govt. ☐ Private ☐

Stream: Arts ☐ Science ☐

Gender: Male ☐ Female ☐

Residential address: Rural ☐ Urban ☐

Type of Family: Joint ☐ Nuclear ☐

Mother's Qualification: Illiterate ☐ 8th ☐ 10th ☐ 12th ☐ Graduate ☐ Post Graduate ☐

Father's Qualification: : Illiterate ☐ 8th ☐ 10th ☐ 12th ☐ Graduate ☐ Post Graduate ☐

Number of Children in Family: One ☐ Two ☐ Three ☐ Four & more ☐

Order among Siblings: One ☐ Two ☐ Three ☐ Four & above ☐

Mother's Work Status: Working ☐ Non-Working ☐

If Working: Self Employed ☐ Government Employee ☐ Private Employee ☐

Father's Work Status: Working ☐ Non-Working ☐

If Working: Self Employed ☐ Government Employee ☐ Private Employee ☐

Parents' Income (Monthly) : up to 15,000 ☐ 15,000- 30,000 ☐ 30,001- 45000 ☐

45,001-60,000 ☐ 60,000-75000 ☐ 75,001-90,000 ☐

90,001-105000 ☐ 105001-120000 ☐ 120001-135000 ☐

135001-150000 ☐

Scores in +2 Class _____ **Contact No. (Any).** _____

Section B: The below listed items are related to different aspects of an academic performance and is related on different parameters. You are requested to tick the best suitable option given for each statement

Section B

Following statements are related to your parental attachment.The possible responses are divided into three categories which are: Always true, sometimes true and never true. Read each statement carefully and put a tick under the category which, in your opinion, best expresses your feelings about the statement.

S.No.	Statements	Always True	Sometimes True	Never True
1	My parents respect my feelings	Always True	Sometimes True	Never True
2	My parents are good parents	Always True	Sometimes True	Never True
3	I wish I had different parents	Always True	Sometimes True	Never True
4	My parents accept me as I am	Always True	Sometimes True	Never True
5	I can't depend on my parents to help me solve a problem	Always True	Sometimes True	Never True
6	I like to get my parents' view on things I am worried about	Always True	Sometimes True	Never True
7	It does not help to show my feelings when I am upset	Always True	Sometimes True	Never True
8	My parents can tell when I am upset about something	Always True	Sometimes True	Never True
9	I feel silly or ashamed when I talk about my problems with my parents	Always True	Sometimes True	Never True
10	My parents expect too much from me	Always True	Sometimes True	Never True
11	I easily get upset at home	Always True	Sometimes True	Never True
12	I get upset a lot more than my parents know about	Always True	Sometimes True	Never True
13	When I talk about things with my parents they listen to what I think.	Always True	Sometimes True	Never True
14	My parents listen to my opinions	Always True	Sometimes True	Never True
15	My parents have their own problems, so I don't bother them with mine.	Always True	Sometimes True	Never True
16	My parents help me to understand myself better	Always True	Sometimes True	Never True
17	I tell my parents about my problems and troubles	Always True	Sometimes True	Never True
18	I feel angry with my parents	Always True	Sometimes True	Never True
19	I don't get much attention at home	Always True	Sometimes True	Never True
20	my parents support me to talk about my worries	Always True	Sometimes True	Never True
21	My parents understand me	Always True	Sometimes True	Never True
22	I don't know who I can depend on	Always True	Sometimes True	Never True
23	When I am angry about something, my parents try to understand	Always True	Sometimes True	Never True
24	I trust my parents	Always True	Sometimes True	Never True
25	My parents don't understand my problems	Always True	Sometimes True	Never True
26	I can count on my parents when I need to talk about a problem	Always True	Sometimes True	Never True
27	No one understand me	Always True	Sometimes True	Never True
28	If my parents know that I am upset about something, they ask me about it.	Always True	Sometimes True	Never True

Following statements are related to your psychological factor. Read each statement carefully and tick against it which you accept most. Tick from the following alternatives: "Strongly Agree", "Agree", "Neither Agree nor Disagree", "Disagree", and "Strongly Disagree".

S.No	Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	When exams and assignments are coming up, I worry a lot	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

2	I worry about failing exams and assignments	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
3	When I do tests or exams I don't feel very good	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
4	In terms of my schoolwork, I would call myself a worrier	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5	Often the main reason I work at school is because I don't want people to think that I am dumb	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
6	Often the main reason I work at school is because I don't want people to think bad things about me	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
7	Often the main reason I work at school is because I don't want to disappoint my parents	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
8	Often the main reason I work at school is because I don't want my teacher to think less of me	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
9	When I don't do so well at school I am often unsure how to avoid that happening again	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
10	When I get a good mark I am often not sure how I am going to get that mark again	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
11	When I get a bad mark I am often unsure how I am going to avoid getting that mark again	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
12	I am often unsure how I can avoid doing poorly at school	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
13	I am not a worrier	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
14	I often feel inferior to others	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
15	When I am under a great deal of stress, sometimes I feel like I am going to pieces	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
16	I rarely feel lonely or blue	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
17	I often feel tense and jittery	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
18	Sometimes I feel completely worthless	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
19	I rarely feel fearful or anxious	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
20	I often get angry at the way people treat me	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
21	Too often, when things go wrong, I get discouraged and feel like giving up	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
22	I am seldom sad or depresses	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
23	I often feel helpless and want someone else to solve	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

	my problems					
24	At times I have been so ashamed I just wanted to hide	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
25	My mood keeps fluctuating without any reason	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
26	I quickly get angry and irritated	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
27	I take lot of time to return to balanced state of mind after being baffled and dejected	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
28	Owing to present conditions in the family I generally wish to run away somewhere	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
29	Every word pricks me quickly	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
30	On thinking that some calamity and grief may happen in future, I generally feel distressed	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
31	Occasionally, I get so angry that I feel it appropriate not to say anything	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
32	I feel myself grieved over disagreement with other persons	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
33	At times, good looking things suddenly appear to me as bad	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
34	All of a sudden, I begin to feel panic	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Following statements are related to your academic buoyancy. Read each statement carefully and tick against it which you accept most. Tick from the following alternatives: "Strongly Agree", "Agree", "Neither Agree nor Disagree", "Disagree", and "Strongly Disagree".

S.No	Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I am good at dealing with setbacks (e.g., bad mark, negative feedback on my work)	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
2	I don't let study stress get on top of me.	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
3	I think I am good at dealing with schoolwork pressures	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
4	I don't let a bad mark affect my confidence	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Following statements are related to your student engagement. Read each statement carefully and tick against it which you accept most. Tick from the following alternatives: Total disagreement, Disagreement, More disagreement than agreement, More Agreement than disagreement, agreement and total agreement.

S.N	Statements	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
1	When writing my work, I begin by making a plan for drafting the text	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
2	I try to connect what I learn in one	Total disagreement	Disagreement	More disagreement than	More agreement than	Agreement	Total Agreement

	discipline with what I learn in others			agreement	disagreement		
3	I spend a lot of my free time looking for more information on topics discussed in class	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
4	When I am reading, I try to understand the meaning of what the author wants to transmit	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
5	I review my notes regularly, even if a test is not coming up	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
6	My school is a place where I feel excluded	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
7	My school is a place where I make friends easily	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
8	My school is a place where I feel integrated	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
9	My school is a place where it seems to me that others like me	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
10	My school is a place where I feel alone	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
11	I am absent from school without a valid reason	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
12	I am absent from classes while in school	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
13	I deliberately disturb classes	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
14	I am rude toward teachers	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
15	I am distracted in the classroom	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
16	During classes I put questions to the teachers	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
17	I talk to my teachers about my likes and dislikes	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
18	I comment with my teachers, when something interests me	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
19	During lessons, I intervene to express my opinions	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement
20	I make suggestions to teachers about how to improve classes	Total disagreement	Disagreement	More disagreement than agreement	More agreement than disagreement	Agreement	Total Agreement