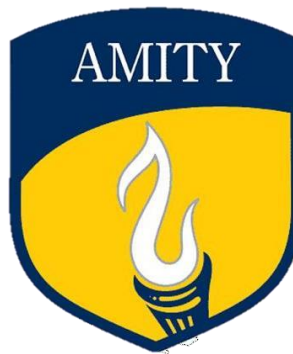




Verbal Reasoning Ability, Self-Esteem And Academic Adjustment In Class 12 Students Of
ICSE And CBSE Board



Dissertation submitted as a partial fulfilment for the degree of

M.A. Clinical Psychology

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The thesis embodies the original piece of research work of the candidate and no part of this dissertation has been submitted for any other degree of any university to the best of our knowledge

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ABSTRACT

With the English language being spoken globally, it is important for a developing country like India to incorporate the language into its teaching curriculum. This study tries to investigate the relationship between Verbal Reasoning Ability, Self-Esteem and Academic Adjustment among ICSE and CBSE class 12 students. Based on the results, a significant positive relationship ($r=0.346$, $p<0.001$) was seen between verbal reasoning ability and academic adjustment. Similarly, a significant positive relationship ($r=0.508$, $p<0.001$) was also obtained between academic adjustment and self-esteem. However, no relationship was observed between verbal reasoning ability and self-esteem. C.

Keywords - Self-Esteem, Academic adjustment, Verbal reasoning ability, ICSE board, CBSE board

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CHAPTER 1

INTRODUCTION

The status of a nation is decided by its education system. Education is the only means by which people can be freed from unfounded prejudice, ignorance, and misrepresentation and be instilled with national and cultural values. Education is a basic fundamental right for each human being. Although the system of education is quite advanced in metropolitan areas for those with solid economic sources, it still has to be improved for those living in rural areas as well as the poor. The expansion of the nation is influenced by the educational development of these two regions.

With a 74% literacy rate, notwithstanding the fact that several states in India have poor education systems, the country's overall literacy rate is still increasing. With the percentage of educated people being 94%, Kerala leads all other states, followed by Lakshadweep (91.85%), Mizoram (91.33%), and Goa (88.70%). However, Bihar, with a literacy rate of 61.80%, is the lowest, followed by Arunachal Pradesh, with a rating of 65.38%, Rajasthan, with a rate of 66.11%, and Jharkhand, with a rate of 66.41%. These figures make it very evident that India's educational system has to be improved. Along with quantity, quality of education is also important as highlighted by Jain et al (2017) in a paper that states it is crucial that policies shift their focus from increasing enrollment to improving quality in all spheres—starting with making school facilities available to students, developing their learning skills that are not just limited to curriculum knowledge, and implementing effective teaching practices—because mere quantitative expansion would not produce the desired results unless a particular standard of quality is maintained.

In the Indian educational context, the verbal reasoning abilities of a student are of utmost importance. Some schools incorporate verbal reasoning ability into their syllabus as it plays a major role in present achievement and future employability of the student. Both technical and non-technical education is a must in ensuring future employability. Technical education includes the academic syllabus of the student, the GPA, the competitive exams they must take up etc. whereas, non-technical education consists of verbal reasoning skills, logical reasoning and soft skills. Research has indicated that employers tend to look more for students with a stronger set of non-technical skills as compared to their technical, academic education. Although their technical education is still important, non-technical education is a stronger predictor of whether a student will be employed in the company or not (Gokuldas, 2010).

Verbal reasoning ability also plays a role in the student's Self-Esteem as reported in various studies conducted on the two variables. It has consistently been seen that a student's self-esteem and others perception of his abilities play a role in his performance in various language tasks. These tasks require high levels of verbal reasoning ability and strong linguistic skills (Dermaitzaki et al., 2000). Similarly, self-esteem and overall adjustment of a student are also positively correlated and the highest correlation is with academic adjustment. A student's verbal reasoning abilities directly affect his self-esteem which affects his academic adjustment. Thus, all three variables are interconnected and this further reiterates the importance of honing the verbal reasoning skills of the student to allow for holistic growth (Pasha & Munaf, 2013).

A student in grade 12 in the Indian academic system is required to study for their board exams which play a very important role in deciding the future careers of students. These exams test the students' knowledge in various subjects and are crucial for their future education. A study taken from the American psychological Association reports that at least 90% of college students

state that a major cause of their stress comes from examinations. Board exams are inevitable in Indian society and students are constantly under immense pressure to perform well on these exams. Stress during these exams is a normal occurrence however, with increased societal pressure many students struggle with severe and debilitating stress and anxiety (Jose et al., 2014). Academic stress is seen to have a significant low negative relationship with self-esteem and an association with increased disordered eating symptomatology. Students with lower levels of self-esteem are more prone to various psychopathy and mental health problems (Costarelli et al., 2013).

The CBSE, Central Board of Secondary Education and ICSE, Indian Certificate of Secondary Education curriculum is taught in the English language. Reading and writing are the main topics of English instruction in most Indian school contexts. In some schools, including Government run schools, listening and speaking skills receive little to no attention, if any at all; just two Boards of Exams, ICSE and CBSE, require their inclusion. Prior to implementing extensive testing reform, problems including grade inflation, teacher English proficiency, and establishing conditions for internal evaluation in a high-stakes testing environment need to be addressed. The legitimization of Indian English could be one of these developments' most significant effects (Ramanathan, 2011).

Education System in India

According to the Indian Constitution, education in schools was first considered a state subject. The creation and execution of policies fell entirely under the purview of the states. The only responsibility the Indian government had was to coordinate and set the standards for higher education. Education currently falls under the 'concurrent list,' as a result of a constitutional

amendment in 1976. In other words, the Government of India recommends school education policies and programmes at the national level, but state governments have a lot of discretion over how to carry out the programmes. Periodically, policies are declared at the national level. Since its establishment in 1935, the Central Advisory Board of Education (CABE) has taken the lead in shaping and overseeing educational policies and initiatives. The University Grants Commission (UGC) and the All India Council for Technical Education (AICTE) are principally in charge of regulating the whole higher education environment in India.

In India, there are primarily three streams of education. Two of these are coordinated at the national level, one of which is administered by the Central Board of Secondary Education (CBSE) and was initially created for the benefit of children of central government employees who undergo recurrent transfers and may be required to relocate anywhere in the nation. A number of "central schools" (also known as Kendriya Vidyalayas) have been constructed for the purpose in all of the country's major urban centres, and they all adhere to the same curriculum, making little to no difference in the content taught to students who transfer between them on a particular day. They all adhere to NCERT-written and NCERT-published textbooks.

The Indian Certificate of Secondary Education is the second major programme (ICSE). As an alternative for the Cambridge School Certificate, this was started. The proposal was made at a meeting presided over by Maulana Abul Kalam Azad, the education minister at the time, in 1952. The conference's major goal was to discuss the possibility of replacing the international Cambridge School Certificate Examination with an All India Examination. A proposal for the establishment of an Indian Council to oversee the University of Cambridge, Local Examinations Syndicate's Examination in India and to counsel the Syndicate on how to best adapt its

examination to the needs of the nation was adopted at the Inter-State Board for Anglo-Indian Education meeting in October 1956.

It is frequently stated that one of the key factors in India's economic growth is its education system. The higher education market in India is estimated to be worth \$40 billion annually. Currently, 12.4 percent of students in the nation enrol in higher education. In the next ten years, India would require an additional 800 to 1,000 universities and more than 40,000 colleges if the 12.4% to 30% percentage were to rise (Gupta & Gupta, 2012). There is a need for a value-based higher education system that equips adolescents with the employment skills they need to support themselves and, in turn, lessen poverty. The third-largest higher education system in the world is found in India. Indian higher education has grown quickly, but at the expense of quality, which differs between schools. The majority of definitions of quality in education are based on two guiding concepts. The first states that the primary explicit goal of all educational institutions is the cognitive development of students. As a result, one sign of a system's quality is how well it accomplishes this. The second places a focus on education's function in fostering the development of creative and emotional skills as well as civic ideals and attitudes (Bhatia & Dash, 2011).

Numerous studies have been conducted over the years to assess the pros, cons and significant differences of studying in either ICSE or CBSE boards. Many factors play a role in whether the student is receiving a holistic education and the academic motivation of students, their education interest and emotional intelligence are variables that are important aspects in assessing the level of enjoyment students have in their education. Research has shown that academic motivation does not differ based on the board in which the students are studying (Shylashree & Rekha, 2018) . However, CBSE students have been seen to have higher levels of

education interest as compared to ICSE students in subjects including but not limited to, humanities, technology and science. Similarly, CBSE students also have higher levels of emotional intelligence as compared to their ICSE counterparts. These findings tip the scales in favour of CBSE schools as there is evidence of a more well-rounded education that their students receive (Rai & Sharma, 2014; Senad, 2017) .

The Indian educational system is widely criticised in a wide range of areas for failing to provide students with the necessary employability in line with corporate requirements and for failing to contribute to overall national development (Bhuwan & Sweet, 2019). The higher education system in India has faced many difficulties, but there have also been several opportunities to address these difficulties and improve the higher education system in the nation. It requires more openness and accountability, and a focus on the recently developed scientific study on how students learn is crucial. India requires highly educated and skilled individuals who can advance the country's economy (Sheikh, 2017).

Verbal Reasoning Ability

“Verbal reasoning is the deployment of linguistic processes according to and in order to satisfy the demands of a reasoning task” (Polk, 1992). There are several logically separate cognitive activities that appear to be involved in verbal reasoning, as well as other dimensions where individual performance may differ. Lifelong learning of cognitive skills and knowledge requires a continuing ability to apply general reading and reasoning skills to relatively unfamiliar material. Reading is not the same as verbal reasoning, yet one of the most helpful features of verbal reasoning is the ability to read critically. Since the line separating critical reading from simpler reading stages, such decoding and basic comprehension, varies for individual readers, a

critical reading exam is likely to contain some activities that are merely typical comprehension tasks for some more advanced readers (Burton et al., 2009).

Based on multiple sources of research, various reasoning ability operations were identified to be important for students studying in higher grades of education. Comprehending the various meanings of different words and the relationships between them, the underlying concept and the overall structure of the literature is vital for a student to succeed. The ability to summarise large chunks of text and utilise various reading strategies constitutes a large part of a students daily academic activities. Another operation consists of exploring and deriving the intended assumptions and perspectives of the author along with comprehending any figurative and literal text. After reading through a text, consolidating the new information, comparing the new information with old information, discarding the information that contradicts current beliefs as well as retaining information that are in opposition to certain held beliefs is vital in generating different viewpoints. These operations allow the student to be knowledgeable and maintain a level of ethics (Blackburn, 1990; Bowen & Bok, 1998; Campbell, Kuncel et al., 1998; Hartnett & Willingham, 1980; Klitgaard, 1985; Willingham & Breland, 1982).

According to the American Psychological Association (n.d), Verbal reasoning is defined as, “demonstrated skill to comprehend and communicate effectively with words”. Multiple studies have found that verbal reasoning skills and development of executive functioning are interconnected. A fundamental cognitive ability that sets humans apart from other species and supports general intelligence, ingenuity, and effective learning abilities is analogical verbal thinking. Children who have better early primary school vocabulary knowledge and executive-function skills perform better on verbal reasoning tasks. The ability to perform verbal analogies requires knowledge, but long-term improvements in basic reasoning abilities are

associated with high executive-functioning capabilities in early life (Richland & Burchinal, 2012).

“Executive functions include high-order cognitive abilities such as working memory, inhibitory control, cognitive flexibility, planning, reasoning, and problem solving” (Cristofori et al., 2019). The socio-economic status of children plays a role in the normal development of their executive functioning over the years. A significant positive relationship exists between executive functioning and economic status. Executive functioning in children has been seen to enhance over time if given the right stimulation and opportunities for growth. Verbal reasoning ability is seen to be a significant prognostic for the longitudinal change in a child's executive functioning. When the child is provided with opportunities to enhance his verbal reasoning ability, it leads to the sharpening of his executive functioning which gradually gets better as he ages. This confirms the effect of verbal reasoning on executive functioning and emphasises its importance in the early years of childhood to ensure maximum development of executive functioning (Fuhs & Day, 2011).

Metaphor comprehension in children is seen to have a relationship with verbal reasoning ability and executive functioning throughout the developmental stages. “The comprehension of metaphors involves the ability to activate a broader, more flexible set of semantic associations in order to integrate the meanings of the weakly related parts of the metaphor into a meaningful linguistic expression” (Kennet, 2018). When metaphor comprehension is extremely difficult, either due to the metaphors' high level of difficulty, or due to the child's unique processing challenges, such as reduced levels of reading expertise or low semantic knowledge, executive functioning becomes increasingly involved in the process of comprehension. The comprehension of metaphors continuously improves over the years, especially between the ages of eleven to

fifteen and fifteen to twenty-one. However, the influence that executive functioning has on the comprehension of metaphors becomes very apparent at the age of fifteen (Carriedo et al., 2016).

Since verbal reasoning plays a large role in the daily functioning of individuals, there is a large amount of research on how certain disabilities affect the verbal reasoning ability of the disabled person. Despite having average intellect, children with specific learning disorders (SLDs) typically do poorly in academic settings. They are consequently often evaluated with IQ tests, typically the Wechsler Intelligence Scale for Children (WISC), as well as through various achievement tests (Giofre & Cornoldi, 2015). Children with language learning impairments perform worse in all aspects as compared to children without disabilities who are matched with their mental age (Masterson et al., 1993).

The intellectual and social growth of children with Autism spectrum disorders affects their capacity for language and communication. Some children with autism spectrum disorders could be unable to communicate verbally, while others might have extremely limited speaking abilities. Others might have large vocabulary sets and be able to discuss particular topics in great detail. Many of them struggle with word meaning and phrase rhythm (NIH, 2020). In comparison with typically developing children, high functioning autistic children have weak skills in verbal fluency and narrative memory. Similarly, compared to children with Aspergers, autistic children use lesser verbal reasoning strategies in their day to day life. These findings provide recommendations to enhance and improve the verbal reasoning abilities in autistic children to help enhance their day to day living (Linnankoski et al., 2013; Alderson-Day, 2014).

Research has shown that functional hearing plays a role in the level of verbal reasoning in individuals. Poorer verbal reasoning in the linguistic and numerical domains is observed to be substantially correlated with reduced levels of functional hearing. Functional hearing and

education interact significantly, with a tendency of functional hearing to affect verbal reasoning more strongly in people with higher levels of formal education. Hearing aid use has been seen to significantly improve verbal and numerical reasoning in persons with impaired hearing, albeit this impact is not always causal. The ability of children with profound hearing loss to communicate linguistically is significantly affected by the use of cochlear implants (Geers et al., 2012; Geers et al., 2003; Keidser et al., 2016).

Researchers have developed a number of valid and reliable scales for the measurement of verbal reasoning. Processing strategies play a role when it comes to solving verbal analogy items of tests. Three of these strategies include an association strategy, a rule oriented strategy and finally, a partial rule strategy (Embretson et al., 1986). A large number of these measurement scales are batteries with Verbal reasoning on the sub-tests. The Anadolu-Sak Intelligence scale was developed in Turkey. It provides a fluid reasoning index, short term memory index and a crystallised knowledge index (Sak et al., 2019). The speed based verbal reasoning subtest of the Anadolu-Sak Intelligence scale measures the reasoning speed of the respondent. Research has found the reliability and validity of the Anadolu-Sak intelligence test, however there is a low relationship seen between speed based verbal reasoning and the short term memory index of the Anadolu-Sak Intelligence scale (Kilicarslan et al., 2020).

Another measure is the Penn Verbal Reasoning Test that consists of 29 items and is used to measure analogical verbal reasoning abilities. However, one of the drawbacks of the test is its administration time which can last for over half an hour. A short form of the Penn Verbal Reasoning Test was suggested that consists of 8 items and accurately predicts the total score. The short form version was seen to have a correlation of 0.9145 and also cut down the administration time by over 70% (Bilker, 2014). These tests are essential in assessing the verbal reasoning

abilities of the respondents and providing the required rehabilitation in case of serious maladjustment.

Theoretical frameworks of Verbal reasoning

Theory of Mental Models

Mental models are viewed as a type of cognitive framework that serves as the foundation for thought, judgement, and conduct. They are created by people based on their particular life experiences, perceptions, and worldviews (Jones et al., 2011). Mental models are the ways in which the mind represents an individual's real, imagined, remembered or hypothetical events. These models help in the process of deduction, induction and explanation. Forrester (1971) defined the mental model as, “A mental image or a verbal description in English can form a model of corporate organisation and its processes. The manager deals continuously with these mental and verbal models of the corporation. They are not the real corporation. They are not necessarily correct. They are models to substitute in our thinking for the real system that is represented”.

According to Johnson-Laird (2006), three basic presumptions are made by the theory of mental models. Firstly, each mental model illustrates the aspects that are shared by a certain collection of possibilities. Second, to the extent that they can be, mental models are iconic. This implies that a representation's structure matches the structure of the thing it represents. Third, mental models of certain descriptions depict what is true at the cost of what is false. This truth principle lessens the strain models put on an individual's working memory, which is where thoughts are stored while being considered.

Nysen et al., (1993) defines temporal reasoning as, “a process which uses procedural knowledge allowing to derive conclusions (deductive, abductive or inductive inferences) based on declarative knowledge, data, facts or observations which give information about a dynamic process. The conclusions inferred through temporal reasoning can reflect three aspects of psychological time: succession, duration or temporal perspective”. An experiment conducted by Schaeken and Johnson-Laird (2010) reported three studies that investigated temporal reasoning. The following problem was given, ‘A takes place before B. C takes place before B. D occurs while B occurs, and E occurs while C. What connection exists between D and E?’. This called for the construction of at least two different models in order to provide the correct response. However, since the first premise had no bearing on the solution, reasoners would only need to build one model if they chose to disregard it. One-model problems were solved more quickly and precisely than multi-model ones.

Goldvarg & Johnson-Laird, (2001), put forth a theory of causality based on the mental models theorem. The aim was to put forth a psychological description of causal meaning and reasoning. The theory provides an explanation of how individuals conceptualise causality and aims to address three conundrums: first, what causal linkages entail; secondly, how they are conceptualised; and third, how people draw conclusions from them. The consequence of perception, creativity, and discourse comprehension are mental models. Each model represents a potential possibility, and models are labelled to differentiate between logical, deontic, and physical possibilities. The physical possibilities determine causality. The theory says that naive reasoners create mental models of the states of circumstances indicated by the premises, and they then determine whether the conclusion of an inference is true in these models (Johnson-Laird & Byrne, 1991). As a result, a conclusion is required if it holds in all models of the premises, it is

possible if it applies in at least one model, and its likelihood depends on the percentage of models in which it holds.

According to the theory of Johnson-Laird (2001), reasoning comes to a conclusion by explaining a feature of the models that is hidden in the premises but is present in the models. Since people think in terms of models, the greater number of models they have to build and options they have to consider, the more difficult the work should be. Thus, they reach fewer correct results from issues involving many models than from those involving a single model. Model theory explanations of behaviour on the majority of deduction activities are congruent with verbal reasoning, and verbal reasoning can explain single task-specific behaviour. Polk & Newell (1995) propose that the core of deduction for unskilled participants entails continuously reencoding the issue for tasks where the relevant information is presented verbally, a sort of activity referred to as verbal reasoning. In terms of verbal reasoning, an inference problem's premises give linguistic information that must be transformed into a conclusion. A reasoning difficulty is encoded and re-encoded by linguistic skills until the solution is evident or the reasoner wants to give up.

A key aspect of human reasoning is the capacity for deduction. Science, mathematics, logic, rules, and other general principles wouldn't exist without it. The ability to reason exists in humans even though they have not had any formal training in logic. According to the mental model theory, when reasoners create models of the circumstances given in the premises, they often only make explicit what is true. Research has shown that the theory predicts the existence of conclusions that are convincing to the reasoner yet are actually incorrect. These result from reasoners neglecting to consider what is false. This has also been corroborated by various studies and experiments conducted (Johnson-Laird & Savary, 1999).

According to the mental model theory (MMT), primates' evolved visuospatial brain resources are used to comprehend verbal information. If this is the case, then improving spatial processing may lead to better performance outside of the spatial domain. According to MMT, mental model-based reasoning is notably supported by the spatial process of "scanning," which involves looking over spatial representations of data for important elements (Cortes et al., 2022). Only when the problem information is simple to visualise and when it requires processing and maintenance in the visual working memory do the visual brain areas become active. Yet, a typical thought process uses higher abstract spatial representations or spatial mental models that are present in the parietal cortices rather than visual images. Only these spatial representations are important for the reasoning processes (Knauff, 2009).

Krumnack et al., (2010) posits a theory describing the construction of mental images when given one-dimensional spatial associations. The fact that transitive one-dimensional spatial relations like 'right of', 'left of', 'in front of', 'behind' and 'north of' exist allows the reasoner to build a linear order, or a queue between items connected by one of these relations. The order in which the objects are lined is described by the queue, however what this order actually represents relies on the relation being taken into account. The understanding of the queue is not implicit, despite the order being implicit. The queue is built by connecting the objects together. Which things follow one another in that arranged hierarchy is shown by the links. When analysing the queue, the reasoner can travel from one object to the next in the queue but not to the previous object since the links between objects are one-directional. Information can be inferred from this arrangement that is not explicitly stated in the premises. Such conclusions are supported by mental images that reflect information that the premises orally provide. The main presumption is that deductive spatial reasoning is influenced by the process of creating a mental representation,

a mental model, from the premises. This suggests that the outcome of a spatial reasoning process depends on how spatial information is encoded.

According to the theory of mental models, people can only conclude that a spatial explanation is consistent if they are able to build a model in which each assertion made in the description is true. People want a concise representation, thus when the description is consistent with multiple conceivable arrangements of entities on the left—right axis, people tend to build models from the left to the right. Additionally, they favour placing entities that are mentioned in a single assertion next to each other in a model. In order to include multiple possibilities in a single model, reasoners also frequently group entities into a single unit Jahn et al., (2007).

Mental models are also utilised in propositional reasoning. “Propositional reasoning is the ability to draw conclusions on the basis of sentence connectives such as ‘and’, ‘if’, ‘or’ and ‘not’” (Rips, 1983). Johnson-Laird et al., (1992) proposed a novel theory of propositional reasoning which states that reasoning is a semantic activity based on mental models. It is predicated that individuals can only keep track of a finite number of conceivable scenarios, thus they implicitly utilise models that encompass as much information as they can. They do this by initially picturing two different possibilities: one in which there is a circle, and the other in which there is a triangle. This allows them to describe an independent idea, which might be "There is a circle or there is a triangle", an example that was stated by the author. If further detail is required, it can be added to this representation to produce an explicit representation of an exclusive or inclusive disjunction.

Self-Esteem

Rosenberg (1965) defined self esteem as “an individual overall positive evaluation to the self”. It consists of the individual showing respect for himself and believing himself to be worthy. “Self-esteem refers to an individual's perception or subjective appraisal of one’s own self-worth, one’s feelings of self-respect and self-confidence and the extent to which the individual holds positive or negative views about self” (Sedikides & Gress, 2003). Globalself-esteem refers to “how an individual values the self ; it is often treated as a trait that reflects an individual's stable level of self-evaluation (Brown et al., 2001; Tesser, 2004; Leary & Baumeister, 2000). On the other hand, domain specific self-esteem refers to “an individual's self-appraisals within circumscribed domains, for example, intellect and athleticism . Individuals therefore may hold different levels of self-esteem in various domains” (Harter, 2012).

Self-esteem is the perception that a person is suitable for life and its requirements. More precisely, self-esteem is the belief that one is worthy, deserving, and entitled to express one's needs and wishes, to assert those rights, and to enjoy the results of one's efforts. It is also the belief that one can handle life's problems. Self-esteem is not a birthright, but rather something that one acquires over time and comes to associate with accomplishments. To state that having self-esteem as a fundamental human need is to imply that it plays a crucial role in the course of life, is necessary for normal, healthy development, and has survival value (Brandon, 1990).

Family plays a large role in the life of children as they depend on their parents for every need. During the developmental period, children spend most of their time at home in the presence of their parents and the level of their self-esteem is dependent on these interactions and their subsequent experiences. Warmth, monitoring, a low rate of maternal depression, economic security (as opposed to hardship), and the presence of the father (as opposed to absence) are seen

to have significant beneficial impacts on a child's self-esteem. Research has shown that no gender differences exist in the amount of an impact these variables have on the self-esteem of children between the ages of ten to fifteen. Parental interactions and the family environment are thus seen to play a major role in influencing how self-esteem develops over the course of development (Krauss et al., 2020).

Similarly, a negative family environment and the consequent level of a child's self-esteem are seen to interact with their academic achievement. Research has shown that family difficulties and a hostile family environment has a significant positive relationship with academic achievement. As stated in the study above, family problems and self-esteem had a significant relationship, and this is seen to affect the child's ability to excel in their academics as well. Thus, having a positive environment at home is crucial for allowing the child to grow in all the areas of their life (Padilla & Schmidt, 2023). An individual's self-esteem later on in their life is influenced by their childhood self-esteem. However, the effects of their low self-esteem due to bad parenting quality, inadequate cognitive stimulation, the unpleasant physical environment of the home, a bad relationship between the parents, the absence of the father, maternal depression, and the family's low socioeconomic standing diminishes with age, it is still apparent till young adulthood (Orth, 2018).

In the case of young adults, research has shown that having satisfaction in several areas of life appears to be a prerequisite for having high self-esteem. The association between life satisfaction and self-esteem is found to be strong and positive. Self-promotion and self-depreciation have a positive and negative impact on life happiness respectively. The degree of self-esteem of an individual has a positive correlation with their self-promotional style and a

negative correlation with their self-deprecating style. Additionally, self-esteem and life fulfilment are mediated by both self-promotion and self-deprecation (Szcześniak et al., 2021).

Emotional intelligence is anticipated to play a crucial role in fostering social experiences that are conducive to self-esteem in young adults since self-esteem is likely to be built on positive social experiences, such as those gained from success and social competence. Emotional intelligence is therefore likely to support social competence and act as a mediator between achievement and self-esteem. Fundamentally, emotional intelligence seems to have a significant role in determining self-esteem and account for the favourable impact that social competence has on it. Improving emotional intelligence is important for strengthening the foundation of young adults' self-esteem (Cheung et al., 2014).

Middle and late middle age is a time of many changes. Bodily changes, health issues and ageing are some of the major stressors. There is not much research into the relationship between self-esteem and body satisfaction, particularly among older women. The goal of a study by Watt & Konnert (2018) was to examine self-objectification, social and temporal comparisons, and their effects on body image, satisfaction and self-esteem, as well as the degree to which they mediate that relationship. In the expected directions, the majority of relationships amongst satisfaction with one's body, social and temporal comparisons, objectification of oneself and self-esteem were extremely significant. The most frequently utilised comparison was an upward temporal comparison, followed by a downward social comparison. While social comparisons frequently focused on peers of the same age, upward temporal comparisons frequently targeted the thirty and forty year olds. The association between physical satisfaction and self-esteem was mediated by upward and downward social comparison, with younger middle aged women experiencing the biggest indirect impacts. Watt & Konnert (2018)

Research on middle aged women and the factors that played a role in their expectations regarding ageing is important in coming up with programs that help women achieve successful ageing. A gerontological concept known as "health-related expectations regarding ageing" deals with an individual's self-referential and health-related judgments of their future physical ability, mental health, and cognitive function (Sarkisian, 2005). The results indicated that perceived health status as well as self-esteem were predictors of ageing. Quality of life is also an important aspect that is mediated by a positive perception of ageing. A negative perception of ageing is seen to lead to psychological distress and mental deterioration (Ingrand et al., 2018; Kweon & Jeon, 2013).

Identity assimilation is defined as “a process that individuals use to maintain a sense of self-consistency even in the face of discrepant experiences or information about the self” (Sneed & Whitbourne, 2013). Research has shown that there is a significant relationship between self-esteem and identity assimilation. As age increases, an individual's identity assimilation also increases as it helps to maintain self-esteem (Sneed & Whitbourne, 2001). Late midlife astonishment is a development transition and is characterised by a sense of amazement and despair at the numerous losses and changes that are brought about or occur simultaneously with increasing age. It is also marked by an unexpected awareness of the acceleration and stigmatisation of ageing and usually occurs between individuals aged fifty to sixty. Consequently, this transition is a developmental crisis that can lead to a disruption in one's sense of self or identity and cause emotions of increased vulnerability, humiliation, and severe loss of self-esteem (Pearlman, 2010).

Psychopathology is defined as “the scientific exploration of abnormal mental states” (Heckers, 2014). Research has established associations between self-esteem, depressive

symptoms, and social anxiety. Low self-esteem could be a sign of different internalising psychopathologies. Research on self-concept and self-esteem has grown more important in recent years as protective factors against psychiatric issues have been identified. Age-related changes in self-concept, self-esteem, and the severity of psychopathological symptoms are significant. However, there are differences in psychopathological symptoms, with females scoring higher in a variety of conditions including somatization, interpersonal sensitivity, depression, anxiety, phobic anxiety, and total quantity of symptoms. Gender-related differences in self-concept and self-esteem were not found to be statistically significant (Garaigordobil et al, 2008; Zeigler-Hill, 2010; Isomaa, 2012).

Research has investigated the differences in self-esteem between males and females across a range of ages. Males report slightly greater levels of self-esteem compared to females throughout the life span when self-esteem is conceptualised on a global scale, with the biggest disparity happening during adolescence. However, not all types of self-esteem show this little but enduring male self-esteem advantage. Males indicate a greater sense of self-worth on some domains including athletic, physical attributes, self-satisfaction, and individual self-esteem. However a lower score is seen on other areas including moral-ethical and behavioural conduct self-esteem when self-esteem is conceptualised at the domain-specific level. There are some categories where males and females report about equal levels of self-esteem and this includes areas of academic, affective, social acceptance, and family self-esteem, despite the obvious gender variations in some domain-specific self-appraisals (Zeigler-Hill & Myers, 2012).

Theoretical Frameworks of Self-Esteem

Affective Models of Self-Esteem

Schaffer and Emerson (1964) defined attachment as, “The tendency of the young to seek the proximity of other members of the species” The affective model of self-esteem development has the following assumptions: (a) self-esteem develops early in childhood in accordance with interpersonal and temperament factors; and (b) once created, high self-esteem individuals have the capacity to foster, safeguard, and restore emotions of worth (Brown et al., 2010). There are two different types of feelings in this concept. One of these emotions is feelings of belonging, and has its roots in social interactions, whereas the other, which is referred to as feelings of mastery, is considerably more individualised.

Belonging is defined as “a unique and subjective experience that relates to a yearning for connection with others, the need for positive regard and the desire for interpersonal connection” (Rogers, 1951). Participation in or proximity to other people or groups is not necessary for one to have a sense of belonging. Instead, a sense of quality, significance, and happiness with social interactions is where belonging comes from. A sensation of belonging to a location or even an occasion can also be referred to as belonging. Thus, it is a complicated and dynamic process that is particular to each individual.

A sense of mastery refers to a person's subjective belief that important life events are under their control. The person always feels as though they have the power to shape their surroundings to suit their demands. This is essentially a conscious conviction that one may select actions with varied degrees of efficacy to achieve a specific desired goal (Ron & Rovner, 2014). The feeling that one has an impact on the world, albeit not necessarily on a grand scale but rather in one's daily life, is a necessary component of mastery. Mastery and perceived competence are

not the same thing. Perceived competence is defined as “the extent to which a person feels he or she has the necessary attributes in order to succeed” (Kremer et al., 2011).

Affective models of self-esteem take the stance that these feelings of belonging and mastery start to develop early in the child's life. This can be corroborated through Erik Erikson's model of psychosocial development. According to Erikson, building trust with their carers is the first developmental behaviour that infants must carry out. The feelings of belonging that are essential to having a high sense of self-esteem correspond to these feelings of trust that are believed to develop throughout the first year of life. Erikson then goes on to talk about the "autonomy versus shame and doubt" stage. The emergence of a sense of mastery is a component of this phase. When children are given the opportunity to investigate, create, and alter their environment, they feel a sense of mastery; but, when their parents undermine, make fun of, or are unduly critical of their efforts, they may not feel this way (Stipek et al., 1992).

Bowlby's attachment theory endorses Erikson's first stage of psychosocial development as it believes that infants are physiologically predisposed to develop relationships with others since doing so will increase their chances of surviving in the world. Bowlby hypothesised that the attachment bond has a paradoxical purpose. The infant feels sufficiently secure to venture away from the mother to investigate the surroundings after developing a solid attachment. Bowlby thought that a sense of belonging, which is the secure attachment in the child's case, facilitates a sense of mastery which is the willingness to investigate the world (Bowlby, 1979).

Attachment styles describe a person's distinctive interpersonal interactions. The attachment style is created at the beginning of life, and it affects an individual's intimate connections and remains with them. Four types of styles were elucidated by Ainsworth (1978), including the secure, avoidant, anxious and disorganised attachment styles. Infants have a

tendency to respond to individuals who treat them sensitively. This sensitivity is a stronger factor in an infant forming an attachment as compared to the individual who spends the most time with the infant. This sensitivity includes responding correctly to an infant's cries and signals as well as their needs. This is known as sensitive responsiveness and is the major factor in forming attachments (Schaffer & Emerson, 1964).

Terror Management Theory

Ernest Becker (1973) states that the majority of human behaviours are primarily conducted as a means of avoiding or ignoring death. According to the terror management theory developed by Jeff Greenberg, Sheldon Solomon, and Tom Pyszczynski (1986), people are driven to work on improving their self-esteem because it protects them from the constant threat of distress brought on by their particular awareness of mortality. Death anxiety leads people to create worldviews that safeguard their sense of worthiness, sustainability, and self-worth and enable them to feel as though they have a significant impact on the world. In order to persuade themselves that they would somehow continue to exist after their eventual death, even if only symbolically, people are compelled to form intimate ties with other members of their own cultural group.

Over several thousand years of history, historical narratives, philosophical writings, as well as pieces of fiction and poetry, have frequently depicted humanity as needing to believe in their own goodness and the morality and justification of their deeds. This idea that humans need self-esteem has also been embraced in the last century by a number of significant figures in the growth of modern psychology. Having trouble upholding one's self-esteem and making unhealthy attempts to do so may be at the root of a number of mental health issues (Greenberg et

al., 1986). The hypothesis contends that a biologically rooted instinct for self-preservation serves as the source of all human motivations (Solomon et al., 1991).

The development and continual maintenance of cultural worldviews, humanly created conceptions of reality held by people, helps to manage the potentially crippling anxiety that the knowledge of death inspires by giving it meaning and worth. By presenting explanations for the universe's creation, guidelines for appropriate conduct, and promises about immortality to those who adhere to follow cultural norms, all cultures provide people a sense that existence has purpose. This sense of purpose is an asset that leads to higher levels of self-esteem. People often turn to confirming their basic values and things that will survive them in an effort to calm their inherent fear of death when the thought of death is strongly present in their minds. Similarly, individuals often resort to their self-esteem to calm their uneasiness when they have thoughts of mortality, which naturally causes anxiety.

Sociometer Theory

According to the Sociometer theory, the self-esteem system developed as a gauge of social acceptance, and the self-esteem motive serves to prevent social devaluation and rejection rather than to maintain one's own self-worth. When one feels inadequately accepted and appreciated by others, it lowers one's self-esteem and encourages actions that improve relational appraisal (Leary, 1999). Thus, self-esteem is considered a sociometer and works as an internal gauge of how highly or lowly one is regarded as a partner in relationships. Self-esteem is an emotionally charged judgement of oneself. Self-appraisals are evaluations of one's own characteristics or behaviour along evaluative dimensions. Dispassionate self-evaluations exist. However, others are affectively loaded (Leary & Baumeister, 2000).

It has been seen that self-esteem moderates the relation between an individual's mood and self-evaluation. This is in line with the sociometer theory as self-esteem is a variable that has a significant relationship with self-evaluation and allows an individual to understand how the people around him perceive him. Research has seen that lower levels of self-esteem lead to lower self-evaluations. Similarly, when in a negative mood, self-evaluations tend to be lower resulting in consequent lower self-esteem. This led to a tendency to respond to negative or bad moods with self-depreciation that played a role in increased psychological distress (Brown & Mankowski, 1993).

Social feedback occurs during everyday life and is a part of man's daily activities. Positive social feedback is seen to bring about positive moods and a feeling of belonging, which is an important aspect in self-esteem (Brudner et al., 2022). Interpreting and processing social feedback is crucial for enhancing well-being. This is due to the fact that social feedback is seen to influence an individual's decision-making process and overt behaviours. Evidence shows that self-esteem is influenced and is receptive to social feedback. Real or imagined feedback that is negative in nature, inclined criticism, rejection, betrayal etc, tends to lower the self-esteem in an individual. Similarly, positive social feedback increases a person's self-esteem steadily (Leary et al., 1998; Perini et al., 2021).

According to the sociometer model, learning about the societal significance of one's own characteristics should cause changes in one's self-esteem that are related to particular relationships. In other words, the sociometer should be responsive to and accurately represent the current environmental conditions, according with the comparison of self-esteem to a gauge. When in the company of someone who is perceived to value the individual or their social category, people with functional sociometers should feel more good about themselves;

nevertheless, this gain in self-esteem should be temporary and restricted to that relational context (Weisbuch et al., 2010).

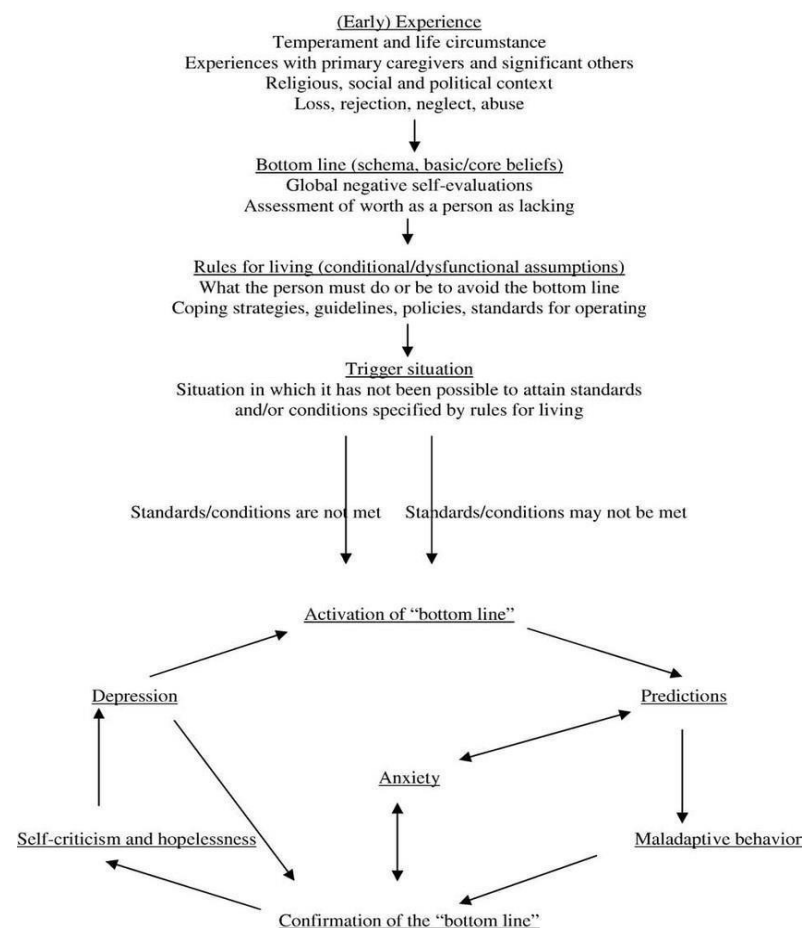
Cognitive models of self-esteem

An alternative viewpoint on the character and origin of self-esteem is provided by cognitive models. They see self-esteem as a somewhat deliberate choice people make about their value as individuals. Aaron T. Beck's (1976) general model of emotional disorders was modified by Melanie Fennell to create the Cognitive Behavioural Model of Low Self-Esteem (1997). The model is divided into two parts: the top half examines the way childhood experiences influence low self-esteem, the negative self-schema that can be expressed as a "bottom line," and the situations in which negative beliefs can become especially active. The bottom half examines how maintaining mechanisms work to maintain the low self-esteem schema. Intermediate beliefs have been termed as 'rules of living' and they protect the individual's self-esteem. They define the standards that the individual must reach in order to remain comfortable with himself. When he is unable to reach his personal standard, the negative schema or the bottom line gets activated.

The activation of the bottom line leads to negative predictions of the event that triggered it, which then leads to high levels of stress and anxiety. These anxious feelings cause more negative predictions which confirms the bottom line and generates a vicious cycle. Maladaptive avoidance mechanisms and behaviours that aim to lower the levels of anxiety only reinforce the cycle of anxious preoccupation. Additionally, the bottom line is confirmed through perceptual bias where the individual focuses on his failures thus leading to an interpretational bias in which the data is unconsciously skewed to fit his negative schema, thereby continuing the vicious cycle.

The model contends that a person's opinions about themselves, other people, and the world are shaped by their experiences throughout life. These "schema" influence a person's perception of (and understanding of) their life experiences. Schemas associated with poor self-esteem, according to Fennell (1997) is defined as, "unfavourable thoughts or perceptions of the self as a whole person rather than a differentiated flexible appreciation of varying qualities or aspects of the self." The schema can be explicitly stated or it could be a more all-encompassing "felt sense" of inadequacy. Such negative self-schema are persistent, persisting through a period of time situationally specific, and mostly automatic and habitual.

FIGURE 1: Cognitive model of Self-esteem



Academic Adjustment

Educational adjustment means how an individual is imparting his duties towards his education and whether he is able to achieve his goal or not (Bhagat, 2017). It refers to students developing their coping skills and learning strategies aiming at achieving satisfactory academic results. For someone to be allowed to live happily in this world, adjustment is a vital quality. Adjustment is achieved by utilising various coping strategies and techniques that allow the individual to adapt to his surroundings and reduce his levels of anxiety.

A child's ability to adjust to school successfully largely depends on their knowledge and skills, as well as previous experiences at home (Dockett et al., 1997; Fabian, 2000). The home environment plays a large role in shaping how the child is able to adjust to his new environment. If the environment at home is negative, the child finds it difficult to assimilate to his new surroundings and is unable to adjust successfully. This has further complications including emotional dysregulation, negative emotionality and lower social competence (Chang et al., 2012).

Going to school is one of the first few challenges a child has to face. This includes being away from his family for a prolonged period of time, something the child might not be used to. They have to take on new identities in the school and behave in a way that is acceptable to the societal standards. They are forced to interact with new people, their teachers, friends and take part in various academic activities. These new experiences are stressful for the child and require him to adjust to his new environment so that his anxiety is stabilised.

Some of the experiences that are new for the child include the introduction of a rigid schedule or timetable. In schools, there is a structured timetable that children and teachers are supposed to follow as well as formal rules that the child is made to adhere to. At home, the child

is free to do whatever he wishes at any time, however when he realises this is not the norm in school, he must be able to employ certain strategies that help him assimilate into his new environment as smoothly as possible so as to allow him to fit in with his friends and peers. The level to which the child is able to adjust his behaviour to suit the needs of his surroundings, teachers, friends and activities, the higher will be his level of satisfaction (Ramey & Ramey, 1998).

Another aspect that a child might have to contend with is listening to instructions and following specific commands that the teacher makes. At a young age, children have short attention spans and tend to let their minds wander (Moyer & Gilmer, 1954). However, it is required that the child be able to pay attention and focus on what the teacher is saying so as to keep up with the rest of his peers and classmates. Inhibitory control of attention enables the students to selectively attend and focus on what they choose and suppress their attention on other stimuli. If a child is unable to pay attention and follow through with the instructions, he feels under-confident and anxious, especially if he sees his peers being able to keep pace with what the teacher is saying. Overcoming learning set-backs and instructional difficulties is critical in achieving satisfactory progress and academic achievement.

The child's temperament also plays a large role in determining their adjustment in school. Their temperament acts as a predictor of how they interact with their teachers and peers and also their subsequent behaviours. One of the major focuses in pre-schools is the socialisation of the child (Mobley & Pullis, 1991). High reactivity is the intensity with which a child reacts to stimulating events and it is a factor that influences maladjustment in school settings. Children with high reactivity are prone to throwing tantrums, biting their peers if they do not get their way

and not listening to authority figures. The sociability of the child also paves the way for interactions with their peers and teachers (Acar et al., 2015).

The adjustment of the child in pre-school is seen to have lasting effects in their adjustment in higher grades. Adolescents encounter many challenges and difficulties in school and are required to navigate successfully through them. Sometimes these challenges act as a predictor in the onset of depressive and anxious symptoms (Arjanggi & Kusumaningsih, 2016). During the transition from middle school to high school, factors like environment change, increased academic load and intensity and developing new social relationships with friends add to the stress that many adolescents face (Aderi et al., 2013).

Academic adjustment in the higher grades involves the degree to which a student is able to adapt to their rigorous academic demands, their attitudes toward the content they study, their engagement with their syllabus and the effort they put into their academics (Baker & Siryk, 1984). There is a shift in the intensity and level of their course difficulty as the student progresses from one grade to the next. Students are expected to keep up with this progression and also excel in whatever they are studying. When the student falls behind in their coursework due to their academic limitations or personal motivation, it leads to a sense of failure and incompetence as they see their peers excelling in their academics.

In order to adjust to new learning environments, it is necessary that a student is able to alter and change their old learning techniques and strategies. However, when a student fails to do so, or is unable to understand how to execute novel strategies of learning, it can lead to a decline in their academic motivation and consequently their academic performance (Awad et al., 2014; Tuominen-Soini et al., 2012). This leads to increased pressure from teachers and parents which consequently leads to anxiety and feelings of inadequacy, thus forming a vicious cycle.

Academic motivation is an important predictor of academic adjustment. Students attend college to gain knowledge that leads to a sense of accomplishment and satisfaction. When the student feels academically stimulated and enjoys their course work, they tend to perform well academically. Students who enjoy learning and gaining knowledge have more of an appreciation about the academic benefits of attending college and getting a higher education. (Clark et al., 2014). Holistic education is important in ensuring improvement in the physical, mental and psychological well-being of the student. Schools with a variety of extra and co-curricular activities allow the students to express themselves in areas other than academics.

The teacher also plays a role in the academic adjustment of the student. When the student-teacher relationship is a positive one, the student feels more compelled to learn from them and gain knowledge. A non-conflicting relationship is associated with closeness with the teacher and higher levels of academic achievement and motivation (Zee et al., 2013). A teacher who provides students with a safe space and treats them with understanding and respect creates an environment in which the student finds it easier to adjust.

Theoretical Frameworks of Academic Adjustment

Person-Environment Fit Theory

According to the Person-Environment Fit theory, there is an innate desire for individuals to fit into whatever environment they are in and to locate environments that they perceive match their own characteristics. This is due to the need for control over their lives and to decrease levels of uncertainty and increase life satisfaction and happiness (Yu, 2013). When individuals notice that others in the environment share their characteristics, beliefs and opinions, they find it easier to assimilate and adjust into their surroundings and create interpersonal relations. This

similarity with individuals in the environment fosters strong feelings of belonging and increases well-being (Edwards & Cable, 2009; Deci & Ryan, 2000). The fit of the individual in his environment affects his behaviour, level of motivation and general wellbeing and health. If the fit is optimal, the functioning of the individual will be optimum. And if the fit is unsuitable it leads to maladjustment in the individual (Holmbeck & Zurenda, 2008).

The P-E fit theory posits that the fit is a stronger predictor of satisfactory outcomes than either the person himself or the environment. The theory proposes that outcomes are most satisfactory when the individual attributes, needs, desires and values of the person along with the attributes of the surroundings are congruent with each other. Finally, disparity between the environment and the needs of the individual leads to negative responses and reduce the positive outcomes. High levels of incongruence occur when individuals report high or low levels of attributes but receive the opposite from their surroundings (Vianen, 2018).

There are three underlying constructs in the P-E fit model are the personality and major fit, the demands and abilities fit and lastly, the needs and supplies fit. The personality and major fit is the extent to which a student's personality and interests match the program, course or major they have taken up in school or university. This degree of fit can be measured using the Holland hexagonal model that employs the six personality and environment types which are artistic, realistic, social, investigative, entrepreneurial and conventional (Holland, 1997). The needs-supplies fit occurs when the needs of the individual are fulfilled by the environment they are in. An example of a good fit is when an introverted individual is allowed a satisfactory amount of personal space and socialisation. The demands-abilities fit is dependent on whether the individual is able to meet the requirements and the demands of the environment he is situated in.

P-E fit is seen to play a pivotal role in students overall academic adjustment and achievement. Students who sign up for courses and programs that are based solely on their interest have a higher tendency to score a high GPA (grade point average) at the end of their semester. This interest helps in allowing the student to maintain high levels of academic motivation as they enjoy their coursework. Interest has been shown to be related with academic performance and persistence with coursework (Nye et al., 2012). Selecting courses based on the personality and abilities of the student is another factor that aids in achieving high scores. This is because every environment has certain demands that only individuals with particular personality types can fulfil (Spencer et al., 2018).

Stage-Fit Theory

According to the Stage-fit theory posited by Eccles and Midgley (1989), students tend to do better in a holistic sense when their environment and surroundings are more suited to their overall developmental requirements and needs. The Stage-fit theory is an extension of the Person-environment fit theory and furthermore connects the environment to the developmental stages of adolescents. It takes inspiration from the Sociocultural learning model (Vygotsky, 1978), and posits that individual learning depends on the surrounding people, environment and conditions.

The instruction and knowledge content being given to the student is also an important construct by which learning can be examined. If the learning needs of the student are not recognised and taken into consideration, the student tends to lose interest and motivation and this leads to diminished learning. Students must be given every opportunity to learn and this can only

be done if their developmental needs are considered while designing and creating the learning environment (Gee, 2008).

Children and adolescents spend most of their time in school with their peers and teachers. Since schools play an important role in student's development, it is important for schools to keep changing in developmentally appropriate ways so that they can keep their students motivated and engaged. This becomes even more essential as the student ages because adolescents have more control over their behaviour and make their own decisions (Lerner, 2002). Schools and teachers must adapt their teaching styles and content to fulfil the needs and requirements of developing adolescents so that the student is able to maintain academic interest and achievement.

Eccles and Roeser (1999) developed an ecological view of schools and the impact they have on the development of the student. This view was derived from the Stage-fit model and consists of a framework that gestates the various school contexts into a series of hierarchical, analogous levels that begins at the most basic level and moves upwards to more complex, organisational levels. The theory posits that schools are systems that are specified by multiple levels of analysis consisting of various processes including interpersonal, organisational and instructional which are interrelated across every dimension. These processes have a dynamic nature and change as the students traverse through the different levels. The students emotional, cognitive, behavioural development is regulated and mediated through these processes. These levels must be suited to the needs of the student to facilitate smooth and proper assimilation and adjustment into the school environment.

The first level consists of the classroom influences that have a strong impact on the student. The development of the student is optimal when he is given tasks that challenge his intellect and knowledge. Another prerequisite is that the environment must be ability-oriented so

that the student is given the opportunity to showcase his proficiency and mastery. The teacher must provide a safe environment high in cognitive, emotional and physical support so that the student has a sense of comfort and can focus on exploration and adjustment. In addition, a certain amount of autonomy and independence is necessary so the student is able to make his own decisions and choices. Students have three basic needs: to feel capable, to have a sense of belonging and to have control over their lives. An environment that fulfils these needs allows for maximum adjustment.

The second level consists of the school as a whole and focuses on how the several features of the entire school impact the development and adjustment of the child. A school climate that is welcoming and positive negates feelings of anxiety that the student might face. School curriculums should provide students with a variety of courses so that they are able to choose programs that they have an interest in. This enables students to enjoy the course and retain a level of attentiveness and academic motivation. This is seen to have a high correlation with academic achievement and high GPA scores. Extra-curricular activities provide structured hobbies that the student can take up during school time. This allows students to adjust and develop in areas outside of academics.

The third and final level consist of the interactions between multiple schools that are located in the same area or district. Many schools are divided into elementary school, high school and senior schools. This allows the student to transition from one school building to another building at the end of a particular grade. As the student matures, they move from one school to another larger school which gives them a sense of achievement and a feeling of maturity. These moves also involve new environments that provide opportunities for the students to learn new adjustment techniques and strategies.

CHAPTER 2

REVIEW OF LITERATURE

Understanding, comprehending, and critically evaluating written and spoken material are all verbal reasoning skills. These skills are highly emphasised during childhood as verbal reasoning is required throughout a person's life. This paper focuses on the importance of verbal reasoning skills in aiding adolescents in their academic life, as well as their personal life, mainly with regards to their self-esteem. A gap in the literature was identified in-terms of a lack of literature focussing on the importance of increasing the emphasis of verbal reasoning skills in the academic curriculum in the Indian education context, particularly in the ICSE and CBSE curriculums. This paper highlights the benefits of high verbal reasoning skills in the students' self-esteem levels and their academic adjustment, as well as its overall benefits. The relationship between self-esteem and academic adjustment is also investigated. Both national and international studies are highlighted. The challenges and the overall development of the Indian education system is also discussed.

English is a global language and the Indian Constitution mandates that it be taught in most universities, colleges and schools. It is now a medium of communication and its knowledge is essential for the future prospects of students. According to the World Population Review (2021), India ranks number one among countries in the world that speak English as a lingua franca or common language. English is taught as a mandatory subject in most schools as well as the language used in competitive exams including IIT-JEE, NEET, AIIMS and various government exams. In science fields, journals and books are published in English and emphasis is placed on the grammatical complexity and accuracy. Knowledge of the language thus opens numerous doors for students and professionals alike.

In India, as reported by the Government of India language census of 2011, the country has 121 languages out of which 22 are scheduled languages and 99 non-scheduled languages. A report was launched by UNESCO (2022) titled “Tribal and Indigenous Languages of India” which tried to identify and document the rare and lesser known tribal languages of the country. A language is considered official only when it is documented in the Eighth Schedule of the Constitution of India. As of now, 22 languages have been documented and these too are considered endangered. In Articles 342(2) and 343(3) of the Constitution of India (1950), it is stated that English and Hindi shall be used for official business for a period of 15 years, following which Hindi shall replace English as the sole official language of the Union. However, a large number of non-Hindi speaking states, primarily in the south, opposed the substitution of English with Hindi. Since the states can select their own formal languages, the Official Language Act of 1963 designates both English and Hindi as official languages.

The Language Policy in India can be defined as “deliberate choices made by governments or other authorities with regard to the relationship between language and public life”. The Devanagari version of Hindi is the Union's official language. According to Article 343 (1) of the Constitution, the international form of Indian numerals must be used for all official purposes of the Union. English is another language that can be utilised for official purposes in addition to Hindi (Ministry of Electronics and Information Technology, 2019).

The National Education Policy of India 2020 (NEP 2020) was launched by the Union Cabinet of India on July 29, 2020. In order to protect the interests of the Indian people, NEP 2020 underlined the need of using mother language as the major educational medium. This guideline states that incorporating vernacular into the classroom will help preserve endangered languages and keep students linked to their culture. To encourage multilingualism from the

school level up, the National Education Policy 2020 suggests early deployment of the three-language formula, adopted in 1968 (Sanikop & Nayak, 2022). According to the National Policy on Education (1968), the three language formula was implemented to promote the development of languages and calls for studying a modern Indian language - preferably any of the southern languages - in addition to Hindi and English, in states where Hindi is the primary language; and to study Hindi, the regional language, and English in states where Hindi is not the primary language. In order to raise students' competency in these languages to the required university standards, appropriate courses in Hindi and/or English should also be offered at universities and colleges.

The major drawback of the policy is that it is not uniformly implemented in all the states. Most of the high-end private schools and universities still use English as a medium of instruction. English, which is seen as the language of the affluent, has influenced all demographic groups, including the poor. A significant demand base for English as a language of instruction exists outside of the nation. This is supported by empirical data at the national level, which shows that pupils in private English-medium schools from affluent backgrounds have performed better than those who studied in the vernacular. Even if establishing English as a second language would seem to be advantageous for people who are less fortunate and students in government schools, it is destined to remain backward without a supportive atmosphere to nurture it in (Sreekanth, 2021). Thus, although academicians, through the National Education Policy (2021), support teaching the mother tongue during a child's formative years, parents prefer the English medium of instruction for more practical and realistic reasons.

Another similar study conducted by Karamadi & Aminabhavi (2016) determined how the medium of teaching affected students' verbal, numerical, and reasoning skills as well as their

academic performance. The findings showed that pupils who received their elementary education in the English language performed much better academically, verbally, and numerically than those who had their primary education in their mother tongue. These studies provide evidence contrary to the policy that was released by the National Education Policy (2021). However, it must also be noted that it is important to give value to native languages in order to maintain cultural and linguistic identity.

An interesting comparative study was conducted by Shende (2015) that aimed at English language teaching in both English and non-English medium secondary schools and colleges from grade 8 to grade 12 in India. It tries to identify variations between these two groups of schools in terms of the teaching process using elements such as the language of instruction, students' comprehension, the usage of audio visual aids, teaching abilities, teacher competency, etc. The study's conclusions imply that English-medium school teachers utilise English more frequently than non-English-medium school teachers do when it comes to teaching. English-medium schools have students with higher levels of English comprehension. Secondly, English medium school instructors are shown to have greater teaching abilities and English language competency than non-English medium school teachers.

Although India has made considerable progress in education, the area of English teaching and learning still has a long way to go. Numerous challenges, including a large number of students in the classroom, a rural upbringing, a lack of confidence and motivation, an inappropriate and impractical curriculum, a lack of participation and response, and, most importantly, a shortage of qualified teachers, render the implementation of high-quality english language education and skill development ineffective. The position of English in India and the

diverse socio-economic-linguistic backgrounds of students also adds to the problem of language education (Kalia, 2017; Jeyaraj, 2019).

Due to the country's significant linguistic and cultural variety, English is utilised in India not just for communication but also as a linking language for interstate and intrastate cooperation. Although modern technology has begun to play a significant role in language learning and instruction, particularly in small towns and rural areas, it is still insufficient and ineffective. As English is now a tool that satisfies the always rising needs of the competitive corporate world, this can have devastating implications (Rajan & Ilankumaran, 2018). To improve the quality of English teaching and learning in India, various strategies have been implemented in schools and colleges.

A study conducted by Awal & Karim (2021) highlights the policy made by the Government of Assam that mandates English as a compulsory language to be learnt by students from primary classes onwards. However, despite studying the language up till class ten, students find it difficult to write and understand simple sentences in English. The goal of the current research is to examine the methods used by secondary school teachers in Assam, India, to teach English. Secondary school teachers in Assam teach the English language class using the learners' mother tongues and place a lot more emphasis on writing skills than other linguistic skills, according to the researchers, who used the survey research design to investigate the strategies used by the teachers to teach English. Instructors do not employ the technique advised by the designers of the textbooks and sometimes they do not have expertise in the pedagogy of second language instruction. This reinforces the importance of using the correct teaching strategies so that students can enjoy a complete understanding of the language which will allow for greater opportunities with their future careers.

Various studies report about the strategies that English students use, particularly Indian students. These studies are inspired by the need for a more global understanding of the teaching of English to nonnative speakers (Bonnie & Skillings, 2005). The instruments utilised in these studies include the English Language Learning Strategies Inventory (ELLSI), as well as the SORS and RCT which are the modified versions of the TOEFL reading comprehension. According to the findings, Indian college students utilise learning strategies frequently and some of these strategies appear to be influenced by their cultural and educational backgrounds. The findings were generally in line with earlier studies on the learning techniques of students studying in other settings: female students reported using learning strategies substantially more frequently than male students, as did students with high English proficiency. Overall, there was a moderate correlation between the Indian students' proficiency in reading comprehension and their usage of reading strategies. The results of the factor analysis suggested that Indian students appear to favour both exam-oriented memory strategies and functional practise strategies. On the one hand, these strategies would help them improve their communicative performance in English, and on the other hand, would help them succeed in the examination-driven educational system (Sheorey, 1999; Madhumati & Ghosh, 2012).

Verbal reasoning is defined as “a cognitive ability considered essential for understanding, reasoning, and problem-solving using concepts conveyed by words, not limited to simply vocabulary comprehension or verbal fluency, leading to draw inferences from given information” (Laird, 1988). Some of the most crucial abilities we will need to navigate life include verbal reasoning, listening attentively, and following directions. Some of the most crucial abilities a college student needs to have in order to survive are those listed above. Performance is now heavily valued in order to accomplish goals, whether they be personal or professional, due to the

rapid speed of technical development and social change over time. This emphasis is especially important for college students because they are primarily focused on performing well on academic success assessments. This is why efforts to improve verbal understanding and verbal reasoning in order to perform a variety of tasks in their academic and professional life is of the utmost importance . Understanding and employing these skills is not just a life skill for the student. Students who possess it distinguish themselves from their peers (Montejo & Jamon, 2018).

Research shows that working memory and cognitive ability measures, including verbal reasoning ability, have a high correlation. Ackerman et al., (2005) states that working memory shares a percentage of under 25% of its variance with general intelligence and verbal reasoning ability. Oberauer et al., (2005) contradict this finding by arguing that this estimate is undervalued due to certain biases of the original authors. After re-analysis, results show that working memory capacity, general intelligence and verbal reasoning are highly correlated. Working memory capacity was also found to be a great predictor of reasoning ability as well as general intelligence. However another study by Hitch and Baddeley (2007) opposed Oberauer and stated that working memory is a general executionary system that has a restricted capacity to process information. Further results indicated that the speech-coding and rehearsal-related articulatory system is a "periphery" of the more central WM executive and only has a limited function in verbal reasoning.

A study was conducted by Joseph et al., (2018) which investigated enhancing verbal reasoning of school children through chess learning. The capability of a person to grasp the meanings of verbal information in whatever manner it is supplied, allowing the person's thinking processes to subsequently analyse the provided information, is referred to as verbal reasoning. To

generate ideas, opinions, and assumptions and to increase knowledge about a certain topic, it is a process of gathering information, analysing, thinking about, and evaluating it. Chess training has been linked to improvements in intelligence, creativity, and working memory, but more research is needed to determine how it affects verbal reasoning. The sample included both boys and girls in grades 3 through 9 and included students from two government schools and two private schools. The control group participated in other school activities like cricket, football, hockey, etc., whereas the experimental group trained in chess for one hour each week. Findings showed that the experimental group significantly outperformed the control group in verbal reasoning. The experimental group showed a significant increase in general IQ as shown by the t-test. In verbal reasoning, there were no apparent interaction effects between the intervention, gender, or school type. The current study reveals a connection between verbal reasoning and chess instruction. The child's entire growth and academic achievement are significantly impacted by the child's verbal intelligence and reasoning abilities. Although in this study, gender did not have a role to play in the differences in verbal reasoning ability, this has been refuted in various other studies.

Contrary to the above study, another investigation conducted by Wang et al., (2013) emphasises the verbal reasoning capacity of students based on gender. In contrast to men, women may have a greater range of employment options in both STEM (science, technology, engineering, and mathematics) and non-STEM professions because of the pattern of gender disparities in maths and verbal aptitude. One interesting discovery was that there were more girls than males in the group with high verbal and maths skills. Similar to other studies mentioned, this paper supports the view that females tend to have higher verbal reasoning ability as

compared to males, however females continue to be underrepresented in the various maths-concentrated job fields (Wang & Degol, 2017).

In the Indian context, students having high verbal reasoning ability gives them an upper hand compared to their peers. This statement is substantiated by a study conducted by Gokuldas (2011), which aims to highlight factors that predict employability in campus hiring drives of Indian software services companies. In this study, it was found that engineering knowledge (GPA) and English language competency are significant indicators of engineering graduates' continued employment in campus interviews with software services organisations. Also, it was discovered that, in contrast to other fundamental engineering fields, female students outperform their male counterparts throughout college hiring processes for the software services sector.

In order for students to develop and cultivate their verbal language abilities, it is necessary that the teachers have the necessary skills required to impart this knowledge and assess the students' understanding of it. In India, the Indian Certificate of Secondary Education (ICSE)/Indian School Certificate (ISC) and the Central Board of Secondary Education (CBSE) are the two main education boards, which comprise most public and private schools. A study conducted by Mahapatra (2015) focuses on the English teaching methods of both ICSE and CBSE schools based on the assumption that the quality of classroom assessments will increase if English teachers are given the right training in language ability assessment, and as a result, teachers will be better able to conduct learning evaluations. According to the study's findings, there may be a connection between teachers' evaluation procedures and students' proficiency in language in the classroom. Yet, a number of elements, including the curriculum assessment policy, institutional assessment policy, teachers' motivation to use assessment for pedagogical reasons, and their English language proficiency, are discovered to have an impact on instructors'

assessment practises. A need-based teacher development course has also been demonstrated to have a significant positive impact on instructors' evaluation techniques.

Regarding the verbal reasoning skills of ICSE vs. CBSE students, there is no clear agreement on which syllabus gives more importance to verbal reasoning abilities. However, it was reported in an article published by India Today (2021) that there are some distinctions between the two boards. While ICSE places greater emphasis on practical knowledge, CBSE is supposed to place more emphasis on theoretical principles. The ICSE curriculum places a greater emphasis on specificity and application-based learning, which may aid in the development of verbal reasoning skills. This paper tries to cover the research gap by communicating the importance and the benefits of verbal reasoning abilities in the academic and personal development of a student, and providing recommendations on including a syllabus that helps hone the verbal reasoning skills of the student.

Late adolescence is a time of change and a student is required to make big decisions in terms of their future careers and personal life. Identity exploration is the process of looking into and weighing several sets of values and ideas, whereas identity commitment is the decision to uphold a set of principles. According to the literature available, individuals write self-narratives - stories about their diverse encounters with other people and life events - to examine different sets of values. Based on the literature, narratives with greater depth and insight score higher on identity exploration tests. The fundamental assumption of a study conducted by Braverman (2016) was that there must be a positive correlation between verbal ability and identity exploration because verbal ability is linked to narrative production, and narrative production is linked to identity discovery. Results provide a confirmation of the hypothesis. Identity exploration and eventual identity development occurs during the time of adolescence and

research has shown that verbal reasoning ability has a significant main effect on identity development of students.

Along with identity development, another aspect that develops during adolescence is Self-Esteem. Self-esteem is a student's overall evaluation of him- or herself, including feelings of general happiness and satisfaction (Harter, 1999). A person's overall assessment of their worth is reflected in their attitude towards themselves, which can be either good or negative. It begins to develop at birth and changes constantly as a result of experience. The function of self-esteem in the adolescent period is particularly significant. It is correlated with both academic success and mental wellness throughout this time (Minev, 2018). There are several influencing factors that have an effect on an adolescent's self-esteem including depression, social support, body-image, problematic behaviour, school adjustment, and family harmony (Han & Kim, 2006).

In terms of gender differences in self-esteem in adolescents, there have been varying results. In an early study conducted by Kling et al., (1999), that investigated the gender variations in overall self-esteem, two analyses were done. Analysis I revealed a little disparity favouring men. The strongest effect, according to a substantial quadratic age effect, appeared in late adolescence. Using three sizable, nationally representative data sets from the National Center for Education Statistics (NCES), Analysis II looked at gender inequalities. The findings showed stronger male self-esteem. When the two analyses are combined, there is some indication that men score slightly higher than women on global self-esteem scales, however the difference is small. A more recent study conducted by Quatman & Watson (2010), explored gender differences in adolescent self-esteem on the basis of its component parts. Boys, as expected, scored marginally higher on the global self-esteem scale than girls. However, 6 of the 8

dimensions (personal security, home/parents, peer popularity, academic competence, attractiveness, personal mastery, psychological permeability, and athletic competence) showed significant gender differences between boys and girls, while the other 2 did not. The most recent study conducted by Bleidorn et al., (2016), investigated through a cross cultural examination the age and gender differences of self-esteem. Results across 48 countries indicated considerable gender gaps, with men consistently reporting higher self-esteem than women, and age-related improvements in self-esteem from late adolescence to middle adulthood.

In the Indian context, a study conducted by Jain & Dixit (2014) investigated the gender differences in self-esteem among Indian youth aged 18-23. The results showed that the individuals' levels of self-esteem were not significantly different by gender. It was a conclusion that contradicted a number of earlier studies that frequently found men to have better self-esteem than women. The causal factors that played a role in reducing self-esteem levels were also investigated and the events that caused self-esteem to decline were categorised into four themes based on unmet expectations from the social self, the personal self, the home, and the school or college. According to the research, failure to satisfy one's own or others' academic expectations, as well as those of one's parents or professors, has been the most frequent cause of self-esteem decline. As a result, it is clear that the Indian youth today are concerned about the expectations and pressures placed on them by society to perform at the highest level in academics. A similar study explored gender differences in pre-adolescent's self-esteem. The sample was made up of pupils in a school in north India who were in grades five through seven. When data from male participants were compared to those from female participants, significant differences in overall, social, academic, and parental self-esteem were not discovered; however, it was discovered that

females had higher general self-esteem than males. In conclusion, no gender variations in overall self-esteem were seen during the pre-adolescent age (Bhardwaj & Agrawal, 2013).

Self-esteem plays a major role in the academic achievement of the student. According to research findings, successful and unsuccessful students in the seventh grade have significantly different levels of self-esteem; these differences diminish in the eighth and ninth grades. Also, students with low academic achievement place less value on academic matters and exhibit less positive attitudes towards learning (Martins et al., 2002). According to earlier findings, self-esteem mediates the connection between intrapersonal characteristics of students, stress management, adaptability of emotional intelligence, and academic engagement and adjustment (Barragan et al., 2021).

A study conducted by Moyano et al., (2020) investigates the mediating role of verbal reasoning and self-esteem on academic adjustment. The current study set out to examine the combined effects of non-cognitive (motivation and self-esteem) and cognitive (verbal skills and reasoning) aspects on academic performance, both in terms of the overall score and in relation to particular topics like language, literature, and mathematics. 133 students in primary education made up the sample (aged 6–9 years old). The findings showed that self-esteem and intrinsic drive are important determinants of academic success that are mediated by verbal fluency and reasoning. Academic success was seen to depend on both cognitive and non-cognitive elements, but it was also seen that the malleability of cognitive factors seemed to increase in relation to increase in motivation and self-esteem.

Although there is a clear lack of research on the effects of verbal reasoning on student self-esteem, some studies have demonstrated that people with higher levels of self-esteem are more successful in verbal reasoning activities compared to those who have lower self-esteem .

This may be due to the fact that people with higher self-esteem are more certain of their skills and are less likely to have self-doubt, which can improve cognitive function. Additionally, it has been discovered that verbal reasoning skills positively correlate with academic success, which can lead to higher self-esteem. It's crucial to remember that there are many variables that can affect the relationship between verbal reasoning ability and self-esteem, including motivation, personal characteristics, and external factors. A study that corroborates this fact showed that students who had higher levels of self esteem excelled far better in writing and reading tasks as compared to students with lower self-esteem (Ghufron, 2016).

Self-esteem in students also plays a role in academic adjustment. In a study conducted by Behmani et al., (2016), the goal was to determine the relationship between students' academic success, adjustment, and feelings of self-esteem. 200 teenagers from 3 rural schools in Haryana's Palwal District made up the study's sample. Academic performance, adjustment, and self-esteem were all significantly positively correlated. On adjustment and academic achievement, a considerable difference between male and female adolescents was discovered. On the adjustment scale, female adolescents performed better than male adolescents, indicating that they are better adjusted. Teenage male pupils performed better academically than female classmates. Teenage males and females had similar levels of self-esteem, with no discernible differences. The results demonstrate a positive relationship between good adjustment and academic achievement and a high or average degree of self-esteem.

A similar study was conducted with the aim of investigating whether there is any relationship between academic adjustment and academic achievement. 350 students from ten higher secondary institutions in Thanjavur District, Tamil Nadu, India, made up the sample. The results demonstrate a considerable correlation between higher secondary school students'

emotional, social, and intellectual adjustment and academic success (Sekar & Lawrence, 2016). These two studies show a positive correlation between academic adjustment and academic performance. In addition to this, the previous study shows that self-esteem also has a positive correlation with academic adjustment and invariably with academic achievement.

The study by Friedlander et al., (2007) looked at how stress, social support, and self-esteem interact to affect how students acclimatise to university life. Improved adjustment was predicted by increased social support from friends but not necessarily family. Better overall, intellectual, personal-emotional, and social adjustment were predicted by less stress. Reduced depression and improved academic and social adjustment were predicted by higher levels of global, academic, and social self-esteem.

Similarly, the study by Kamel (2018) sought to determine whether academic load, self-efficacy, and perceived social support were related in any way and whether they could be used as indicators of academic adjustment in first-year university students. The study also looked into how much of an impact academic overload, perceived social support, and self-efficacy had on academic adjustment in first-year university students. While the correlation coefficients for self-efficacy and perceived social support were positive, the results of the correlation coefficient analysis showed a strong negative association between academic adjustment and academic overload.

Verbal reasoning is also said to play a role in the academic adjustment and learning readiness of a student. Adeyemi (2017) investigated the relationship between self-concept, verbal reasoning skill knowledge, and learning preparedness related to civic achievement in senior secondary schools in Osun State, Nigeria. For the study, four research tools were created, validated, and used. Regression analysis and the Pearson Product Moment Correlation

Coefficient were used to analyse the given data. The study came to the conclusion, among other things, that students' self-concept, verbal reasoning skill knowledge, and learning preparedness had combined effects on their performance in civics.

In the case of pre-kindergarten children, Sasser et al., (2015) conducted a longitudinal study to examine the level and rate of increase in children's academic performance and academic adjustment from kindergarten through third grade to determine the effects of pre-kindergarten executive function and learning-related behaviours as predictors. The level and rate of development of later maths as well as the degree of academic performance as judged by teachers were directly correlated with prekindergarten executive function. The level and rate of development of subsequent verbal reasoning skills, as well as the degree of social competence and aggression as measured by teachers, were directly predicted by pre-kindergarten learning-related behaviours. Also, through its link with learning-related behaviours, pre-kindergarten executive function indirectly enhanced subsequent reading abilities, social competence, academic adjustment and decreased aggression.

A similar study was conducted on kindergarten children on the concept of theory of mind. The capacity for perspective-taking, comprehension of motives, and accurately predicting behaviour is referred to as theory of mind. Theory of mind is correlated with verbal reasoning ability (receptive and expressive vocabulary), executive function (inhibitory control and working memory), and emotion awareness. It normally reaches important developmental milestones around age 5, corresponding with the transition to kindergarten. The theory of mind, when used in classrooms, can aid in relationships, learning-related behaviours, and socioemotional abilities that demand a viewpoint, which can help students make the transition to kindergarten. Beyond the contribution of basic skills, the theory of mind was directly related to teacher judgements of

social and emotional skills, behavioural and academic adjustment, and closeness within the teacher-child interaction in a low-income sample of 140 kindergarteners across 21 classrooms. Moreover, through the theory of mind, verbal reasoning ability, executive function, and emotional awareness were indirectly related. According to research, theory of mind helps children transition to kindergarten and is based on a broad range of fundamental abilities (Brock et al., 2018).

It is evident through the review of literature that the variables self-esteem, academic adjustment and verbal reasoning ability are interconnected, and studying the effects of these on adolescents is important. Child psychopathology and verbal reasoning impairment have been linked in epidemiological research conducted in clinics and communities. During puberty, the demands on language for social and academic adjustment substantially change, and it becomes crucial to be able to comprehend higher order language, which represents nonliteral meaning in language, an important aspect of verbal reasoning abilities. Studies have found a relationship between problems with higher order verbal reasoning skills, socio-emotional adjustment and academic adjustment in adolescents (Cohen et al., 2013).

In the Indian context, there is a dearth of literature on the relationship between verbal reasoning abilities of senior students and their self-esteem levels and consequent academic adjustment. This paper tries to cover the literature gap by emphasising the importance of verbal reasoning in students and the benefits of high verbal reasoning abilities in both the personal and academic lives of the student.

CHAPTER 3

METHODOLOGY

This chapter clarifies the research methodology to answer the hypotheses in order to acquire systematic information. The aim of the present study was to identify the correlates of Verbal reasoning ability, Self-esteem and Academic adjustment among class 12 students in ICSE and CBSE board.

Aim

The present study aims to investigate the correlates of Verbal reasoning ability, Self-Esteem and Academic adjustment among class 12 students in ICSE and CBSE board.

Objectives

- The study aims to examine the differences in the relationship between Verbal reasoning skills, Self-esteem and Academic adjustment of students in ICSE and CBSE boards
- The study aims to measure Verbal reasoning ability of students in ICSE and CBSE boards
- The study aims to measure Self-esteem of students in ICSE and CBSE boards
- The study aims to measure Academic adjustment of students in ICSE and CBSE boards
- The study aims to compare the difference in the relationship between Verbal reasoning ability of students in ICSE and CBSE boards
- The study aims to compare the difference in the relationship between Self-esteem of students in ICSE and CBSE boards
- The study aims to compare the difference in the relationship between Academic adjustment of students in ICSE and CBSE boards

- The study aims to compare the difference in the relationship between Verbal reasoning ability and Self-esteem of students in ICSE and CBSE boards
- The study aims to compare the difference in the relationship between Verbal reasoning ability and Academic Adjustment of students in ICSE and CBSE boards
- The study aims to compare the difference in the relationship between Self-esteem and Academic Adjustment of students in ICSE and CBSE boards
- The study aims to compare the effect of Verbal Reasoning Ability on Self-esteem and Academic adjustment of students in ICSE and CBSE boards

Hypothesis

- There will be a significant relationship between Verbal Reasoning Ability and Self-Esteem among 12th standard ICSE board students (H1)
- There will be a significant relationship between Verbal Reasoning Ability and Self-Esteem among 12th standard CBSE board students (H2)
- There will be a significant relationship between Verbal Reasoning Ability and Academic Adjustment among 12th standard ICSE board students (H3)
- There will be a significant relationship between Verbal Reasoning Ability and Academic Adjustment among 12th standard CBSE board students (H4)
- There will be a significant relationship between Self-Esteem and Academic Adjustment among 12th standard ICSE board students (H5)
- There will be a significant relationship between Self-Esteem and Academic Adjustment among 12th standard CBSE board students (H6)
- There will be a significant relationship between Verbal Reasoning Ability and Self-Esteem among 12th standard ICSE and CBSE board students (H7)

- There will be a significant relationship between Verbal Reasoning Ability and Academic Adjustment among 12th standard ICSE and CBSE board students (H8)
- There will be a significant relationship between Self-Esteem and Academic Adjustment among 12th standard ICSE and CBSE board students (H9)
- There will be a significant difference on the level of Verbal Reasoning Ability among 12th standard ICSE and CBSE board students (H10)

Sample

The sample consisted of 12th standard students between the ages of 16 and 18. Purposive sampling was used for the data collection. A total of 100 students were taken out of which 50 were from ICSE board and the other 50 from CBSE board. The sample was residing in Delhi.

Inclusion Criteria

1. The respondents who were currently students in 12th standard in ICSE or CBSE board were included
2. The respondents who belong to urban areas were considered
3. Participants who gave their informed consent were included
4. Respondents of both genders were included
5. Only literate school students were chosen

Exclusion Criteria

1. Those suffering from any psychopathology or undergoing treatment for psychological problems were excluded from the sample
2. Those exhibiting any physical deformity were excluded
3. Participants suffering from any chronic illness were excluded from the study
4. Those residing in rural area were not selected

5. Illiterate or those having studied less than 10th standard were not included in the sample
6. The respondents who were not in 12th standard in ICSE or CBSE board were excluded
7. The respondents who refused to give consent were excluded
8. The parents and teachers of the students were excluded

Tests and tools:

The following standardised tests were used:

1. Rosenberg Self-Esteem Scale (Rosenberg, 1965)
2. Academic Adjustment Scale (Anderson et al., 2016)
3. Verbal reasoning test - Non standardised

All the tests used were standardised and had established reliability and validity. The scales administered were available in English. A semi structured interview schedule was also administered to the participants to seek detailed information about their critical social and demographic aspects such as age, gender, city and educational qualification.

Brief description of tests and tools used

1. **Rosenberg Self-Esteem Scale**, developed by Morris Rosenberg in 1965, is used to assess the self-esteem of participants. There are a total of ten items rated on a four-point Likert scale ranging from 'Strongly Agree' to 'Strongly Disagree'. Scoring was done by summing up the scores of all ten items. High scores indicate higher levels of self-esteem. Certain items are reverse scored. Some of the questions include "I feel that I do not have much to be proud of" and "On the whole, I am satisfied with myself". The scale has high ratings in reliability areas with internal consistency of 0.77 and test-retest reliability for 2-week intervals being 0.85 and 0.63 for 7-month intervals. The following instructions were given to the participant, "Below is a list of statements dealing with your general

feelings about yourself. Please indicate how strongly you agree or disagree with each statement. There are no right or wrong answers”.

- 2 **Academic Adjustment Scale**, developed by Anderson et al., in 2016 measures the academic adjustment of individuals with a focus on students sojourners. The scale consists of nine-items rated on a five-point Likert scale ranging from ‘Rarely applies to me’ to ‘Always applies to me’. There are three hypothesised subscales which are: academic lifestyle, academic achievement and academic motivation. Scoring was done by summing up the items and higher scores represent higher levels of academic adjustment. Certain items have reverse scoring. Some of the questions include, “I am satisfied with the level of my academic performance to date”, “I sometimes worry I do not have the academic skills needed to enjoy being a student” and “The reason I am studying is to lead to a better lifestyle”. Test-retest correlation coefficients of the scale are $r_s > 0.72$ showing high levels of temporal stability and internal consistency. The following instructions were given to the participant, “Please indicate the level of endorsement to which each of the following questions apply to you. There are no right or wrong answers”.

- 3 **Verbal reasoning test** - A non standardised test was utilised that consisted of verbal reasoning questions obtained from various entrance exam question papers and language testing questionnaires including TOEFL, GRE and UPSC papers from previous years.

Research Design

For the present research, a quantitative approach was used. Researchers use the quantitative research method when the purpose of the research is to obtain primary data, that is, data gathered and assembled particularly for the study, in contrast to secondary data. The present study follows

the quantitative research design intended to examine the correlation among the variables used in the study.

Research questions

- Is there a difference in the relationship between Verbal reasoning skills, Self-esteem and Academic adjustment of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Verbal reasoning ability of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Self-esteem of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Academic Adjustment of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Verbal reasoning ability and Self-esteem of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Verbal reasoning ability and Academic Adjustment of students in ICSE and CBSE boards?
- Is there a difference in the relationship between Self-esteem and Academic Adjustment of students in ICSE and CBSE boards?
- Is there a difference in the effect of Verbal Reasoning Ability on Self-esteem and Academic adjustment of students in ICSE and CBSE boards

Ethical Considerations

The following ethical guidelines were put into place for the research period

1. The dignity and well-being of the students was protected at all times

2. The research data remained confidential throughout the study and the researcher obtained the students permission
3. Students were briefed about the purpose of the study

Need of the study

Although there is a large amount of literature available for the interaction of verbal reasoning, self-esteem and academic adjustment with one another, there is a lack of research into the influence of all three on each other. These variables play a large role in the lives of students who require verbal reasoning ability to score high marks in their academic tasks, which also affects their self-esteem and academic adjustment.

Most of the competitive exams that students must attempt in-order to pursue further studies include tests of verbal reasoning ability. It assesses the students ability to understand, interpret, and break down the information that is being provided. A student's level of self-esteem is seen to increase after success and achievement. Thus, when a student successfully completes the verbal reasoning assessment in competitive exams, this feeling of achievement correlates to elevated self-esteem. Consequently, lower levels of verbal reasoning leads to lower scores in these exams and a decreased level of self-esteem in the student.

One of the main focuses of school syllabus includes verbal reasoning and this is tested in most school exams. Academic adjustment is highly dependent on how a student fares in their exams and has an indirect relationship with it. Thus, if a student scores lesser marks in their exams, it leads to bad adjustment and vice versa

Procedure

Keeping in view the objectives and ethical considerations, the following procedures were executed by the researcher:

To investigate the impact of Verbal reasoning ability, Self-esteem and Academic Adjustment between students of ICSE and CBSE boards. The research was initiated. Literature review was collected and the various researches were studied. The tools for data collection for all the variables were gathered. Next, the hypothesis was formulated and the expected outcomes were identified. The sample consisting of class 12 students studying in ICSE or CBSE board schools were identified and approached for data collection. The purpose of the present study was explained in brief to all the participants and their doubts related to the questionnaires were cleared. The participants were both males and females. Upon giving the instructions to the participants, data was collected. Prior to completing the questionnaires, participants were informed of their option to participate or not as participation was voluntary. Informed consent was obtained from the study participants of the data collection process. Participants who declined the informed consent were thanked for their interest. The data was collected via offline hard copies of the questionnaire as well as through online google forms. The elements formed part of the data collection process: a) Informed consent b) Demographic information c) Verbal reasoning ability test d) Rosenberg Self-esteem scale e) Academic Adjustment scale. Participants were required to read and give their consent before they moved forward with answering the survey questionnaires. The informed consent described the study, including the purpose of the study, voluntary nature of participation, confidentiality and anonymity and the right of participants to opt-out of the study at any time without penalty. The demographic information contained the participants name, age, gender, school board, and informed consent. The survey questionnaires made up the remaining elements of the data. Once the desired response was gathered, the participants were thanked for their valuable response and time. The scores were compiled in excel sheets for each variable and participant. For the analysis of raw scores, the help of SPSS

was taken. Prior to the scoring and calculation, data was checked for entry errors using frequency analysis and ensured any and all discrepancies were removed. The mean and standard deviation for Verbal reasoning ability, Self-esteem and Academic adjustment, Pearson R, T-test along with Multiple regression analysis was also employed using SPSS to understand the relationship between the variables. Once the results were tabulated, the interpretation and analysis of the results was done. Further, the limitations of the study, implications of the study and recommendations for future research in the field were written.

CHAPTER 4

Results and Discussion**Results****TABLE 1***N, Mean, Standard Deviation*

	Self-esteem	Academic Adjustment	Verbal Reasoning Ability
N	100	100	100
Mean	26.5	32.2	6.86
Standard deviation	4.74	6.59	2.62

TABLE 2*N, Mean, Standard deviation of ICSE and CBSE board
N=100*

	Education Board	Self-esteem	Academic Adjustment	Verbal Reasoning Ability
N	CBSE	50	50	50
	ICSE	50	50	50

Mean	CBSE	25.8	31.1	7.14
	ICSE	27.3	33.2	6.58
Standard deviation	CBSE	4.45	6.38	2.66
	ICSE	4.94	6.70	2.59

TABLE 3

Correlation among Self-esteem, Academic Adjustment, Verbal Reasoning ability

	Self-esteem	Academic Adjustment	Verbal Reasoning
Self-esteem	—		
Academic Adjustment	0.508 ***	—	
Verbal Reasoning	0.042	0.346 ***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

TABLE 4*Correlation between Self-esteem, Academic Adjustment, Verbal reasoning in CBSE students*

	Self-esteem	Academic Adjustment	Verbal Reasoning Ability
Self-esteem	—		
Academic Adjustment	0.420 **	—	
Verbal Reasoning	0.127	0.270	—
<i>Note. * p < .05, ** p < .01, *** p < .001</i>			

TABLE 5*Correlation between Self-esteem, Academic Adjustment, Verbal Reasoning Ability in ICSE students*

	Self-esteem	Academic Adjustment	Verbal Reasoning Ability
Self-esteem	—		

Academic Adjustment	0.559 ***	—
Verbal Reasoning Ability	0.002	0.469 ***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

TABLE 6

T-Statistics showing group differences

		Statistic	df	p
Verbal reasoning Ability	Student's t	1.14	97.0	0.256
Academic Adjustment	Student's t	-1.32	97.0	0.189
Self-Esteem	Student's t	-1.43	97.0	0.155

Note. $H_a \mu_{CBSE} \neq \mu_{ICSE}$

Discussion

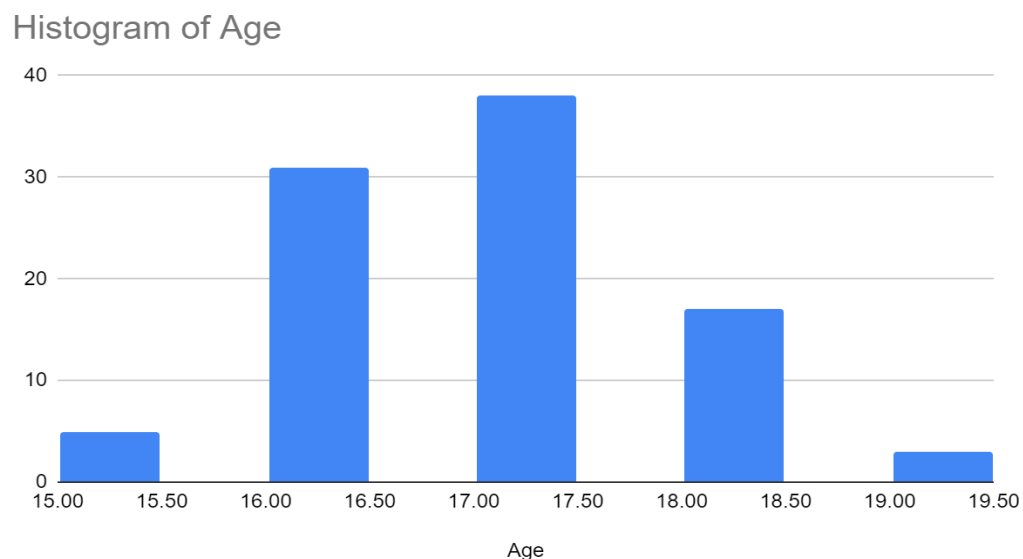
This chapter begins by explaining the descriptive statistics and laying out a framework of the basic characteristics of the sample. This will be followed by an analysis of the remaining data by

a critical discussion of the findings and results as well as their connections of the existing research. The chapter ends with providing any new data or contradictory information that exists in the research world.

Descriptive Statistics

As mentioned in the previous chapter, the sample size consists of 100 participants residing in Delhi and studying in 12th standard in either an ICSE or CBSE board. The data was collected online using google forms and offline through distribution of hard copies of the questionnaire. A 50/50 split of students studying in an ICSE and a CBSE school was ensured in order to prevent any bias and to maximise the statistical power. The age distribution of the sample ranged from 15 to 19, who were students and studying in 12th grade. The age distribution is shown in the figure 2 below.

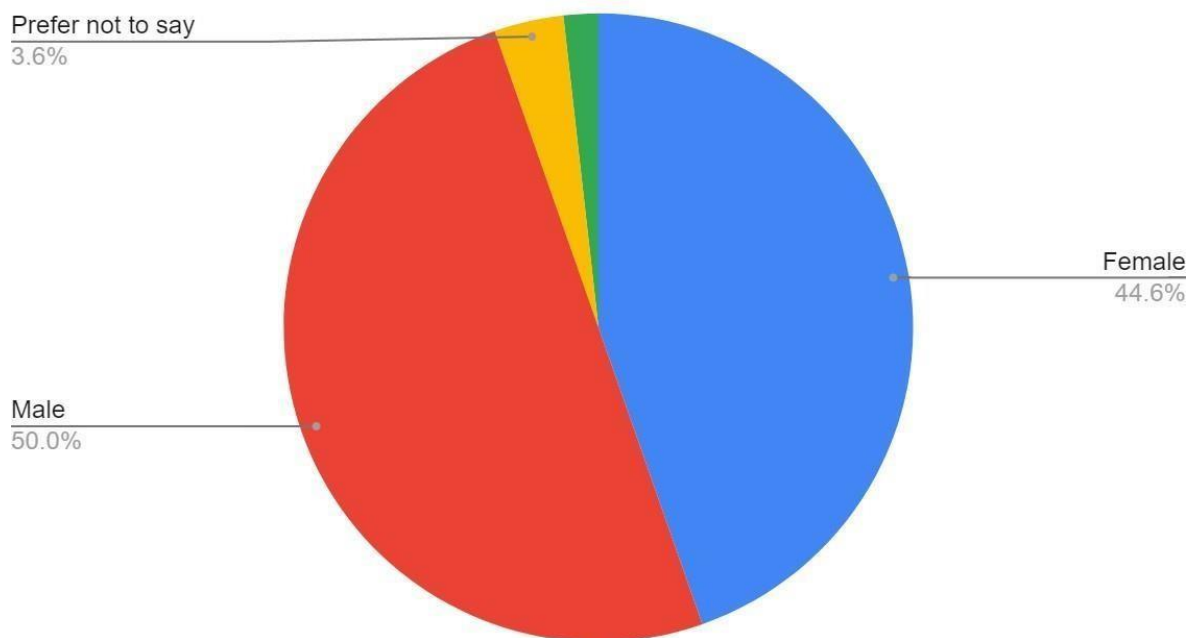
FIGURE 2: Shows histogram of the age distribution among the sample (N=100)



As is visible from Figure 1, the maximum number of participants were between the ages of 17. Students typically reach the age of 18 by the time they graduate grade 12 and finish their exams. However, a very small percentage of 19 year olds is also seen.

FIGURE 3: Shows the count of gender among the sample (N=100)

Count of Gender

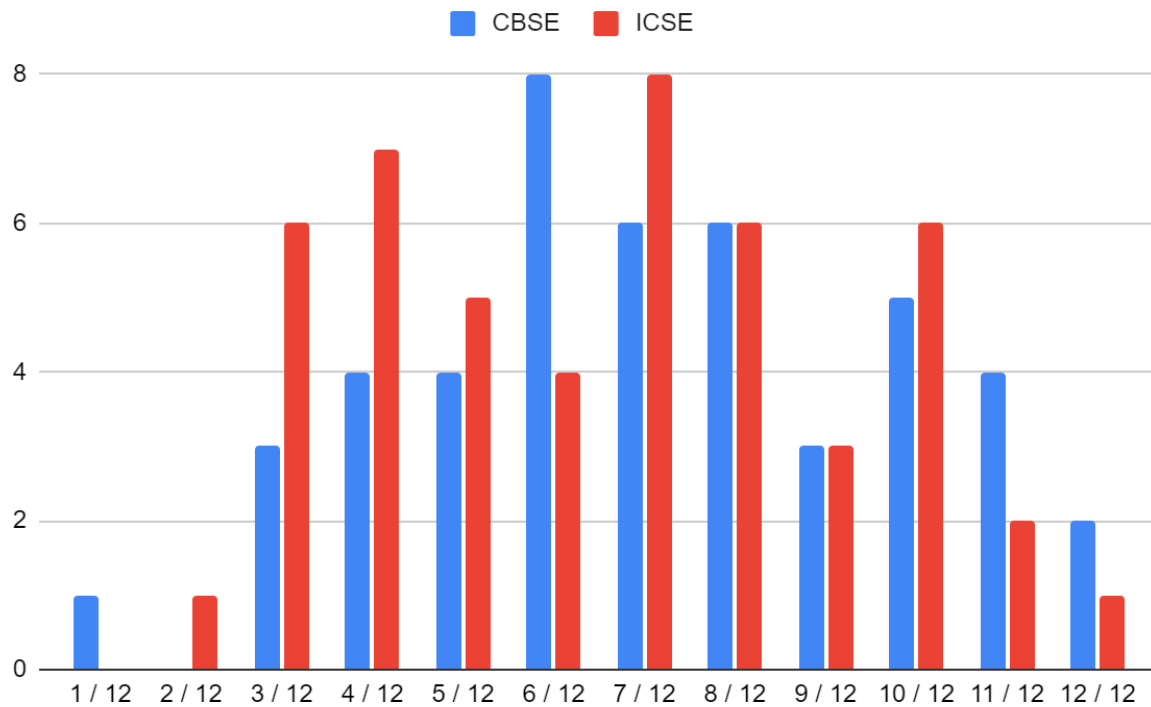


In the Figure 3 given above, a larger percentage of males have filled the form as compared to females and 3.6% of the participants did not wish to disclose their gender. The remaining 2.88% constitute individuals who identify as non-binary.

The questionnaire consisted of a verbal reasoning assessment. This assessment was non-standardised and consisted of questions found on various competitive exam question papers and tests. The sample was tested on verbal reasoning skills in analogy making, synonyms,

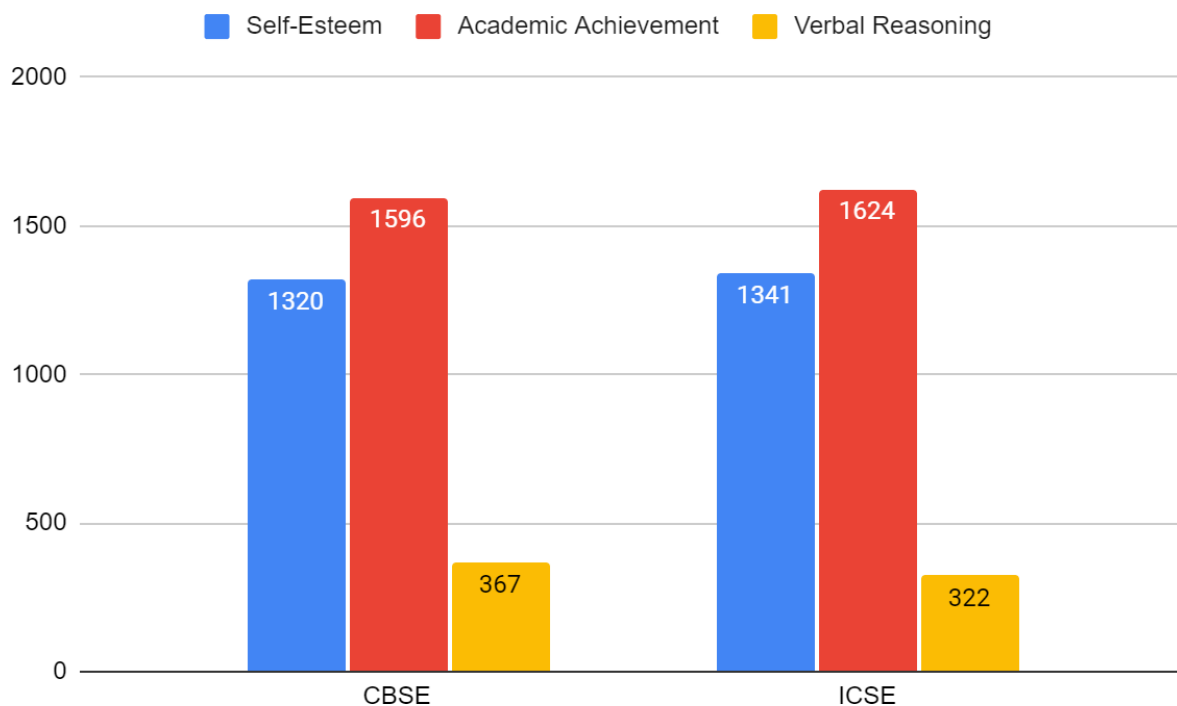
antonyms and word meanings. The maximum score that could be obtained was twelve. A variety of scores were seen across the sample responses.

FIGURE 4: Shows the distribution of scores of verbal reasoning among the ICSE and CBSE sample



The Figure 4 above shows the number of respondents in ICSE and CBSE who have received scores ranging from one to twelve. The highest number of participants in CBSE scored six out of twelve. Whereas, maximum ICSE participants received a score of seven out of twelve. This shows an average level of verbal reasoning skills in both ICSE and CBSE participants.

FIGURE 5: Shows the total scores of the three variables Self-esteem, academic adjustment and verbal reasoning among ICSE and CBSE students



The Figure 5 given above represents the total scores of the three variables in both ICSE and CBSE participants. Higher scores mean higher levels of self-esteem, academic adjustment and verbal reasoning ability. In terms of self-esteem and academic adjustment, ICSE participants have scored marginally higher as compared to their CBSE counterparts. However, slightly higher scores in verbal reasoning ability have been obtained by CBSE participants.

Statistical Analysis

This section of the paper is to understand the results of the statistical analysis. The aim is to understand whether there is a significant relationship between the variables. Our findings are

based on whether each variable has a correlation with the other two individually and how each affects the other. Secondly, the differences in the verbal reasoning ability, self-esteem and academic adjustment in both the educational boards are checked and analysed.

Table 3 shows the correlation between the variables among both ICSE and CBSE participants. The results show that there is a significant positive correlation between Self-Esteem and Academic Adjustment ($r=0.508$, $p<0.001$) thus proving the hypothesis (H9). This shows that there is a high tendency of one variable decreasing if the other decreases. These results indicate the importance of self-esteem in helping adolescents adjust to their various surroundings (DuBois et al., 1998). Children who are constantly being criticised, spoken to harshly and have difficulty excelling in sports and academics develop low self-esteem and struggle with their identity (Bruno & Njoku, 2014).

Self-esteem enhancement should be one of the major focuses of schools as higher levels of self-esteem indicate a tendency for the child to adjust at a faster rate. Teachers play a pivotal role in allowing students to develop their self-esteem. Student and teacher interactions are important as they determine the level of comfort a student develops in the school setting. Showing students empathy and being understanding helps in increasing their levels of confidence and subsequent self-esteem. Developing various coping mechanisms and techniques to facilitate adjustment is essential to ensure smooth assimilation of the student into the academic environment. A positive student-teacher relationship allows the student to use the teacher as a safe ground from where they can investigate the environment as well as explore their own selves (Roorda et al., 2021). Allowing for a safe space within the classroom helps students to gain various skills and techniques as there is no fear of failure.

Similarly a significant positive correlation is seen between Verbal reasoning ability and Academic Adjustment ($r=0.346$, $p<0.001$) proving the hypothesis H8. This also shows a high tendency of one variable to change in the same direction following a change in the other variable. Reduced levels of verbal reasoning ability have been linked with high levels of acting out as well as low academic achievement and adjustment (Richman, & Lindgren, 1981). Verbal proficiency and high levels of critical thinking are needed for easy comprehension and execution of classroom instruction. If a student is unable to keep up with the instructions, he will find himself falling behind in class which will negatively affect his adjustment (Amusa, 2020). Apart from that, the verbal ability of teachers also plays a role in student academic outcomes (Aloe & Becker, 2009).

However, no significant relationship between Self-esteem and verbal reasoning skills were seen thus disproving the hypothesis (H7). This could be due to several reasons, including the smaller sample size used for this study and the limited area from which the sample was taken. Future research could focus on expanding the reach of the sample and including a population obtained from a number of cities.

Table 5 shows the correlation between the variables among the ICSE board students only. A significant positive relationship was seen between Verbal reasoning ability and Academic Adjustment ($r=0.469$, $p<0.001$) thus proving the hypothesis H3. This result is similar to that obtained in the correlation of the population as a whole as seen in table 3. Similarly, results indicated a significant positive relationship between Self-Esteem and Academic Adjustment among students in ICSE board ($r=0.559$, $p<0.001$) which proves the hypothesis (H5). However, the hypothesis (H1) was disproved as no significant relationship was seen between Verbal reasoning and self-esteem.

The results in Table 4 are the correlation between the variables among CBSE students. Similar to ICSE board students, a significant positive relationship was seen between Self-Esteem and Academic adjustment in CBSE board students ($r=0.420$, $p<0.01$). This result proves the hypothesis (H6) correct. However, contrary to results of ICSE board students, there was no significant relationship seen between Verbal reasoning ability and academic adjustment thus disproving the hypothesis (H2). This result conflicts with that seen in the population correlation as well.

The independent samples T-test shown in table 6 does not show any significant differences in the verbal reasoning ability, academic achievement and self-esteem therefore disproving the hypothesis (H9). Thus, there are no group differences between ICSE and CBSE students on the variables mentioned above.

CHAPTER 5

Summary and Conclusion

Summary

This study attempted to investigate the relationship between Verbal Reasoning Ability, Self-Esteem and Academic Adjustment among ICSE and CBSE class 12 students. After analysis of the results, a significant positive relationship ($r=0.346$, $p<0.001$) was seen between verbal reasoning ability and academic adjustment. Similarly, a significant positive relationship ($r=0.508$, $p<0.001$) was also obtained between academic adjustment and self-esteem. However, no relationship was observed between verbal reasoning ability and self-esteem. These results indicated the importance of cultivating high verbal prowess in students as it plays a role in the academic and personal lives.

Conclusion

Overall, the study aimed to understand the effects on verbal reasoning ability on self-esteem and academic adjustment of a student. The influence of academic adjustment and self-esteem on each other were also assessed. The results show that verbal reasoning has a definite influence on the other variables and aids in facilitating a smooth assimilation of the student in their academic life. Self-esteem was also seen to play a role in academic adjustment and led to improvements in overall mental health. These variables proved to be important in the life of a student and efforts must be made in enhancing the verbal reasoning which in turn plays a role in the child's academic adjustment and self-esteem levels.

Limitations

The sample size used for the study was comparatively small and assessed the verbal reasoning abilities and its subsequent effects on only two education boards. The study was unable to incorporate a larger number of education systems and students.

The study was dependent on data that was self-reported. This could lead to social desirability bias as students were asked about their personal and academic lives.

The study focussed on students from ICSE and CBSE education boards only and the results cannot be generalised to other education systems due to differences in syllabus and teaching styles.

Verbal reasoning ability influences a student from a young age. However this study was only able to assess the abilities of students in 12th standard. Longitudinal studies can be conducted to assess the developmental effects and influences of verbal reasoning ability.

Recommendations

On the basis of this study, enhancing the verbal reasoning ability of the student is recommended through incorporating more verbal reasoning content in the syllabus. Increasing the verbal reasoning skills of the student from a young age aids in the adjustment of the child in their personal and academic lives.

Apart from that, longitudinal future studies could be conducted to assess the effects of verbal reasoning on the various domains of a students life over a period of time. This is important in assessing how much of an influence verbal reasoning has in ensuring overall wellbeing in a students life.

Intersectional studies can help in asserting the other important developmental variables that are influenced by verbal reasoning ability and how these play a role in the adjustment of a student in his academic and personal life.

As this study compared students from only two educational boards, ICSE and CBSE, future recommendations would be incorporating a larger number of education systems into the study to evaluate the syllabus and abilities of the students.

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Appendix

Verbal Reasoning Ability (Non-standardised)

I. There is a certain relationship between the two given words on one side of :: and one word is given on the side. Choose the word from the options that has the same relation with the single word that the given pair has. Select the best alternative.

1. Doctor : Diagnosis :: Judge :

Court

Punishment

Lawyer

Judgement

2. Ecology : Environment :: Histology : ?

Fossils

History

Tissues

Hormones

3. Birds : Aviary :: Bees : ?

Columbary

Hive

Volary

Apiary

II. Choose the correct SYNONYM (the word with the same meaning) of the given word:

1. Anomalous

Discordant

Irregular

Different

Bent

2. Abject

Challenge

Miserable

Deny

Disobey

III. Choose the correct ANTONYM (the word with the opposite meaning) of the given word:

1. Benign

Damaged

Sick

Hostile

Poor

2. Exonerate

Admit

Accuse

Reject

Contract

IV. Choose the word that defines the statement

1. That which cannot be read

Negligible

Ineligible

Illegible

Incorrigible

2. Teetotaler

One who abstains from greed

One who abstains from wine

One who abstains from meat

One who abstains from theft

3. Habitually silent or talking little

Servile

Unequivocal

Taciturn

Synoptic

4. Words inscribed on a tomb

Epitome

Epistle

Epilogue

Epitaph

5. One who knows everything

Literate

Scholar

Intellectual

Omniscient

Rosenberg Self-Esteem Scale

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

Academic Adjustment Scale

1. I am enjoying the lifestyle of being a university student.
2. I sometimes feel as though my education is not worth time away from my work or my family.
3. I sometimes worry I do not have the academic skills needed to enjoy being a student.
4. I am satisfied with the level of my academic performance to date.
5. I think I am as academically able as any other student.
6. I am satisfied with my ability to learn at university.
7. I expect to successfully complete my degree in the usual allocated time frame.
8. The reason I am studying is to lead a better lifestyle.
9. I will be disappointed if my studies don't lead me to the career I want