Pakistan Journal of Clinical Psychology, 2019, 18, 1, 3-16 | PJCP

MOTIVATION SYSTEMS AND TEST ANXIETY IN UNDERGRADUATES OF COMSATS UNIVERSITY ISLAMABAD, LAHORE CAMPUS

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ABSTRACT

Objective: *This study aimed at determining differences in undergraduates' experience of test anxiety according to their years of education in the semester system and the behavioral inhibition system (BIS) and behavioral activation system (BAS) of motivation that influences learning.*
Design: *Cross-sectional research design.*
Place and duration of the study: *The study was carried out at COMSATS University Islamabad, Lahore Campus, from January to September 2018.*
Sample and Method: *Two hundred undergraduates with ages 18 to 26 (M_{age} = 20.24, SD= 1.62) were selected from COMSATS University Islamabad, Lahore Campus, through convenient sampling. Participants responded to Westside Test Anxiety and BIS/BAS Motivational System Scales.*
Results and Conclusion: *Analysis suggests that students in their first two years of education in the semester system experienced a significantly higher test anxiety level than students in their last two years (P≤ .05). Moreover, a significantly high test anxiety level has been identified in students with behavioral inhibition systems than the behavioral activation systems of motivation (P≤ .05). This study will help university students give insight into their anxiety issues; allowing university teachers to design appropriate interventions and plan lessons accordingly. Future endeavors for research are also suggested.*

Keywords*: Motivational Systems; Test Anxiety; Undergraduates; Semester System*

INTRODUCTION

Recently, Pakistani researchers' focus has shifted to the education system's impact, i.e., annual or semester, on students' performance. There has been a change in the education system where every Pakistani university has developed its grading and evaluation system in the last ten years. This semester system in most of the Pakistani universities lasts for 18 weeks. The evaluation procedure involves assessment based on 3 exams, namely sessional 1, sessional 2, and terminal examination. Each semester has 4 quizzes and 4 assignments for each subject, along with three examinations. The semester system is considered better than the annual system as it keeps students busy during their whole tenure. However, it has been observed that students lose interest in the subjects in the semester system; they also lose motivation to study as they are continuously overloaded with concerns of evaluation throughout the semester (Shahid, 2012).

Motivation is a challenging, complicated, and thoroughly-studied field with extensive roots in various theoretical disciplines, i.e., psychology, political science, economics, and education. In simple words, motivation is defined as "what causes people to act as they do." According to Denhardt, Denhardt, and Aristigueta (2008), motivation is not observable to be accomplished like satisfaction, and it is always in our conscious awareness and directly controllable. It is impossible to observe motivation, but its behavioral expression can be observed as people behave differently to accomplish their goals. While discussing motivation in terms of learning in students, it is probably the most crucial factor that educational psychologists need to focus on to design interventions to improve learning.

However, the literature suggests that there are two standard motivational systems that are essential for behavior. The behavioral approach system controls appetitive motives where the goal is to move in the desired direction. Carver and White (1994) used three subscales to measure the behavioral activation or approach system (BAS): reward responsiveness (individual's capability to experience enjoyment and satisfaction in the expectation and existence of stimuli which are related to rewards. It also involves approach motivation for thoughts or actions that give a sense of enjoyment and happiness), fun-seeking (desire to seek out new rewards on insisting on of moment), and drive (persistence of an individual to pursue the desired goal). Students with a high level of BAS-sensitivity assess themselves with self-enhancement concerns and are assumed to be biased towards positive distinctiveness (Elliot, Heimpel & Wood, 2006). They

follow goals related to the development of competency and mastery in tasks and strive to achieve positive evaluations (Elliot, Sheldon & Church, 1997). Whereas behavioral inhibition system control avoidance motives where the goal is to move faraway from something undesirable. Behavioral inhibition system and behavioral approach system sensitivity consist of dispositions related to motivation, and it may be related to the student's academic functioning and performance. Students with BIS motivational system have an obsessive-compulsive style of studying. During self-evaluation, the negativity is attributed to them, and they have concerns regarding protection to their self-image (Elliot, Heimpel & Wood, 2006). They strive hard to achieve positive evaluations and follow aims that direct them to avoid unhelpful evaluations (Elliot, Church & Sheldon, 1997). Moreover, they become over-committed to show their competency and try to overcome their anxieties about disappointment. Therefore, high BIS-activation students are very committed to their studies (McGregor & Elliot, 1999).

Test anxiety refers to the anxiety related to social evaluation, which is experienced by the one in an assessment environment (Putwain & Daniels, 2010). Tests are now turn out to be a standard mode of evaluation in current education systems. More or less, all individuals appear in the test situation several times in their whole academic life (Rothmann, 2004). There are many impacts of experiencing test-related anxiety on the student's performance. Test anxiety is positively correlated with motivation as Rastegar's study results suggest a significant inverse relationship between test anxiety and motivation. Students with test anxiety performed poorly and were less motivated in highly evaluative situations (Rastegar, Akbarzadeh & Heidari, 2012). In a different study, Hefer (2009) suggested that test anxiety is positively predicted by extrinsic motivation. Students perceive themselves as incompetent based on their experiences; they often worry about minor things, and subsequently, it leads them toward psychological distress. High achiever students experience lower test anxiety levels, and low achiever students experience high test anxiety levels (Khalid & Hasan, 2009).

This study aimed at determining differences in undergraduates' experience of test anxiety according to their years of education in the semester system and the behavioral inhibition system (BIS) and behavioral activation system (BAS) of motivation that influences learning. The study was carried out to explore phenomena under consideration concerning cultural relevance as there is inconsistent literature available from both eastern and western cultures. The

following were research hypotheses that guided study 1) Test anxiety will be significantly high in undergraduates studying in the first two years of the semester system compared to undergraduates studying in the last two years. 2) There will be significant differences in the level of test anxiety concerning different motivation systems in undergraduates.

METHOD

Participants

The study was carried out at the COMSATS University Islamabad, Lahore Campus. The total sample comprised of 200 university students (50 from each year of the B.S. Program). Participants' age range was 18 to 26 years (M_{age} = 20.24, SD = 1.62) selected through a convenient sampling technique. Female undergraduates made up (23) 11.5%, and male undergraduates made up (177) 88.5% of the total sample. (70) 35% resided in a joint family setup, whereas (130) 65% in a nuclear family setup. Of them (136), 68% had CGP above.3, and (64) 32% were below.3. Participants were excluded from the study if they (a) were not enrolled in the B.S. program, (b) their age was below 18 or exceeded 26 years, and (c) were diagnosed with psychiatric Disorder.

Table 1
Frequencies of Demographic Characteristics of the Participants (N=200)

Variables	***F***	***%***
Gender		
Female	23	11.5
Male	177	88.5
Family setup		
Joint	70	35
Nuclear	130	65
Birth order		
First	50	25
Middle	114	57
Last	34	17
Only	2	1
CGP		
.3 and above	136	68
Below .3	64	32

Measures

Demographic Information Sheet

It included the participants' basic information, name, gender, age, academic qualification, CGP/ academic grades of last semester, semester No, socioeconomic status, birth order, family setup, no siblings, residential area, and mother tongue.

BIS/BAS Motivational Systems Scale (White & Carver, 1994)

It is a four-point Likert scale developed on undergraduate students. Participants are asked to respond to all the items and select only one response for each statement accurately and honestly as they can, from 1= *strongly* disagree to 4= *strongly agree*. The measure assesses the behavioral inhibition system's features through 7 items and has three subscales for assessing the behavioral activation system. Subscales are namely Reward Responsiveness (5 items), Drive (4 items), and Fun Seeking (4-items) that assess different aspects of BAS functioning. Cronbach's Alpha for the BIS and three BAS subscales are .74, .73, .76, and .66, respectively.

Westside Test Anxiety Scale (Driscoll, 2007)

The instrument consists of 10 items scored on a five-point Likert scale from 1=, not at all to 5= extremely true. The measure is designed to identify students who have anxiety impairments. Scores obtained from each item's addition are divided by 10 to get the mean value for test anxiety. A mean value of less than 3 means an individual has an average anxiety level, whereas a mean value of more than 3 means an individual has a significant impairment. 0.89 is the Cronbach Alpha value of the scale with the validity of r = .44.

Procedure

Approval of the study was taken from the Ethical Review Board of Humanities Department, COMSATS University Islamabad, Lahore Campus. After the approval, students enrolled in a four-year B.S. degree program were approached. Their verbal and written permission was taken initially; afterward, an informed consent form was provided to them, which briefly described the study procedure with questionnaires involved. Participants then completed the demographic information sheet, BIS/BAS Motivational Systems Scale, and Westside Test Anxiety scale. For each questionnaire, participants were asked to respond honestly to each statement. They were given feedback after the completion of the study on their request for it. In the end, results were obtained by applying appropriate statistics. All ethical considerations were followed while carrying out the study.

Data were analyzed through IBM SPSS version 24. Firstly, to determine frequencies, mean, and standard deviations of participant's socio-demographic correlates, descriptive statistics were calculated. Secondly, a T-test for an independent sample was calculated to determine the difference in the level of anxiety impairment in students of the initial and late semesters of the B.S Program. One-way ANOVA was calculated to determine anxiety impairment among students with BIS and BAS motivational systems.

RESULTS

Table 2

Mean difference in the level of Test Anxiety between undergraduates of Initial and Late Years BS program (N=200)

Variables	*N*	*M*	*SD*	*t*	*Sig.*
First 2 years of BS	101	27.24	7.54	2.84	.005
Last two years of BS	99	24.33	6.89		

P≤.05

Table 2 shows that there is dissimilarity in the scores of students in early and late semesters of B.S. on the measure of test anxiety where early students in early semesters of the B.S. program have a significantly high level of test anxiety as compared to their counterparts (t = 2.84, = 198, p < .05), Mean (First two years) = 27.24, (Last 2 Years) = 24.33.

Table 3

One – Way Analysis of Variance of Motivation Systems by Test Anxiety in undergraduates (N=200).

Variables	**Source**	***df***	***SS***	***MS***	***F***	***P***
Drive	Between Groups	32	251.62	7.86	1.62	.028
	Within Groups	163	791.62	4.86		
	Total	195	1043.24			
Fun Seeking	Between Groups	32	245.96	7.69	2.14	.001
	Within Groups	163	585.85	3.59		
	Total	195	831.81			
Reward Responsiveness	Between Groups	32	131.22	4.10	1.37	.106
	Within Groups	163	487.89	2.99		
	Total	195	619.10			
BIS	Between Groups	32	502.76	15.71	1.89	.005
	Within Groups	163	1351.34	8.29		
	Total	195	1854.09			

Table 3 shows the within-group and between-group differences between motivational systems concerning test anxiety in undergraduates. Results indicate that there is a considerable difference in the level of test anxiety in students having motivational approach Drive ($F=1.62$, $p<.05$), Fun Seeking ($F= 2.14$, $p<.05$), and Behavioral Avoidance/Inhibition System ($F=1.89$, $p<.05$). However, there is an insignificant difference concerning Reward Responsiveness ($F=1.37$, $p>.05$). The analysis revealed that students with behavioral inhibition systems of motivation had the highest test anxiety level with the highest mean score of 15.71.

DISCUSSION

Test anxiety refers to the anxiety related to social evaluation, which is experienced by the one in an assessment environment (Putwain, 2010). Tests are now turn out to be a standard mode of evaluation in current education systems. More or less, all individuals appear in the test situation in their whole academic life (Rothmann, 2004). Zeidner, in 1998 suggested that there are many impacts of experiencing test-related anxiety on the student's performance. In near the beginning years of the 20th-century, educationalists and behaviorists have shifted their focus on the opposite connections between test performance and test anxiety. According to previous studies, the connections between test performance and test anxiety enlarged to some other factors like deprived motivation (McGregor & Elliot, 1999), restraint function of the immune system, and injured activity of the cognition cause poor test performances (Peleg-popko, 2004).

Consequently, in student's academics, test-related anxiety is a big problem. It was hypothesized that students in their first two years of the semester system would score high on test anxiety compared to the last two years of the B.S. program, which has been accepted. One of the reasons contributing to the acceptance of the hypothesis might be time management. Time management is also an essential factor, often a big problem for most students. Students who cannot manage time-related to study and take exams are more anxious and face more test anxiety. Researches show that the student's past experiences and perceptions, which the complicated interaction of factors has developed, lead to unusual reactions to the test evaluation circumstances. These factors may consist of their past experiences with academic courses, their time management ability, and their awareness of course load. As the B.S. program in COMSATS is divided into two semesters per year with four quizzes, assignments, and three times exam in a four to five months semester. Students in their initial two years are new to the system and are somewhat uncomfortable, preserved, and sometimes even fail to manage their time to study for their exams. Much of their time is consumed in managing time to complete their assignments and preparing for their quizzes, leading to a high level of test anxiety in their initial years, which is also succeeded by this study's findings. Students in the last two years of the B.S program, after being a part of the system within two to three years, get used to the pressure and learn to manage their time efficiently, thus lowering their level of test anxiety as compared to the initial year students who are new to the system. Literature from other parts of the world also suggests that first-year students score high on anxiety than last year's students (Ramteke & Ansari, 2016). A high

prevalence of anxiety was also found high in first-year medical students than 6th-year students (Bassols et al., 2014).

Some other factors might also be playing their role in the approval of this hypothesis. Results of a study by Maryam, Dahar and Yousuf, (2015) revealed that out of eleven factors of examination phobia, ten factors (low concentration, excessive anxiety, fear of teachers, poor preparation, fear of repeating the same class, loss of interest in studies, previous class result, fear of annoyance of parents, competition among class fellows) were found significant while only poor preparation of exams was found insignificant. These all factors might be present in students as they step into the B.S program and, being new to the system, are more suspectable of having apprehensions about their future, leading to a high level of anxiety as compared to students of final two years who have a clear picture of things performed and have more experience concerning handling their anxieties.

Findings suggest that test anxiety was high in the students with behavioral avoidance systems compared to students with behavioral approach systems. Several studies reveal that BIS activity is answerable for feelings of anxiety and hints to the individual to stop whatsoever action is going on and further look at the environment for extra hints (Grey, 1991). Moreover, researches proved that people with more behavioral inhibition show more nervousness during or before a difficult task. The behavioral inhibition system also measures the activities which are related to the expectation of punishment (Carver & White, 1994). It also measures the anxiety in reaction to the stimulus, which is fear-related (Leen, Zvolensky, Feldner, & Lejuezb, 2004). This might be a contributing factor in the acceptance of the second hypothesis of the study.

Another contributing factor might be the course load, which leads to testing anxiety and stress in university students. As the system of COMSATS is shaped in this way that students get busy throughout the semester, there are lengthy courses to cover with four assignments, four quizzes, sessional one, sessional two, and the terminal exams, which might leave them overburdened with the pressure to maintain their GPA and to lead to behavioral avoidance and increased level of test anxiety. Vijaya Mani, 2010 revealed a positive correlation between the student's perceptions of course load and their stress about the exams. There is a negative correlation between coursework and their ability of time management. It can also be taken as a reference to justify the findings of the present study.

As results indicate, that test anxiety is significantly high in students with behavioral avoidance motivational systems. The reason might be a student's past experiences, perceptions, and personal beliefs. Students who have had adverse life experiences are seen to be dissatisfied with their academic performances. Everyone faces good and bad events in their life, but what is essential is to focus, and it varies from individual to individual. Several people generally focus on opposing sides or events, thereby engaging in a negative estimation of their performances. Even though many people are happy with their performances and test anxiety is somewhat low, not everyone is equally satisfied with their test evaluations and performances. As mentioned above that, it varies from individual to individual. Students with negative past experiences relate to exams negatively, and irrational beliefs can increase test anxiety. Several studies related to testing anxiety propose that students' past experiences have a significant impact on their perceptions, which includes knowledge about the subject which is being assessed, the difficulty of the test, and in the last, the purpose of applying scores of the test, e.g., for jobs (Bonaccio & Reeve, 2010). Concerning the findings of these studies, it can be concluded that the level of anxiety was high in students with behavioral avoidance motivation systems. As students, past experiences and beliefs play an essential role in increasing or decreasing their test anxiety. Students who expect or anticipate the occurrence of rewards after their exams in the form of good marks or any other possible tangible, intangible reward tend to have minimal or no test anxiety. This study's findings also suggest that students with a reward responsiveness motivational approach did not show a significant difference in the levels of examination anxiety than other motivational systems, with the lowest mean scores indicating the lowest test anxiety level. Literature suggests that the Reward Responsiveness subscale uniquely predicts adaptive functioning across all domains. Reward Responsiveness may be a more pure measure of BAS than other BAS traits and may be necessary for resilience from maladaptive psychological functioning (Taubitz, Pedersen & Larson, 2015).

Therefore, available literature also supports this study's findings, whether it be anxiety concerning years of education or motivational systems on which the students operate. However, findings from studies conducted on eastern culture are very few, as it is understudied in Pakistan. It is recommended to explore the phenomenon under question concerning Pakistani culture to have a clearer picture and develop beneficial interactions for our students at the university level.

Conclusion

According to the findings of this study, it can be concluded that the student's level of test anxiety in their first two years of B.S program is higher as compared to students of last two years of B.S. Among motivation systems, test anxiety is high in students with the Behavioral Avoidance motivational system compared to the Behavioral Approach Motivational System. Regarding the COMSATS system, as it is shaped in this way that students get busy throughout the semester, there are lengthy courses to cover with continuous evaluations, which might leave them overburdened with the pressure to maintain their GPA behavioral avoidance and increased level of test anxiety. This study will be beneficial for university students. It will give insight into their problems about test anxiety and allow university teachers to design appropriate interventions and workshops or lectures in the institute to deal with such issues. Furthermore, counseling and guidance can also be provided to them in this regard.

Limitations and Recommendations

The researcher aimed to proceed in the most informative way; however, after the initial stages, different barriers were encountered, which caused some deviation from the ideal path. First of all, the sample size was small, which has affected the data's representability as the researchers. Due to time constraints and lack of other resources, we cannot collect data from different private and government universities. Another limitation is that the data collected is not in equal proportion concerning gender. It will have been good if the data has been well distributed across gender so that the results' generalizability could have been increased. There is another limitation related to data collection; in this study, the data is collected only from Bachelor students; the students enrolled in M.S. and Ph.D. were not included in the study. Therefore, the results cannot be generalized to the whole population of COMSATS. Whenever further studies are carried out in the future, it is recommended to include all study programs.

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