Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol.9, No.4, 2018

Psychological Factors Affecting Students Academic Performance Among Freshman Psychology Students in Dire Dawa University

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Abstract
The purpose of this study was to investigate the psychological factors affecting students' academic performance among freshman psychology students in Dire Dawa University. The participants of the study were 16 first year students. The sample of this study was taken through purposive sampling technique. To collect data, questionnaire and observation check lists were used. The findings of this study also revealed that there was significant relationship between psychological factors and students' academic performance. There is statistically significant relationship between students self-efficacy and students intrinsic motivation (r=.206; P<0.05) and also there is strong correlation between students stress level and intrinsic motivation (r=.540; P<0.05) and there is also statistically significant relationship between students stress level and extrinsic motivation (r=.265; P<0.05).
Keywords: Psychological Factors; Academic Performance; Freshman Students; Dire Dawa University.

1. Introduction

Psychology is among many things that matters human day-to- day activities. The success and failure we face in various activities we perform each day most often depends on our every day psychology. As such people can suffer from various psychological problems that severely disrupts their daily functioning in various occasions. These problems mainly emanates from psychological factors such as stress, anxiety, depression, lack of motivation, loneness, helplessness and phobias. These psychological problems can lead students in higher education institution to failure in their academic achievements, test anxiety, poor performance, low self-confidence, unrealistic worry and fear or uneasiness that interfere with their ability to function normally.

Psychological factors are a multidimensional construct. Researchers in the field of psychology agree that a student engaging in any learning situation has to answer three fundamental questions: 'Can I do this activity?', 'Do I want to do this activity and why?', and 'What do I need to do to succeed?' (Wiegfield & Eccles, 2001). Constructs relating to the question "Can I do this activity?" are the expectations students have according to their capabilities to perform a certain activity in different areas. Bandura (1986) defined self-efficacy as "people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performance." Self-efficacy affects students' choice of activity, their effort and persistence in it. Students constantly judge their intellectual capabilities against the curriculum demands and values of school tasks, and they then decide to persist in the coursework or not. Different studies show that self-efficacy is one of the most powerful predictors of student achievement (Bandalos, Geske & Finney 2005, Pintrich & De Groot, 1990, Schunk, 1984, 1989, 1996, Zohar, 1998). In a longitudinal study among first year college students, self-efficacy proved to be positively related to performance, personal adjustment, health and commitment to stay in school (Chemers, Hu, Garcia, 2005).

The most important motivational construct, related to the question "Do I want to do this activity and why?", is intrinsic end extrinsic motivation. Intrinsically motivated students engage in an activity for its own sake – because they find working on the task enjoyable. Students learn because they are curious about the content and they feel challenged by the learning activity. Many studies showed that intrinsic motivation was positively related to students' learning achievement and their self-perception of competencies (Ames, 1992, Blumenfeld & Pokay, 1990, Gotfried 1990, Hofer, Yu & Pintrich, 1998, Wiegfield, et. al.1997). On the other hand, students can also be extrinsically motivated to engage in an activity when they believe that working on the task will result in desirable outcomes (e.g. reward, good grade, parents' and teachers' approval, avoidance of punishment). Intrinsic motivation usually results in more cognitive engagement than extrinsic motivation (Ryan & Deci, 2000). However, the relationships between intrinsic and extrinsic motivation, engagement and achievement are complex. It is better to think about intrinsic and extrinsic motivation as two separate continuums than extreme ends of one, because students can be low in one and high in the other type of motivation, low in both or high in both (Pintrich & Schunk, 2002). Student teachers at the beginning of their studies can be low in intrinsic motivation (when they are taking teacher education courses merely because of better employment opportunities after graduation). In this situation, extrinsic motivation can keep them attending the courses and finishing the tasks, and enable them to start enjoying working with pupils and develop intrinsic motivation.

According to the researchers, from the perspective of the achievement goals theory two general classes of goals that influence students' motivation and achievement can be identified: mastery and performance

achievement goals. Students with mastery goals are directed toward learning, improvement and demonstrating competence in a certain field. On the other hand, students with performance goals are directed to the competence needed to outperform others (Ames, 1992, Dweck, 1986, Nichols, 1984). Early research in this area concentrated on mastery versus performance goal comparisons and found superiority of mastery goals over performance in promoting achievement (Harackiewicz & Linnenbrink, 2005). Later, mastery and performance goals were conceptualized as independent dimensions. Research also constantly indicates a possibility of performance goals having some positive effects on performance and achievement as well (Church, Elliot & Gable, 2001, Senko & Harackiewicz, 2005).

The affective component, a student's emotional reactions to the task (Pintrich, DeGroot, 1990, Pintrich, Schunk, 2002), is also important for the student's engagement in a certain activity.

Task anxiety is the most frequent affective variable related to student performance and achievement. Research results consistently show a negative effect of anxiety on academic performance (Pintrich & Schunk, 2002). Hembree (1988) in his meta-analysis found that test anxiety is negatively related to performance and self-esteem. It is also related to students' defensiveness and fear of negative evaluations. During a verbal presentation, a student can be mainly occupied with task-relevant thoughts such as concentrating on the content, thinking of the way to organize activities and stimulate colleagues to participate in discussions. On the other hand, if the situation is perceived as a threat to the student, when the student perceives a discrepancy between the demands of the task and his personal resources available to accomplish them, emotions-focused coping and irrelevant cognitions are elicited. Research has shown that negative intrusive thoughts relate negatively to academic performance, especially in presenting to peer groups, as we have found in a similar study with pre-service teachers (Peklaj & Puklek, 2001, Puklek, 2001).

Related to the question "What do I need to be successful in an activity?" is the use of cognitive and metacognitive strategies in a learning activity. Cognitive (i.e. rehearsal, elaboration, organization) and metacognitive strategies (planning, monitoring, evaluation) also proved to be connected to motivation and to learning achievement. The connections between (meta)cognitive strategies, the motivational dimension and achievement are multidirectional and complex. Positive correlations were found between self-efficacy and cognitive strategy use (Pintrich & De Groot, 1990), and between self–efficacy and deep processing in a statistics course (Bandalos, et al, 2003). Learning (mastery) goals were positively related to task interest (Senko & Harackiewicz, 2005), to information processing, planning and monitoring (Ames, Archer, 1988), and to a deep approach to learning in an introductory psychology course (Elliot et. al. 1999). Performance goals were positively related to self-efficacy, test anxiety and disorganization in learning (Bandalos, et.al, 2003). A negative relationship between test anxiety and self-efficacy was also found (Pintrich & De Groot, 1990, Zohar, 1998).

Extensive research (Johnson & Johnson, 2002, Kagan, 1989, Slavin 1983, Springer, Stanne & Donovan, 1999) in the field of cooperative learning showed that learning in groups can affect students' cognitive, affective-motivational and social processes. The cognitive benefits of cooperative learning in comparison with students' individual learning can be seen in their higher achievement (Johnson & Johnson, 2002, Springer, Stanne & Donovan 1999); the affective motivational benefits in a more cooperative climate (Lazarowitz & Karsenty, 1990), in intrinsic motivation (Nicholls & Miller, 1994), in higher self-esteem (Lazarowitz, Lazarowitz & Baird, 1994), and in reduction of anxiety (Burron et al, 1993). Social benefits can be seen in more positive interpersonal relationships, developing social skills, higher persistence in studies and lower levels of drop-out in undergraduate studies (Pascarella, 2001, Springer, Stanne & Donovan 1999, Tinto, 1993).

In our course we used cooperative group work, beside other goals, primarily as a means to develop collaborative social competencies in students. But it is not enough to put students in groups and tell them to work together to obtain the best results. Among the other key elements for successful group work, group individual accountability and group interdependence has to be developed. Positive interdependence exists when students perceive that they cannot succeed in achieving their goals unless other group members can also achieve theirs. They can't reach the group goal if they don't reach their own. Positive interdependence results in promotive interaction as students encourage each other's efforts to learn (Johnson, Johnson, 2002, pp 120). They are required to help each other in the group. Group interdependence can be structured by goal, reward, task, roles or resource interdependence. In our seminar work group interdependence was established with tasks and reward interdependence. Students had to prepare group presentations and they could achieve a certain bonus that affected their individual final grades if the whole group's presentation was assessed by teacher as excellent.

According to Yerkes-Dodson law (Gold, 1987) from psychological research suggests that performance is best when stress levels are moderate. Performance suffers under both low and high stress conditions. Under conditions of high stress, performance on perception, memory and higher order thinking tend to be poor, due to the very high levels of stress created by the situation. As such, this study also focuses on whether students level of stress and motivation during the test and related activity in their first year in campus affect their academic performance or not will be investigated.

Freshman level is the most critical moment for university students because at this level it is hard for

students to easily adjust themselves to the campus environment as well as the process of teaching and learning. As a study conducted by school of social science and humanities suggested that most drop out from Dire Dawa University are among those at the level of their first year first and second semester of their academic year. Psychological factors can play a decisive role for the attrition rate of the first year university students. Therefore this study tries to investigate psychological factors affecting students' academic performance among freshman students. This study tries to answer the following basic questions:

1. What are the major psychological factors that affect students' academic performance among freshman psychology students?
2. Do stress, self-efficacy, test anxiety and motivation affect students' academic performance?

1.1 Objective of the Study

1.1.1 General Objective

The main objective of this study is to investigate the psychological factors that affect students academic performance among freshman psychology students.

1.1.2 Specific Objectives

- To identify psychological factors that affect students academic performance among freshman psychology students
- To investigate whether self-efficacy, motivation, stress and test anxiety affects students academic performance during course work.

2. Materials and Methods

In this part of the study, the research design, study site, study population, the sample and sampling techniques, the instruments and procedures of data collection and methods of data analysis are presented as follow.

2.1 Study Population

The study was undertaken in Dire Dawa University in School of Social Science and Humanities in Psychology department. The target group for this study will be freshman psychology students in Dire Dawa University. In the year 2011/12 academic year 50 students were join psychology department. Among the total 50 students only 40 students were successfully transfer to the second semester out of which 16 of them were enrolled with warning academic status. As such the focus of this action research also give due emphasis on those with poor academic performance to see whether such psychological factors may lead this students to such status. Relying on this fact the researchers purposely select 16 students who are on the warning status to upgrade them towards better academic performance.

2.2 Samples and Sampling Techniques

The study sample was taken from 50 regular under graduate students of the psychology department who enrolled in undergraduate program in 2011/12 academic year. The through purposive sampling methods, 16 students were selected.

2.3 Data Collecting Methods

The data will be gathered via self-report questionnaires that were assesses psychological factors that affect students' academic performance such as motivation, stress level, self-efficacy and test anxiety which affects students' academic performance. The questionnaire contains a motivation section, test anxiety section, stress section and self-efficacy section. Students rate themselves on a 7-point Likert scale **from 1 – *not at all true of me* to -7 - *very true of me*.** The score from each scale is computed by taking the mean and standard deviation of the items that make up the scale of each categories of the above variable.

The two scales represent a value component of motivation: Intrinsic Goal Orientation, Extrinsic Goal Orientation. ***Intrinsic Goal Orientation*** consists of 4 items referring to students' mastery goals in the course and other internal reasons for participating in the course such as challenge and curiosity. A sample item: "*In the psychology course I prefer course material that really challenges me so I can learn new things*." ***Extrinsic Goal Orientation*** consists of 4 items measuring various external reasons for participating in a course such as grades, rewards, competition and evaluation by others. The main concern of students here is not to engage in the task for the sake of its accomplishment and developing of one's mastery - engaging in a learning task represents the means to an end. A sample item: "*If I can, I want to get better grades in a psychology course than most of the other students*."

Self-Efficacy for Learning and Performance consists of 8 items. It measures students self-efficacy levels. Self-efficacy refers to the perception of one's ability to accomplish a task and one's confidence in his/her skills to understand the course material and accomplish the course assignments and tests. A sample item: '*I'm confident I can do an excellent job on the assignments and test in the psychology course.*' The ***Test Anxiety*** scale consists of

5 items and contains cognitive and emotionality aspects. The cognitive component refers to worries or negative thoughts about test performance, and the emotionality component refers to affective and physiological arousal when taking a test. A sample item: '*When I take a test I think of the consequences of failing.*' Students' final course grade will be taken as an indicator of academic achievement. Students obtain a final grade in the psychology course by taking a course examination composed of different types of questions: 5 true/false items, 10 matching items, 5 short answer questions, 20 multiple-choice questions and 2 essays. It mainly covers the knowledge and understanding and application level of learning outcomes. In the last part of the exam (i.e. the essay part) students also have to reflect on theory and teaching practice. At the beginning of the first stage of the research activity, undergraduate freshmen students who are in low academic status of their first semester performance (i.e. warning status) filled in the Psychological Dimension Questionnaire (PDQ) that modified from Pintrich, Smith, Garcia, & McKeachie, 1991), in particular the part which assesses students' motivational orientations, self-efficacy, stress levels and test anxiety of students during various course activity.

2.4 Methods of Data Analysis

The responses obtained from the respondents were analyzed using a Statistical Package for Social Scientists (SPSS) version 21.0. Pearson Correlation analysis was employed since the researcher is interested to examine the association between different psychological dimensions that might predict students' academic success or failure according to their self-efficacy, motivational components, stress level and test anxiety.

3. Results and Discussions

The results of this study analyzed based on psychological dimensions that might predict students academic success or failure according to their self-efficacy, motivational components, stress level and test anxiety. During the time of analysis the psychological factors or variables were coded and entered in the SPSS program version 12 as follow:

SE: Self-efficacy
IM: Intrinsic Motivation
EM: Extrinsic Motivation
SL: Stress Level
TA: Test Anxiety

Table 1: Mean and standard deviation of psychological factors that affect students academic performance

Variables	N	Mean	Std. Error	Std. Deviation
SE	16	27.14	.140	1.45
IM	16	28.10	.181	1.88
EM	16	35.55	.191	1.98
SL	16	39.57	.308	3.20
TA	16	73.49	.517	5.37

P<.05

Table-1 shows the results of students' psychological dimensions analyzed according to their self-evaluations of self-efficacy, motivational components both intrinsic and extrinsic, stress level and test anxiety. Analysis of mean and standard deviation showed significant mean differences according to students' individual activities in four psychological dimensions such as self-efficacy, motivation, stress level and test anxiety. As indicated in table-1 above, the mean and standard deviation of students self-efficacy was (M=27.14, SD=1.88), intrinsic and extrinsic motivation was (M=28.10. SD=1.45) & (M=35.55, SD=3.20), stress level and test anxiety (M=39.57, SD=1.98) & (M=73.49, SD=5.37) respectively. Students with higher estimation of their individual self-efficacy have higher intrinsic goal orientation than students with lower estimation of their individual self-efficacy in course work in the psychology course. Students with high stress level also had significantly higher test anxiety than students with low stress level in their individual preparation in the course work. The same holds true for the fourth significant difference according to test anxiety. Students with higher estimations of their self-efficacy in general experience less test anxiety than students with low estimation of their self-efficacy.

Table 2: Inter-correlation among the psychological factors that affect students academic performance

Variables	SE	IM	EM	SL	TA
SE	**1.00**				
IM	**.206***	**1.00**			
EM	**-.055**	**-.117**	**1.00**		
SL	**-.189**	**.540***	**.265***	**1.00**	
TA	**.031**	**.156***	**.419***	**.430***	**1.00**

P<.05

There is statistically significant relationship between students self-efficacy and students intrinsic motivation (r=.206; P<0.05) and also there is strong correlation between students stress level and intrinsic motivation (r=.540; P<0.05) and there is also statistically significant relationship between students stress level and extrinsic motivation (r=.265; P<0.05). This indicate that both intrinsically and extrinsically motivated students may face stress during their academic activities in the campus. There is also statistically significant relationship among test anxiety, intrinsic motivation, extrinsic motivation and stress level (r=.156; r=.419; r=.430; P<0.05).

The result of the study revealed the students' academic problem, most of the student and their academic advisors reveal the following core psychological factors that mostly impair students academic performance. The factors summarize as follow: *Lack of motivation, Test and exam anxiety, Stress and tension, Adjustment problem to campus live, Lack of counseling and guidance and Lack of confidence in own work.*

Changes that have been brought as a result of intervention

Table 3: Students pre-test and post test score for psychology course

The result of the students test score were significantly different in the pre-test and post test

Student	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP
Pre-test (10%)	4	6	6	7	3	6	8	8	6	7	6	4	5	5	6	7
Post-test (10%)	6	9	5	7	8	6	7	9	8	7	5	6	7	6	5	6

As clearly indicated in the above table, out of the total 16 students, 9 students (A, B, E, G, H, I, L, M and N) show progress in their post test i.e. after they got various training and supports, where as 3 students (D, F and J) remain the same test result in both pre and post test. The rest five students (C, G, K, O and P) score bad result in their post test compared to the pre-test.

In the field of psychology, a lot of effort has to be devoted to developing their fundamental competencies, which will enable them to work successfully as an important agent of development toward the "knowledge society". In different countries substantial energy has been directed toward defining and describing these competencies, especially in the framework of the Bologna reform of tertiary education in Europe. Regardless of the differences among these definitions, among the most frequently cited competencies are competencies of effective instruction, management and communication, assessment and collaboration (Peklaj, Puklek &

Požarnik, 2005). These competencies are also developed in the higher education programs at the various universities in Ethiopia. In psychology course, the context for the development of these competencies was individual work. In the present study we were interested in analyzing students' motivation, self-efficacy, stress level, test anxiety and their academic success in relation to their individual and collaborative work in the course. The results of the study should enable us to see the connections of psychological dimensions, students' work during the year and their achievement in order to get the feedback needed to change and improve the work in this particular subject.

Motivation is a starting point of any work in a certain course, it directs students' activity and helps them to persist in study tasks through the school year. The analysis of psychological factors in our study showed that there is a difference among psychological component of students' motivation, self-efficacy, stress level and test anxiety related to students academic activity The results in our study are consistent with research (Pintrich & De Groot, 1990, Wigfield & Eccles, 1992) which reveals that when students have an interest in the task, when they see its importance and value, this will predict their success.

A second important value component related only to students' individual preparation was extrinsic motivation. Students to whom grades, competition and evaluations of other students are important also invested more effort in their own course preparation. The differences between low and high extrinsically motivated students are not seen in students with low in high assessment of their group work. The results are consistent with recent research on extrinsic motivation and performance orientation that showed their positive effects on performance too (Church, Elliot & Gable, 2001, Pintrich & Schunk, 2002, Senko & Harackiewicz, 2005). Also the affective component (task anxiety) was a dimension connected with individual preparation. Students high on individual preparation were more anxious than students low in individual preparation. This result is not consistent with the majority of research in the field of test anxiety (Hambree, 1988, Pintrich & Schunk, 2002), which showed a negative relationship between anxiety and performance. The possible explanation of the result would be that anxious students invest more effort in their preparation to prevent embarrassment and a possible negative evaluation. This interpretation is consistent with Pekrun's (2006) research, which showed a mixed direction of correlations of this learning emotion with performance (negative and sometimes positive).

The research results have some implications for teaching practice. The results in our study showed that it is important to analyze different aspects that can influence students' work in a specific university subjects. The

most important psychological factor for student accountability during the academic year is their self-efficacy, motivation, stress and test anxiety for the subject they study. Teachers should therefore choose meaningful and authentic tasks in which students will see utility for future profession. With such tasks they can influence both the quality of students' individual work and the quality of their group work in the subject. Another motivational factor that can enhance the quality of students' coursework is their extrinsic motivation. Teachers should be aware that the concept of extrinsic – intrinsic motivation is not one-dimensional (a continuum with two extremes), but two-dimensional.

Students can be low or high in both, or low in one and high in the other. Extrinsic motivation can be most beneficial for the students who do not see the value of the subject at the beginning or their study. It can keep them working and eventually, if they can experience success in different activities, they may develop intrinsic motivation as well. The affective components of students' motivation importantly affect their learning, especially anxiety. They don't just impair their performance and success, but also stimulate them to work harder and to use more suitable learning strategies to prevent negative outcomes. This aspect of anxiety is adaptive, but the necessary condition for it to really work in practice is an open and non-judgmental atmosphere, where mistakes are allowed and seen as a part of the learning process. For student success, their individual accountability is the most important component, but where group Endeavour is necessary, students should invest their effort also into group work to achieve the best result. In teaching collaborative competencies, positive interdependence should be emphasized and social skills for successful team work promoted.

At the end, attention has to be directed also toward some deficiencies of the present study.

The sample was rather small. In future research enlarging the sample of participating students would add to the validity of the results. Also, additional statistical analyses could be performed to establish which psychological factors explain the largest portion of variance in students' achievement. Some other measures of student performance (i.e. teachers, colleagues) would also add to the generalizability of results.

4. CONCLUSION AND RECOMMENDATION

The research results have some implications for teaching practice. The results in our study showed that it is important to analyze various factors that can influence students' work in a specific university subjects. The most important psychological factors for students' academic performance is their self-efficacy, motivation, stress and test anxiety for the subject they study. Teachers should therefore choose meaningful and authentic tasks in which students will see utility for future profession. With such tasks they can influence both the quality of students' individual work and their academic performance in the course. Most importantly, what we were learn from this study is that if we are thoroughly assist our students in various psychological dimension, they may perform better in academic progress.

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