

Parental Pressure, Subject Disinterest, and Exam Anxiety as Predictors of Academic Performance among Engineering Students with a History of High Academic Achievement.

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Abstract

This comprehensive review aims to understand how parental pressure regarding engineering course selection after higher secondary education leads to subject disinterest who were high achievers in their secondary and higher secondary grades. While these students develop different tastes and passions following their higher secondary education, they often select engineering courses solely due to parental pressure. As examinations approach, they develop exam anxiety, which negatively affects their cumulative grade point average (CGPA). Increased anxiety regarding the thought of failure causes depression, making it difficult to complete the course within the prescribed time.

In this comprehensive review, the researcher aims to synthesize insights from various studies to untangle the complex web of parental pressure, subject disinterest, and exam anxiety, ultimately shedding light on the heavy toll they take on a student's academic journey.

Introduction

Securing admission for children in engineering colleges has increasingly become a matter of social prestige for parents today. Many assume that high academic achievement by their adolescent children in secondary and higher secondary grades guarantees similar success in professional courses like engineering. Often overlooking the unique tastes and passion their children develop during adolescence. While teenagers naturally crave autonomy during this developmental stage, they frequently experience confusion when choosing a future career path. During this pivotal moment, they require proper guidance and emotional support from their parents to carefully weigh the pros and cons of various subjects. The crucial support enables them to choose a field aligned with their true interests, allowing them to utilize their full competency throughout their entire duration of the course. By studying subjects of their own choosing, students can thrive without developing exam anxiety or struggling to complete their coursework on time. Consequently, they can sustain the strong academic performance they demonstrated in secondary school and graduate with a commendable CGPA.

Kerala features approximately 195 engineering colleges. These comprise fully state-funded government institutions, aided colleges, government-controlled self-financing institutions and private self-financing colleges. Total intake across all private and state-managed institutions runs in the tens of thousands of seats. Culturally, Kerala boasts high general literacy and strong legacy of academic achievement. Higher secondary education performance is heavily celebrated, which often amplifies parental ambitions.

Engineering and medicine historically function as primary markers of social prestige and upward economic mobility in Kerala households, making adolescent course selection a high –stake emotional environment that frequently triggers the pressures, subject disinterest, and subsequent academic stress. Engineering programme come with distinct structural and academic challenges, such as fast paced semesters, heavy coursework, and continuous assessments. If a student struggles with exam anxiety or subject disinterest and fails an exam, clearing backlogs while trying to keep up with the new subjects of the following semester creates a compounding cycle of stress. This study comprehensively examine the anxiety faced by adolescents during exam preparation and its impact on academic outcomes. Thereby highlighting the critical need for timely guidance and emotional support to help students overcome these struggles and achieve their full competency anxiety in the context of educationist recognized as psychological barrier that can hinder learning and academic achievement (mcmillen2000) research supports the notion that test anxiety affects students' academic performance (bentil2020)

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Keywords: parental pressure, subject disinterest, test anxiety, academic performance

Approach

This article is based on a systematic review of relevant literature retrieved from major academic databases, including Scopus, IEEE Xplore, PubMed, and Google Scholar. The section was restricted to pre-reviewed articles published between 2015 and 2025. by analysing the methodologies employed in prior studies, this review synthesizes existing research trends and identifies critical gaps in the literature. Specifically it establishes connection between parental pressure, subject disinterest, exam anxiety and the academic performance of higher education students with a documented history of high achievement.

Studies

Mental health challenges are a significant concern among engineering adults particularly college students. An increasing body of research highlights a mental health crisis in India's engineering institutions. The current study examines whether socio psychological factors such as socio demographic variables, departmental pride batch mate mattering, self-esteem, parental control and academic stress significantly predict the mental health status of students(1). According to Maji, s., et.al parental control along with academic stress, as a significant predictor of the mental health status of engineering undergraduate in India (14), Maji, s. also explains that the major source of stress among the students emerges from examination and placement, which relates to the user's inquiry about exam anxiety (1). The researcher also identifies that the financial concern stemming from parents' spending savings or taking loans for entrance exam also causes significant pressure for engineering undergraduates, hereby linking parental actions to students 'stress reported', in Majid's article (1). The study utilizes a concurrent mixed method design, an online survey with a quantitative measurement and open ended qualitative questions was conducted with a participants of 839 engineering graduates from different engineering colleges of India. Multiple regression analysis revealed that self-esteem, batch mate mattering, academic stress departmental pride, gender and parental control were significant predictors. (1) Instead of reporting on one study Nagaraj, k., and Shetty, P.U. (2) brings together insights from many different kinds of research. The aspirations of parents include children's future spanning academics and personal achievements (Kumar Prawin et.al(2015)). As a result

of internalising their parents high standards engineering adults frequently adopt an unachievable standards of perfection, which feeds a strong fear of receiving unfavourable criticism.(Sajna Menon et.al(2024).TThough parents are a motivator they can also be a major stressor that negatively impact their wellbeing(Rizwan Muhammed et .al (2020) Nagaraj et.al discusses that excessive parental academic expectations can motivate students but also cause stress, anxiety, and burnout, which directly related to exam anxiety. Disinterest as anxiety symptoms explains that parents often misinterpret a child's stress , withdrawal ,or reluctance as laziness or disinterest, suggesting a link between disinterest like behavior and underlying anxiety due to parental pressure(2). Academic pressure and test anxiety notes that test anxiety increases with the amount of academic pressure student's face, indicating a causal link between parental pressure and increased exam anxiety (3). The relationship between academic stress and test anxiety, investigates that parental expectations as a factor affecting the relationship between academic stress and test anxiety, revealing that parental stress negatively correlates with academic stress (23) and positively correlates with regulatory emotional self-efficacy (3) .Similar evidence in other studies had shown that parental pressure was directly associated stronger worry and test irrelevant thinking components of test anxiety, and indirectly with bodily symptoms through a performance –approach goal ,a lower perception of subject specific ability (disinterest) and lower perceived test competence predict higher test anxiety score.(4)Study examines the student academic performance was most strongly associated with perceived parental predictions that the student would earn top grades ,followed closely by parent ability belief. In contrast perceived parental demands for top grades showed no significant positive association with academic performance. The findings successfully established that breaking down expectations in to distinct components such as predictions, ability beliefs ,and demands provide how parental influence operates than treating high expectation as a single uniform construct (15).Subject disinterest suggests that ,boredom experienced when the learning activity lacks any intrinsic incentive value ,is a relevant negative emotion related to achievement. Parental pressure effects suggests that supports from parents may sometimes fail to correlates with student test anxiety ,possibly because attempts to support can unintentionally increase performance pressure.(5) The study was based on reviewing different literature. Positive academic emotions such as enjoyment of learning ,hope, and pride have been shown to relate positively to students' interest and intrinsic motivation whereas negative emotion like anger, anxiety ,shame, hopelessness and boredom related negatively to these motivational variables according to Helmke,1993,perkUNET.al,2002,2011,zeidner,1998,2014(5)Tthe male students found stress and grades are inversely correlated due to deterioration of cognitive function and in females increasing amount of stress has a beneficial effect on cumulative grade point and explanation was "eustress". The findings of this study were convergent with few earlier studies which revealed a significant negative correlation between anxiety and academic achievement. The reason cited was the students under anxiety are not able to recognize relevant information ,are unable to integrate their knowledge in to their long term memory, do not possess the skills to self-evaluate their learning state and use faulty coping technique (11)On the other hand ,less anxious students sustain their focus throughout information processing and retrieval ,and build up acceptable study habits and they have less disruptive thoughts and less cognitive breakdown (6) In a study that aim to identify the factors associated with academic success or failure in 1071 incoming university students. researchers evaluated variables related to emotional intelligence ,motivational and self-regulated cognitive skill, goal orientation and prior academic achievement(7).The result indicated that the prior academic performance measured via an initial entrance test demonstrated at the highest predictive power or overall university success.(7,10)Students susceptible to academic failure typically exhibited

lower scores on motivational self-efficacy tests alongside higher scores in emotional attention and performance approach goals. In summary while baseline academic preparation is the strongest indicator of whether a student will succeed, psychological factors particularly self-efficacy, emotional awareness and goal orientation play a crucial role in identifying students who may be of academic failure.(7) A systematic review and a meta-analysis research identifies that the prevalence of overall exam anxiety was 48.4%, with moderate anxiety at 32.2 % and high anxiety at 20.16%.sex specific prevalence was 47.60% for males and 54.96% for females. These findings underscore the complex and multifactorial nature of exam anxiety (8).The researcher wanted to see how test anxiety such as stress or nervousness before or during exams affect students' academic performance like grades or test scores. they looked at students with low, moderate, and high test anxiety across two different classrooms .(9)The general trend was students with lower test anxiety tended to get better grades ,while those with higher anxiety scored lower. Also investigated that students with moderate anxiety actually scored higher if they were placed in a class that was generally high anxiety. Conversely, students with high anxiety scored better if they were in a class that was generally low anxiety. In short ,too much test anxiety generally hurts grades ,but the overall stress level of the classroom can change how well students perform.(9) An Italian study examined the interplay between self determined motivation and the use of cognitive strategies in predicting university students ' academic performance while taking in to account the prior achievement. The researcher investigated that prior achievement influenced students' academic performance (10) and also their motivation and use of cognitive strategies. Autonomous motivation had an indirect positive impact on academic performance through its influence on the critical thinking strategy.Controlled motivation had a direct negative impact on academic performance (10) A study to investigate how a student's ability to successfully handle everyday academic stress and the relation between test anxiety and academic performance shows that excessive test anxiety generally leads to less task focus and lower academic performance. Highly "buoyant" students are better equipped to handle examination pressures. The study states that their ability to stay focussed and use adaptive coping strategies help buffer them against the negative impact of anxiety (11) In Tanzania, individuals with failing mathematics grades are barred from pursuing careers in sectors such as engineering, clinical medicine, and pharmacy. This study investigates the influence of anxiety on mathematics performance among secondary school students. Mathematics anxiety is characterized by feelings of tension, and fear of failure in math tasks, is a significant issue affecting students' academic performance. The study identifies various factors contributing to mathematics anxiety, including teaching methods, parental pressure, and lack of confidence (12) The researcher in his study aimed to evaluate the impact of test anxiety on academic performance using realistic evaluative events rather than artificial laboratory tasks. It sought to establish more accurate models of test anxiety's influence by incorporating actual course performance measure and established measures of test based performance, correcting previous estimate that failed to account for prior performance like SAT score (a standard entrance exam score in united state).the study supports the theory that students with heightened test anxiety suffer performance deficit due to cognitive interference that can occur during exam itself, or both, which leads to poor content organization and limits the student's ability to retrieve key information during the test.Cognitivetest anxiety was found to be 7-8% may seem small ,the researcher notes that it is highly significant when the other factors influence exam performance. He found that the data did not support the "addictive models of test anxiety" (13). The researcher sought to determine how test anxiety levels relate to student grade point average (GPA) across different academic level and genders and the study found a statistically significant but a small inverse relationship between test anxiety and GPAfor

both undergraduate and graduate students in a cohort study . Because the effect on GPA is relatively small, the authors conclude that while test anxiety negatively impacts performance, it is only one of many factors influencing academic success and its impact should not be overstated (16) The study result shows that students pursuing lower degrees are more anxious than those who are more familiar with the test-taking process in an academic environment. (17)V.I .morosanova et.al identified that the conscious self-regulation acts as a mediator of students' anxiety influence on exam result(18) Vinueza, fernandez I.et.al investigated physical activity interventions may reduce anxiety and potentially enhance academic performance in university students(19).A study and its findings highlighted ,depression, anxiety, and stress are consistently linked to poor academic performance, poor concentration, low motivation ,burnout ,and a high risk of dropout among students(20) Ghetos , s.d et.al reviewed the literature and provides a systematic synthesis of the sources of academic stress and highlights the primary factors contributing to stress levels among students.(21) The meta analysis indicate that test anxiety significantly and negatively impacts various educational performance outcomes, including standardised test, university entrance exam and grade point averages across the studied time frame.(22) Pekrun ,R.,suggests that messages from parents conveying information about the perceived value of academic tasks influence students emotions ,including anxiety and the anxiety is likely to be high when a student judges themselves incapable of mastering the learning material and that lack of interest in the material should lead to low anxiety (24).

Limitations

Several limitations of this narrative review should be acknowledged. First, due to a scarcity of peer-reviewed literature specifically examining students with a prior history of high achievement within this exact intersection of variables, the scope of the review was broadened to include broader undergraduate and higher secondary cohorts. While this expansion provided a foundational understanding of the psychological dynamics involved, it may introduce confounding demographic and academic variables, as transitioning from historically high achievement to the unique rigors of engineering education involves distinct psychological shifts. Furthermore as a narrative review ,the article shares inherent vulnerability to selection bias ,and the heavy reliance of the underlying literature on cross –sectional designs and self-reported measures limits the ability to establish definitive casual pathway between parental pressure, subject disinterest, exam anxiety ,and academic decline .Future research should prioritize targeted, longitudinal studies focusing explicitly on students with a history of high achievement navigating technical disciplines to validate and extend these insights.

Conclusion

This narrative review underscore the complex interplay between parental expectations, subject disinterest, and student wellbeing in shaping the academic performance of engineering students. While parental involvement and balanced expectations can foster motivation, excessive and unrealistic pressure during adolescence often trigger severe exam anxiety, fear of negative evaluation, and psychological distress. Furthermore, the synthesis of literature reveals the subject disinterest and low perceived competence exacerbate test anxiety by hindering cognitive integration, a long –term memory consolidation.

Crucially, the review highlights that the negative impacts of academic stress can be significantly buffered when parental pressure is paired with open communication, emotional support, and an environment that respects student autonomy. Although prior academic measures consistently demonstrate a positive relationship with subsequent achievement, a distinct research gap remains regarding, how specific

performance milestones in 10th and 12th grades directly predict undergraduate engineering CGPA. Future research should address this gap to better understand how foundational academic records interact with psychological variables like anxiety and parental influence in higher education.

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