



ORIGINAL CONTRIBUTION

Increasing Academic Performance by Handling Procrastination among Students through Cognitive Behavioral Therapy

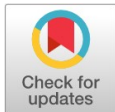
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Abstract— The study provides insights into a valuable dynamic of the role of transformational leadership on employees' innovative performance in colleges in Punjab, Pakistan. By applying quantitative data, the study emphasizes how transformational leadership influences innovative performance in educational settings. By applying the qualitative method, the study fills the critical gap in understanding how leadership and employee performance are connected. Using the hierarchical regression technique, the paper examines the role of transformational leadership in employees' innovative performance at the college level in Punjab, Pakistan. Data was gathered through a standard questionnaire from the faculty and administrative staff of public (N = 93) and private colleges (N = 107), and the data was analyzed using a quantitative approach. The survey items comprised in the survey were associated with transformational leadership, innovative performance, organizational support for innovation, job satisfaction and work environment. Results are based on self-administered questionnaires and were analyzed by correlation and regression methods, which reveals a significant positive relationship between transformational leadership and employees' innovative performance. The outcomes highlight the significance of visionary leadership in promoting a creative and innovative setting at educational institutes. The findings are further discussed in the context of theory and practice, which have implications for leadership development programs within higher education. Academic performance is crucial as it not only reflects a student's understanding and mastery of the material but also influences future educational and career opportunities. This quasi-experimental study aimed to increase the academic performance of college students by handling their procrastination through cognitive behaviour therapy (CBT). A sample of 40 female college students aged 18-25 years who scored high on the procrastination scale was recruited. Randomly categorized experimental and control groups with 20 participants in each provided data on procrastination and academic performance scales at three times; baseline (T1), after treatment (T2), and follow-up (T3). CBT was administered to the participants in eight sessions, one session weekly. The findings showed a significant difference in the levels of procrastination and academic performance of students between the scores of pre-, post, and follow-up testing of CBT. Findings revealed a significant decrease in procrastinated behaviour from T1 to T3 and an increase in the academic performance of students after intervention from T1 to T3. The findings have implications for teachers and psychologists in handling the problem of procrastination in terms of the academic performance of students. Psychologists and counsellors should offer workshops on procrastination strategies, emphasizing the importance of early intervention to enhance academic outcomes.

Index Terms— Academic performance, Procrastination, Cognitive behavioural therapy

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Introduction

College and university teachers and administrators frequently set deadlines for students to complete course registration, course forms, and task sheets or term papers, among other obligations. These deadlines define the everyday activities of college and university students. Research literature refers to the practice of many students delaying these tasks until the very last minute as procrastination. Students who put off turning in papers or studying for exams until the last minute frequently engage in academic procrastination (Milgram, Batori, & Mowrer, 1993).

Irrationally and voluntarily delaying tasks, even when one knows that doing so is counterproductive to one's own interests, is referred to as procrastination (Steel, 2012). Procrastination is described as the inability to finish or avoid doing the things that are required (Hen & Goroshit, 2014). The aim of avoiding an activity, a commitment to get to it thereafter, and the use of argument-making to rationalize the tardiness and avoid blame" is how W. J. Ellis A. & Knaus (2002) characterized procrastination. A person who procrastinates is someone who, in some way, knows what they want to accomplish, can do it, and desires to do it but doesn't finish it, according to Silver (1981).

The area of procrastination that has been studied the most is academic procrastination (Jorke, 2022) When someone is passive in finishing academically related responsibilities, including studying for a test or speaking with an instructor, it is referred to as situational procrastination. Academic procrastinators may be aware of their actions either consciously or subconsciously. Intentionally procrastinating or prolonging work that ought to be completed is the most widely accepted definition of academic procrastination (Schraw, Wadkins, & Olafson, 2007).

According to A. Ellis and Knaus (1977), around 95% of students procrastinate at some point, whereas Solomon and Rothblum (1984) assessed that nearly half of all students habitually and problematically do so. According to Ferrari and Beck (1998) review, almost 70% of undergraduate students—regardless of gender or race—procrastinate often. The results of a systematic review of 33 pertinent studies with an overall number of 38,529 participants were summarized by Kim and Seo (2015); procrastination and academic achievement were found to be negatively associated by their investigation.

At a Turkish governmental university, Yilmaz (2017) examined the relationship between exam and assignment performance for 88 students who took classes virtually versus in person. There was a negative correlation between academic procrastination and assignment results in both distance learning and in-person gatherings. In the group that underwent remote learning, this effect was more pronounced. It's interesting to note that there was no association between the exam score and the entire assignment in the remote learning group, but there was a correlation between procrastination and exam results solely in the face-to-face group. The author provided an explanation, stating that since all exam preparation resources are easily accessible, distant learning benefits students who like to put things off. According to study findings, procrastinators may not benefit from distance learning environments.

Based on the findings of the previously described research, it is logical to assume that procrastination negatively impacts students' academic achievement and that a range of factors determine this relationship. According to Jackson, Weiss, Lundquist, and Hooper (2003), procrastination can affect academic achievement in a variety of ways. These include (i) procrastinators delay finishing tasks until they have limited time to do so in order to deal with anxiety (Schouwenburg, 1995), (ii) because they misjudge how long a task will take to finish, procrastinators don't put in the necessary effort and time needed to accomplish properly (McCown, 1986), (iii) those who procrastinate do worse because of unanticipated difficulties or setbacks (Ferrari, 1995).

A study examined the causes of procrastination and how it affects university students' ability to learn. The results indicated that students' academic performance is impacted by procrastination in terms of their participation in class, learning, and assignment submission as well as their ability to study for tests and succeed. Likewise, the labour load of assignments and inappropriate management of time by the pupils created procrastination (Hussain & Sultan, 2010).

According to Graham (2005), cognitive behavioural treatments are interventions based on the central tenet that people's thoughts have a direct bearing on their feelings and actions. Reeducating pupils to face their dysfunctional thinking can help lessen indicators of emotional suffering and dysfunctional actions. This can be accomplished through school counselling. When using CBT, counsellors give their students' conscious thought processes, emphasize the present, assign homework for them to complete in between groups or sessions, and evaluate the intervention's effectiveness to make adjustments as their relationship with the students develops (Graham, 2005). As stated differently, empirical research indicates that CBT programs have previously proven to be successful therapeutic interventions for kids.

Recent literature highlights the significant impact of cognitive behavioural therapy (CBT) on reducing procrastination and improving academic performance among students. ? discuss procrastination as a self-regulatory failure that adversely affects academic outcomes, suggesting that targeted interventions like CBT can effectively address this issue. Supporting this, Guay, Morin, Litalien, Howard, and Gilbert (2021) conducted a systematic review that confirmed the efficacy of CBT techniques in reducing procrastination behaviours in educational contexts. Additionally, Researcher emphasize how CBT not only helps in managing procrastination but also enhances academic motivation, ultimately leading to better performance. A recent randomized controlled trial by Lee, Choi, and Lee (2023) further corroborates these findings, demonstrating that students receiving CBT showed significant reductions in procrastination and notable im-

improvements in their academic achievements. Together, these studies underscore the importance of integrating psychological interventions into educational frameworks to foster student success.

Although 'cognitive behaviour therapy' (CBT) is frequently seen as the best course of action, its efficacy in treating procrastination remains unclear as no clinical trials have been conducted in this area to date (Pychyl & Flett, 2012). So, face validity and single case studies are the main foundations for the hypothesis that CBT could help those who struggle with procrastination. Still, a number of the behavioural and cognitive strategies employed with procrastinating patients are derived from tried-and-true protocols for treating other mental illnesses. When it comes to procrastination, activation of behaviour assists the person in altering a persistent pattern of conduct so that responsibilities and obligations are faced head-on rather than put off. Since procrastination is frequently reinforced by an unwillingness to endure discomfort, this typically calls for some kind of graded exposure (Dryden, 2000).

A distinct perspective on the issues faced by students is offered by the CBT method. According to CBT, students who feel anxious about their undergraduate thesis are experiencing a cognitive distortion linked to helplessness or incapacity to prepare the thesis (Corey, 2013). If cognitive distortion is further investigated, it can be found to be a result of the students' long-standing maladaptive core beliefs. A person's core belief is their most fundamental self-perception, shaped by their experiences in the past. The presence of a maladaptive core belief leaves students feeling helpless, unqualified, or incapable of writing their undergraduate thesis (Corey, 2013).

In order to help students become more self-assured and less anxious about their academic performance, the counsellor should assist them in rearranging their negative beliefs into more adaptive ones (Situmorang, Mulawarman, & Wibowo, 2024). According to Corey (2012), some counselling techniques that are currently in use can be used in the implementation of CBT in order to assist students in reorganizing their negative thoughts. These techniques include behavior-building exercises, homework, modelling, cognitive reconstruction feedback, desensitization, stress management problem-solving, information, sharing, meditation, and relaxation exercises (Capuzzi & Gross, 2013; Sharf, 2004).

Keeping the significance of the effectiveness of CBT in the domains of students' academic benefits, the present study was also designed to see how CBT is effective in reducing procrastinated behaviours among college students and can enhance academic performance as a result. Therefore, it was assumed that procrastination would be negatively correlated with the academic performance of college students; CBT will have the efficacy in reducing procrastination and increasing the academic performance of college students.

Methodology

Participants

From an initially contacted sample of 180 female college students, 40 participants aged 18-25 years scoring high on the procrastination scale were selected through simple random sampling. Participants with high procrastinated behaviour were screened out on the procrastination scale (Lay, 1986).

Instruments

The general procrastination scale

Procrastinated behaviours of female college students were assessed using the General Procrastination Scale (Lay, 1986). It is a 20-item scale ratted on a 5-point Likert scale where 1 represents extremely uncharacteristic and 5 represents extremely characteristic. Ten items are reverse scored (3, 4, 6, 8, 11, 13, 14, 15, 18, and 20). A high score shows a high level of procrastination. Cronbach's alpha was reported as .85.

Academic performance scale

The academic performance of college students was measured using the academic Performance Scale (?). It is an 8-item scale ratted on a 5-point Likert scale where 1 represents Strongly Agree, and 5 represents Strongly Disagree. A high score shows high academic performance. Cronbach's alpha was reported as .82.

Procedure

A sample of 40 female college students who scored high on procrastination was recruited randomly from a pool of 180 students. Scale of procrastination was administered to the participants for the purpose of screening those students who were high on procrastination. This sample of 40 students was further evenly divided into two groups randomly: experimental and control. This study was completed with participants engaging in data collection three times on the scales of measuring procrastination and academic performance. Before

collecting the data at Time 1 (pretesting), consent was obtained from all the participants. They were then briefed about the purpose of the study and were instructed on how to fill out the questionnaires. The experimental group was given the CBT in eight sessions (one session per week), while the control group remained with no intervention. After two months, data were collected at Time 2 (post-testing) on the study variables following data collection at Time 3 (follow-up) after two weeks of post-testing. During all three phases of the study, participants were assured about the confidentiality of their responses and the information they shared during the intervention. To see the impact of CBT on procrastination and academic performance in the comparison with the control group, data were analyzed through a mixed between-within ANOVA computed on SPSS-25.

Ethical considerations

In conducting this study, several ethical considerations were paramount to ensure the well-being and rights of the participants. First and foremost, informed consent was obtained from all participants prior to their involvement in the research. They were fully informed about the study's purpose, procedures, potential risks, and benefits, ensuring that their participation was voluntary and based on a clear understanding of what was expected. Confidentiality was strictly maintained throughout the study. This commitment to confidentiality helped to protect participants from any potential stigma associated with procrastination and academic performance issues.

Results

Table I
Descriptive statistic for the scores on procrastination and academic performance (N =40)

	Procrastination		Academic Performance	
	Exp. Group	Cont. Group	Exp. Group	Cont. Group
	M(SD)	M(SD)	M(SD)	M(SD)
T1 (Pretest)	66.6 (3.8)	65.9 (3.4)	20.9 (3.2)	20.9 (2.5)
T2 (Posttest)	47.8 (8.6)	61.0 (3.9)	31.9 (3.4)	21.3 (2.3)
T3 (Follow-up)	42.9 (7.3)	59.3 (4.4)	33.2 (3.7)	21.7 (2.1)

Table 1 indicates the means and SDs for the scores of experimental and control groups on procrastination and academic performance at three times; T1 (pretesting), T2 (post-testing), and T3 (follow-up). Findings demonstrate that the level of procrastination was reduced after the administration of CBT to the experimental group at T2 (M=47.8, SD=8.6) and T3 (M=42.9, SD=7.3). Similarly, the level of academic performance was increased after CBT at T2 (M=31.9, SD=3.4) and T3 (M=33.2, SD=3.7). However, no significant change is observed in procrastination and academic performance for the control group.

Table II
Mixed between-within subjects analysis of variance for the effects of CBT on procrastination among students

Tests of Within-Subject Effects						
Source	Type II Sum of Squares	df	Mean Square	F	Sig.	Partial η ²
Time	4882.813	1	4882.813	353.71	0	0.903
Time*groups	1647.112	1	1647.112	119.32	0	0.758
Error (Time)	524.575	38	13.805			
Tests of Between-Subjects Effects						
Intercept	391135.008	1	391135.008	5638.55	0	0.993
Groups	2990.008	1	2990.008	43.104	0	0.531
Error	2635.933	38	69.368			

Table 2 shows a significant main effect of CBT on procrastination within the experimental group over time (posttest and follow-up), F(1, 38) =119.32 p<0.001, partial eta squared=.758, showing a decrease in procrastination. Moreover, the findings of between-subject effects are also significant for both groups over time F (1, 38)=43.104, p<0.001, partial eta squared= .531. It reveals that the scores are lower in the posttest and follow-up tests than in pretesting.

Table III

Mixed between-within subjects analysis of variance for the effects of CBT on academic performance among students

Tests of Within-Subject Effects						
Source	Type II Sum of Squares	df	Mean Square	F	Sig.	Partial η^2
Time	1014.867	1	858.05	184.527	0	0.829
Time*groups	824.6	1	661.25	142.204	0	0.789
Error (Time)	277.867	38	4.65			
Tests of Between-Subjects Effects						
Intercept	75050.008	1	75050.008	4033.9	0	0.991
Groups	1620.675	1	1620.675	87.11	0	0.696
Error	706.963	38	18.605			

Table 3 shows a significant main effect of CBT on academic performance within the experimental group over time (posttest and follow-up), $F(1, 38) = 142.204$ $p < 0.001$, partial eta squared = .789, showing an increase in academic performance. Moreover, the findings of between-subject effects are also significant for both groups over time $F(1, 38) = 87.110$, $p < 0.001$, partial eta squared = .696. It reveals that the scores are higher in the posttest and follow-up tests than in pretesting.

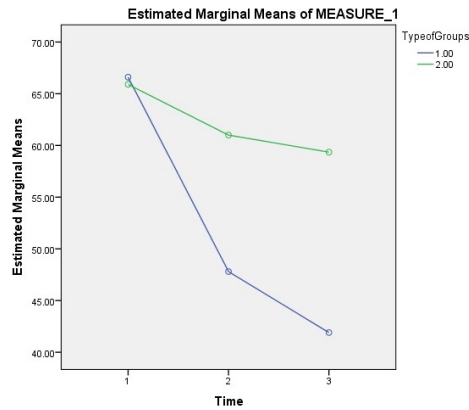


Fig. 1 Changes in the levels of procrastination of control and experimental groups across time (Note: Group 1=Experimental group, Group 2=Control group)

Figure 1 shows the graphical representation of the gradual decrease in the level of procrastination among female students of the experimental group during T1 (pre-test) to T3 (follow-up), while the findings for the control group on procrastination level are with smaller change as compared to that of pretesting.

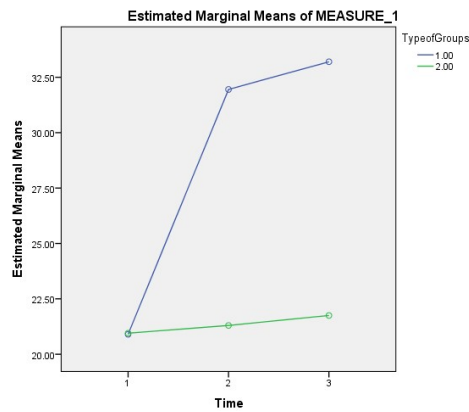


Fig. 2 Changes in academic performance of control and experimental groups across time (Note: Group 1=Experimental group, Group 2= Control group)

Figure 2 shows the graphical representation of the gradual decrease in the level of procrastination among female students of the experimental group during T1 (pre-test) to T3 (follow-up), while the findings for the control group on procrastination level are with smaller change as compared to that of pretesting.

Discussion

The present study focused on the problem of procrastination among female college. Keeping the negative consequences of procrastination on students' performance and delay in-class assignments, this study planned to handle the procrastination through CBT because CBT has been found effective for several other positive outcomes for students, such as self-esteem, self-efficacy, and well-being. Therefore, this study examined the efficacy of CBT in reducing procrastination so that the academic performance of students could be improved.

The present study was designed as a quasi-experimental research design and was completed three times. Time 1 was aimed to pretest the students' levels of procrastination and academic performance; Time 2 was focused on implying the CBT in the context of procrastination and then post-testing of study variables; Time 3 was designed for the follow-up testing to check the consistency of the efficacy of CBT.

At T1, 180 female college students were pretested on the scales of procrastination and academic performance. The procrastination scale was used for screening purposes at the basal level, and on the basis of scores, 40 participants who scored high on the procrastination scale were selected. Overall findings revealed that students reported high procrastination, which affects their academic performance in turn. The selected 40 students with high procrastination were then randomly divided into two groups: a quasi-experimental group and a control group, with 20 participants in each equally.

At T2, the CBT was given to participants of a group in a total of eight sessions while the control group remained at routine work. Participants received weekly sessions and ended CBT in two months. After completion of CBT, the participants of the quasi-experimental group were tested again on the same study variables. Findings confirmed the hypothesis that CBT would be effective in reducing procrastinated behaviour among students.

It was assumed that procrastination would be negatively related to academic performance in college students; results also supported this assumption because when procrastination was decreased through CBT, an increase was observed statistically in the academic performance of college students. The meta-analysis conducted by Kim and Seo (2015) showed that procrastination and academic achievement were adversely connected; however, the relationship could vary depending on the indicators or measurements used. The discovery of a substantial link between academic achievement and procrastination was hampered by the utilization of self-report scales. Individual study participants' demographics also had an impact on the link between procrastination and academic performance. The results of this meta-analysis pertaining to theoretical and empirical foundations are indicative of the relationship between procrastination and academic performance variables. Given the results of this meta-analysis, it can be concluded that for academic performance to be successful, it is essential to address the problem of procrastination among university and college students (Setayeshi Azhari, 2019).

In order to determine the correlation between procrastination and academic achievement, a survey of 209 second-, third, and fourth-year undergraduate dentistry students at Bapuji Dentistry College and Hospital in Davangere, India, was undertaken. The degree of procrastination across these pupils was measured using a sixteen-item questionnaire. Additionally, information on their academic achievement was collected. Procrastination and academic success were compared using Spearman's correlation coefficient test. The two-tailed test revealed a negative association of -0.63 at an acceptable level of significance of $p < 0.01$, suggesting that students with high procrastination scores outperformed the average in their academic performance.

Bashir and Gupta (2018) discussed the findings from their study that there is a large difference in academic performance between male and female university students, as well as a significant difference in academic procrastination between them. Additionally, there is a strong inverse correlation between university students' academic success and their procrastination. Furthermore, there was a negative correlation between students' academic performance and academic procrastination characteristics such as managing time, task aversiveness, honesty, and personal initiative. The findings suggest that individuals with higher levels of academic procrastination also perform worse academically. Alternatively, a cluster of studies (Beck, Koons, & Milgrim, 2000; Moon & Illingworth, 2005; Wang & Englander, 2010) demonstrated a negative correlation between academic performance (grades) and procrastination.

The significant impact of cognitive behavioural therapy (CBT) on reducing procrastination and improving academic performance among students is well-documented in recent literature. Supporting this assertion, González and Bianchi (2021) conducted a systematic review that confirmed the efficacy of CBT techniques in mitigating procrastination behaviours within educational contexts. Moreover, Researcher emphasize that CBT not only aids in managing procrastination but also enhances academic motivation, ultimately leading to improved performance. A randomized controlled trial by Lee et al. (2023) further corroborates these findings, revealing that students who received CBT experienced significant reductions in procrastination and notable improvements in academic achievements.

The assumption about CBT's effectiveness in reducing academic procrastination behaviour has also been proved from the findings of the present study. It is accepted that CBT reduces the level of academic procrastination behaviour of students. There are some studies that support these findings. Asyeh (2016) executed a study aimed at assessing the successful effects of cognitive-behavioural therapeutic groups on diminishing procrastination and improving drive in pupils attending secondary school in Saqqez City. Many researchers have examined the successful outcome of CBT in decreasing academic procrastination among pupils in secondary schools that are public with varied geographical backgrounds. According to research by Asyeh (2016), pupils who procrastinate less can benefit from CBT. To

corroborate this, Agbakwuru (2018) examined how CBT affected low-achieving children in Enugu State, Nigeria, by improving their arithmetic achievement and reducing procrastination. According to published research, cognitive behaviour therapy is thought to be helpful in treating academic procrastinating behaviour (Ekwelundu, Okeke, & Onyeukpere, 2022).

Conclusion

The findings postulated the significant outcomes related to the negative connection between procrastination and academic performance among female college students. CBT was found effective in lessening procrastination among students, which further improved their academic performance. Cognitive Behavioral Therapy (CBT) emerged as an effective intervention for addressing procrastination in this demographic. Through structured sessions, CBT helped students identify the underlying cognitive patterns that contributed to their procrastination, such as fear of failure or perfectionism. By challenging these maladaptive thoughts and developing healthier coping strategies, students were able to reduce their procrastination behaviours.

Limitation and suggestions

As the sample comprises only female college students, restrict the generalization of the findings to other genders and institutions such as schools and universities. The study should be extended to the male sample in colleges and universities as well. The study has ignored the other potential variables from demographics and personality that may mediate or moderate the relationship between procrastination and academic performance. Therefore, these factors should be considered in future studies and also include the classroom environment, teachers' support, and learning styles as moderators.

Implications of the study

The findings of the present study invite the attention of education authorities to appoint a school or college psychologist to counsel the students regarding their procrastinated behaviour and many others associated with their academic performance. A trained counsellor with CBT-based counselling of students would be able to reduce the risks associated with academic procrastination. Educators should incorporate CBT techniques into their curriculum to help students develop effective time management skills and reduce procrastination.

Conflict of Interest

There is no conflict of interest between the authors and any other organization.

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