# Periodic Research

# To Study Test Anxiety among Distance Learners of Punjab

## Abstract

Test anxiety is the most common anxiety among students. Present research is an effort to assess test anxiety among distance learners who opt for the distance mode of education either by chance or by choice because of their unavoidable life circumstances and get enforced to enter work place. A representative sample of randomly selected 655 students doing their post-graduation through distance mode was taken. Test anxiety subscale of Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich, et.al. 1991) was used as research tool to measure test anxiety among distance learners. The results of the study reported that main effects for gender, residential background and course of study are not significant, whereas, the interaction effects for residential background and course of study are found significant revealing that distance learners of academic courses differ significantly from distance learners pursuing professional courses in their test anxiety only in rural group where rural distance learners from academic courses have more test anxiety as compared to rural distance learners of professional courses. Urban and rural distance learners pursuing professional courses differ significantly where distance learners from urban area pursuing professional courses have significantly more test anxiety score than rural distance learners pursuing professional courses. Triple interaction of gender across residential background across course of study is also found significant.

**Keywords:** Test Anxiety, Distance Learners**,** Gender, Residential Background, Course of Study.

## Introduction

Today's life is full of competition. There is competition to get higher status, power, money, and many more materialistic things. This competition loads the life with lots of problems in every sphere. People face many hardships and always remain in the state of anxiety or stress because of one or another reason. Research studies revealed that anxiety disorders are also rising among students of $21^{st}$ century. They are always under stress or anxiety because of one or another academic reason. They are anxious about performing best in various academic pursuits, getting good scores in tests, completing assignments/projects timely, as well as adjustment in the institution, with teachers, and in academic environment etc.

The most prevalent anxiety is test anxiety. Students cannot do well in exams because of test anxiety (Cherry, 2019). Test anxiety is a psychological state of mind. It is a state of disequilibrium   in which a person experiences distress before, during, or after an exam or test that it intervenes with the normal learning and leads to poor performance. There are two domains of test anxiety (i) cognitive and (ii) affective. Cognitive domain includes worry as well as negative thoughts related to consequences of failure during examination/test (Zeidner, 1998). In addition to this affective domain deals with the tensions during the exams which can be observed among students in the form of increased pulse rate, nervousness, sweaty palms and even through muscles tensions (Asgahari, et al., 2012). Anxiety generally refers to a repulsive emotional reaction which appears when a particular situation is perceived as threatening. Test anxiety impairs learning and hurts performance in tests.

In formal classrooms or in face to face mode students got ample opportunities to discuss their academic problems with teachers. But in case of distance education students got very few opportunities to meet the teachers, discuss and solve their academic problems, as they are removed from direct, immediate physical contact (Hassenplug and Harnish, 1998).

**Amita Kaistha**

Assistant Professor
Dept. of Distance Education,
Punjabi University, Patiala,
Punjab, India

# Periodic Research

The students who because of unavoidable circumstances are forced to enter the workplace without completing their educational qualifications, the best alternative mode is distance education. But in distance education there is very less or no interaction between students and students and teachers & students. This physical separation sometimes leads to certain psychological and communication gaps between the learner and the instructor (Moore, 1991). Due to this situation of physical separation sometimes many of the problems of students remain unsolved which leads to a state of anxiety in them. At the time of preparation for examinations or tests they experience test anxiety due to lack of time for preparation for exam, lack of proper learning strategies, lack of time management because of their busy schedule and also because of some unsolved problems related to subject.

Review of various research studies related to test anxiety revealed that test anxiety is a powerful predictors of academic success (AlKhatib, 2010 and Boyer & Usinger, 2012). Boyer and Usinger (2012) intended to explore the motivational strategies of learning in different delivery formats in distance education programme. Data was collected from 570 undergraduate students. Intrinsic goal orientation, self-efficacy and test anxiety were observed as strong predictors of academic success. Self-efficacy and test-anxiety showed significant possible correlation with success in mathematics, where test anxiety showed negative correlation with learning outcomes. Nausheen & Richardson (2013) explored relationship between motivational beliefs, course experience and achievement among postgraduate students and reported that postgraduate students have less test anxiety. Sassenrath (1967) aimed to explore the relationship between anxiety, aptitude and academic achievement and found a significant and negative correlation between test anxiety and academic achievement. Study further observed significant gender differences in test anxiety motivational belief among undergraduate students. Sumi and Kanda (2002) identified a significant correlation between perfectionism and test anxiety.

Stevens (2000) investigated test anxiety and beliefs among college students with and without learning disabilities and found that students with learning disabilities have significantly high level of test anxiety than their non learning disabilities peers. External locus of control was significantly related to test anxiety among all the students, whereas, for students with learning disabilities use of student support services was not related to test anxiety. Females scored high on all the aspects of test anxiety than males. Test anxiety was found to affect test performance negatively, further it can also have long term effects on academic and career choices of students.

Awino and Agolla (2008) reported that lack of adaptability of university infrastructure, limited capacity of institute to support student effort and academic functioning are the factors which influence stress level of students.

AlKhatib (2010) aimed to explore the relationship between meta-cognitive self-regulated learning, motivational beliefs and academic performance among college students. Intrinsic goal orientation, self-efficacy for learning and performance, test anxiety, and meta-cognitive self-regulated learning were reported as significant predictors academic performance. Significant differences were found in the test anxiety between males and females.

In one of the research Kavakci (2014) reported that approximately half of the sample of students showed test anxiety. Girls showed significantly high test anxiety than boys. Statistically significant relation was found between test anxiety and STAI-II (Trait anxiety), LSAS anxiety, BDI scores. The factors affecting test anxiety were symptoms of depression, attention deficit hyperactivity disorder (ADHD), social anxiety avoidant behavior, and the state of taking additional courses. Students with more test anxiety have significantly more lifetime rate of suicide attempts. Study further reported a relationship between test anxiety and the time spent on internet. Researchers Ongowo & Hungi (2014) and Soyogul (2015) found that males exhibit less test anxiety. In a research university students scored low on test anxiety. Whereas, significant differences were found with respect to stream of study on task value beliefs, self-efficacy beliefs and test anxiety. Students pursuing social science discipline reported higher task value beliefs and more test-anxiety than the students pursuing arts and science disciplines (Thapliyal, 2014).

Duraku (2016) reported high level of test anxiety among undergraduate students in comparison to graduate students. Lack of preparation, fear of failing, family responsibility, poor time management and study skills as well as characteristics of professor and exam were the factors responsible for increased anxiety among undergraduate students. On the other hand high confidence, study skills, good grades, prior information were the factors reported by graduate students as anxiety reducing factors. Excessive pressure to achieve best results in exams was reported as the factors negatively influencing academic performance of students (Erlaver, 2003).

In a research study Peleg et al. (2016) assessed the relationships between differentiation of self, perceptions of parents' academic expectations and test anxiety among college students. The findings of study showed that students' perceptions of their parents' academic expectations worked as a partial mediator between fusion with others and emotionality and between emotional cutoff and worry. Students having higher levels of fusion with others or emotional cutoff were found to have high perceived parental academic expectations and high level of test anxiety.

So looking into the status of researches in the field of test anxiety and keeping in view the dearth of research studies in this area in India especially in Punjab the present study was undertaken to gain insight into the negative effects of test anxiety among students of higher education especially distance education.

# Periodic Research

**Statement of the Problem**

"To study test anxiety among distance learners of Punjab"

**Objective**

1. To study test anxiety among distance learners of Punjab in relation to gender, residential background and course of study.

**Hypothesis**

1. There is no significant difference in test anxiety among distance learners of Punjab in relation to their gender, residential background and course of study.

**Method**

Descriptive method of research was used in the present study.

**Sample**

A representative sample of distance learners was selected from Punjabi university, Patiala and Panjab University, Chandigarh. 655 students pursuing their post-graduation in different academic and professional courses through distance mode.

**Research Tool Used**

Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich et.al. 1991comprised of six motivational beliefs namely intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning and performance and test anxiety was used as a research tool. This tool consists of two sections (i) motivation section and (ii) learning strategies section, but for present investigation only test anxiety subscale from motivation section was taken up.

**Statistical Treatment of Data**

The detail of means and standard deviations of scores on test anxiety among distance learners with respect to gender, residential background and course of study is shown in table 1. The three way analysis of variance was carried out to find out the significance of main and interactive effects. The results are provided in the following tables.

**Table 1: Showing Means and Standard Deviations of Score on Test Anxiety among Distance Learners with respect to Gender, Residential Background and Course of Study**

| Gender ↓ | Course of study | | | | | | Total | | |
| | Academic | | | Professional | | | | | |
| | N | Mean | SD | N | Mean | SD | N | Mean | SD |
|---|---|---|---|---|---|---|---|---|---|
| **Urban** | | | | | | | | | |
| **Male** | 61 | 3.24 | 1.37 | 85 | 3.67 | 1.43 | 146 | 3.49 | 1.42 |
| **Female** | 81 | 3.38 | 1.36 | 85 | 3.39 | 1.17 | 166 | 3.39 | 1.26 |
| **Total** | 142 | 3.32 | 1.36 | 170 | 3.53 | 1.31 | 312 | 3.43 | 1.33 |
| **Rural** | | | | | | | | | |
| **Male** | 100 | 3.67 | 1.43 | 66 | 3.10 | 1.22 | 166 | 3.44 | 1.38 |
| **Female** | 96 | 3.34 | 1.36 | 81 | 3.25 | 1.20 | 177 | 3.30 | 1.29 |
| **Total** | 196 | 3.51 | 1.40 | 147 | 3.18 | 1.21 | 343 | 3.37 | 1.33 |
| **Total** | | | | | | | | | |
| **Male** | 161 | 3.50 | 1.42 | 151 | 3.42 | 1.36 | 312 | 3.46 | 1.39 |
| **Female** | 177 | 3.36 | 1.36 | 166 | 3.32 | 1.18 | 343 | 3.34 | 1.27 |
| **Total** | 338 | 3.43 | 1.39 | 317 | 3.37 | 1.27 | 655 | 3.40 | 1.33 |

It can be observed from the table 1 that mean test anxiety score of male distance learners of rural area pursuing academic courses and male distance learners from urban area pursuing professional courses turned out to be highest i.e. 3.67 and in case of male distance learners from rural area pursuing professional courses it was found lowest 3.10. All other mean scores lie in between these two extreme values.

The results of three way analysis of variance was carried out to find out the significance of main and interaction effects in relation to gender, residential background and course of study. The results are summarized in the table 2.

**Table 2: Showing summary of Analysis of Variance on Test Anxiety among Distance Learners**

| Source of Variance | SS | df | MS | F |
|---|---|---|---|---|
| Gender | 1.03 | 1 | 1.03 | 0.59 |
| Residential background | 0.97 | 1 | 0.97 | 0.55 |
| Course of study | 0.47 | 1 | 0.47 | 0.27 |
| Gender  x Residential background | 0.02 | 1 | 0.02 | 0.01 |
| Gender x Course of study | 0.03 | 1 | 0.03 | 0.02 |
| Residential background x Course of study | 12.29 | 1 | 12.29 | 6.99** |
| Gender x Residential background x Course of study | 7.92 | 1 | 7.92 | 4.50* |
| Within | 1138.16 | 647 | 1.76 | |
| Total | 1160.90 | 654 | | |

**p<.01; *p<.05

It is clear from table 2 that the F-value for the main effect of gender came out to be 0.59 which is not significant at 0.05 levels indicating no significant mean difference between male and female distance learners with respect to their test anxiety. The F- value obtained for the main effect of residential background is 0.55, which is not significant at 0.05 levels indicating no significant mean difference between urban and rural distance learners in test anxiety. For the main effect of course of study the F-value obtained is 0.27, and is also not significant at 0.05 levels of significance. This means that there is no

# Periodic Research

significant mean difference between distance learners of academic and professional course in relation to test anxiety. Further the F-value for the interaction effects of gender across residential background and gender across course of study turned out to be 0.01 and 0.02 respectively, which also are not significant at 0.05 levels of significance.

The results from table 2 shows that the F-value for the interaction effect of residential background across course of study came out to be 6.99, which is significant at 0.01 level of significance. Therefore, in order to find out the significance of mean difference, t-values were calculated, the detail of which is given in the table 3

**Table 3: Showing 't- values' Testing Significance of Mean Difference in the Test Anxiety across Residential background and Course of Study**

| Residential background | Course of study | | t- value |
|---|---|---|---|
| | Academic | Professional | |
| **Urban** | 3.31 | 3.53 | 1.46 |
| **Rural** | 3.51 | 3.18 | 2.36* |
| t- value | 1.33 | 2.50* | |

**p<.01: *p<.05

It may be seen from the table 3 and fig. 1 that distance learners pursuing academic courses differ significantly from their counterparts from professional courses in test anxiety (3.51 Vs 3.18) only in rural group. The obtained t-value is 2.36, which is significant at 0.05 level of significance. The rural distance learners of academic courses have more test anxiety as compared to rural distance learners of professional courses. However no such significant difference was found in urban distance learners of academic and professional courses (3.31 Vs 3.53) where the t-value is 1.46, which is not significant at 0.05 level of significance.
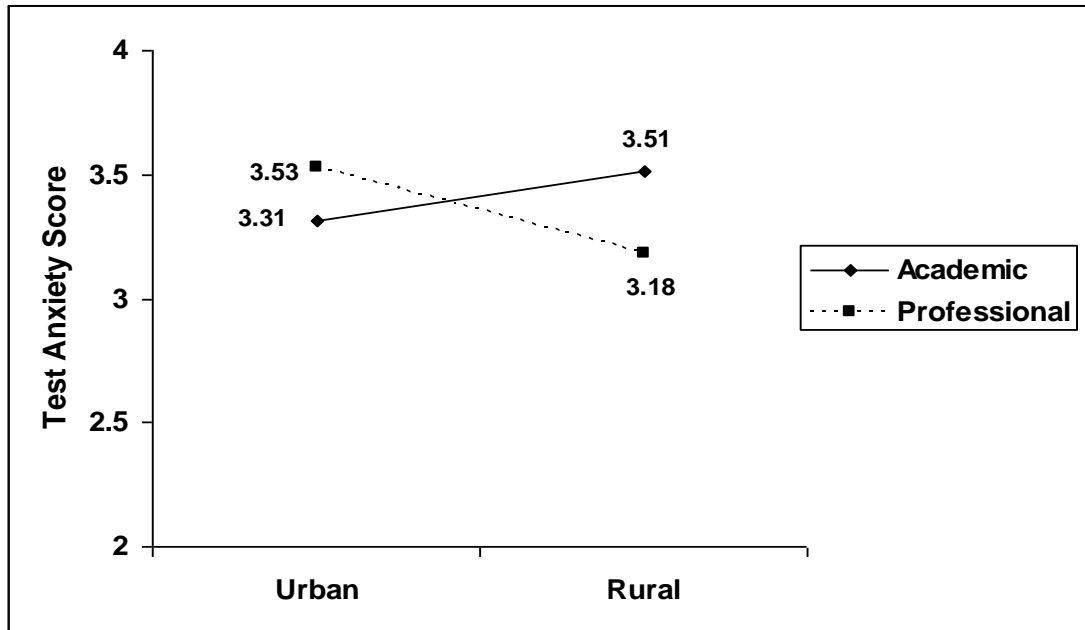


**Fig. 1: Comparison of Test Anxiety among distance learners across Residential background  x Course of study**

Table 3 and fig. 2 describes that urban and rural distance learners of professional courses differ significantly in their test anxiety (3.53 Vs 3.18 ), the t-value is 2.50, which is significant at 0.05 level. The urban distance learners studying in professional courses have significantly more test anxiety score than rural distance learners pursuing professional courses. However no such significant difference was found in urban and rural distance learners pursuing academic courses (3.31 Vs 3.51) where the t-value is 1.33, which is quiet less than the table value.

# Periodic Research

**Fig. 2 : Comparison of Test Anxiety in Distance Learners across Residential background and Course of Study**
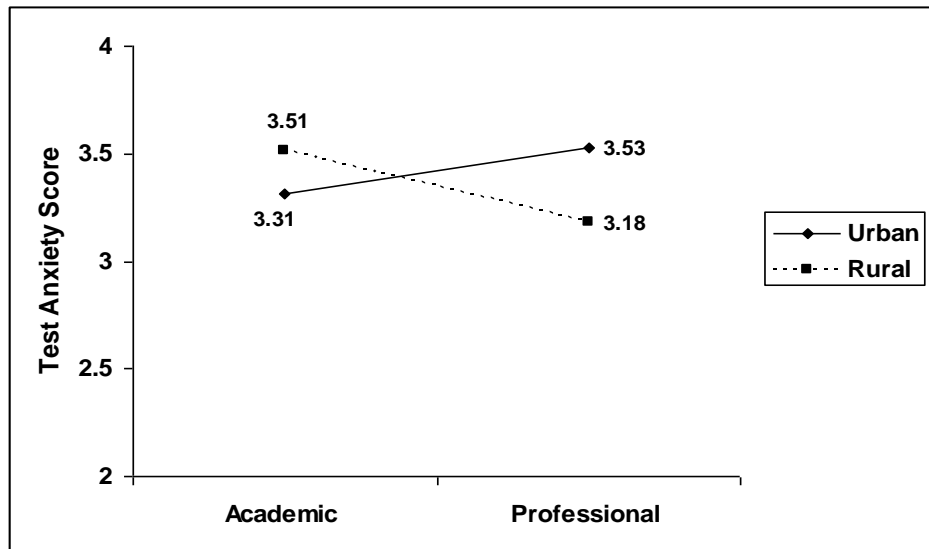


In case of triple interaction of gender across residential background across course of study the F-ratio turned out to be is 4.50, which is significant at 0.05 level of significance. This can be further explained by calculating t-values to find out the significance of mean difference as shown in table 4.

**Table 4: Showing 't- values' Testing Significance of Mean Difference in the Test Anxiety across Gender x Residential background x Course of study**

| MALES | | | |
|---|---|---|---|
| **Residential background** | **Course of study** | | **t- value** |
| | **Academic** | **Professional** | |
| **Urban** | 3.24 | 3.67 | 1.87 |
| **Rural** | 3.67 | 3.10 | 2.71** |
| **t- value** | 1.87 | 2.59** | |
| **FEMALES** | | | |
| **Residential background** | **Course of study** | | **t- value** |
| | **Academic** | **Professional** | |
| **Urban** | 3.38 | 3.39 | 0.50 |
| **Rural** | 3.34 | 3.25 | 0.47 |
| **t- value** | 0.19 | 0.78 | |

**p<.01; *p<.05

**Fig. 3: Comparison of Test Anxiety in Male Group of Distance Learners with respect to Residential background x Course of Study**

# Periodic Research
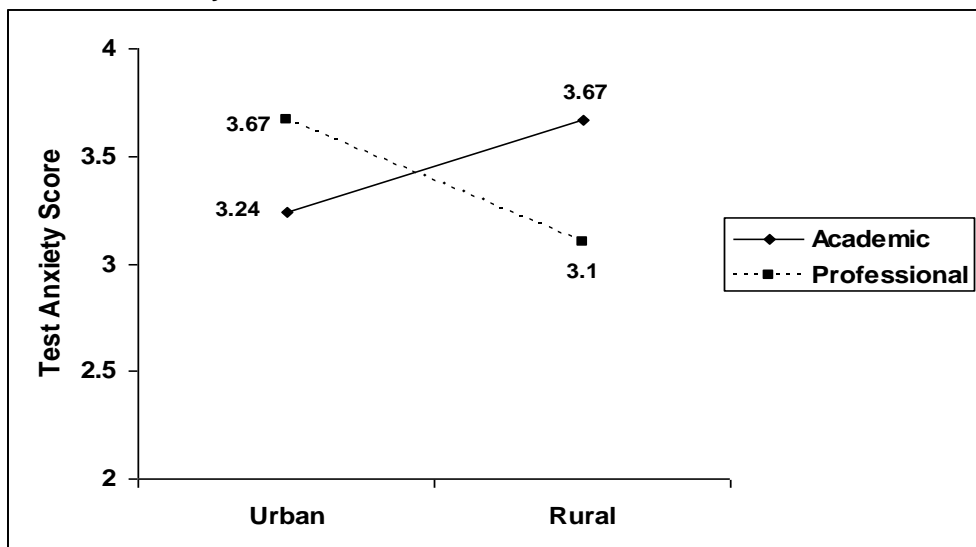
It is clear from table 4 and fig. 3 that in case of male group of distance learners, the mean difference for test anxiety between academic and professional courses of rural group was found to be significant at 0.01 level (3.67 Vs 3.10), the t-value is 2.71. Similarly, such a significant mean differences was also observed in male group of distance learners from urban and rural area pursuing professional courses (3.67 Vs 3.10) with significant t-value 2.59 at 0.01 level of significance. Hence, it may be concluded that male distance learners of urban area pursuing professional courses and male distance learners of rural area pursuing academic courses have significantly more test anxiety score than male distance learners of rural area pursuing professional courses. Such differences are not found significant at 0.05 level for male group of distance learners of urban area pursuing academic and professional courses (3.24 Vs 3.67), with t-value, 1.87. It may be noted from results depicted in figures 3 and 4 when compared with fig. 1 that the courses x residential background interaction shows similar trends only for male distance learners (and not for female distance learners).

**Fig. 4 : Comparison of Test Anxiety in Female Group of Distance Learners with respect to Residential background x Course of study**
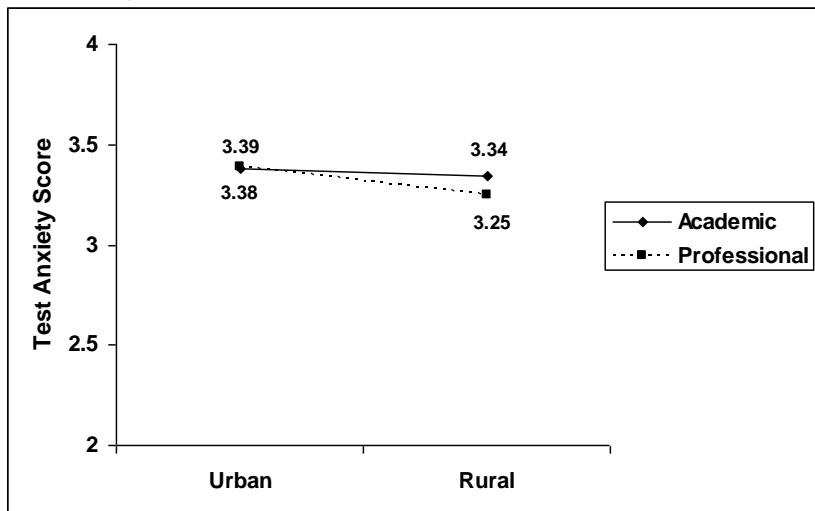


However, as the table 4 and fig. 4 shows that there are no significant mean differences in test anxiety of female distance learners pursuing academic and professional courses both in rural group (3.34 Vs 3.25) and urban group (3.38 Vs 3.39), the respective t-values being 0.50 and 0.47 are non-significant at 0.05 level of significance. Hence, it may be concluded that gender acts as a moderator variable to explain test anxiety among distance learners across residential background and course of study.

In nutshell the significant Residential background x Course of study interaction effect is true for male distance learners only.

**Discussion**

1. In the present study it was found that no significant difference was found in test anxiety of male and female distance learners. This finding is in tune with the results of research study by Thapliyal (2014) who also reported no gender differences in test anxiety. On the contrary in the findings of Sassenrath (1967), Cole et al. (1999), Steven, (2000), AlKhatib, (2010), Kavakci (2014), Ongowo & Hungi (2014) and Soyogul (2015 ) significant gender differences were reported where females exhibits high test anxiety than male counterparts.
2. Results of present study revealed no significant difference in test anxiety of distance learners of academic and professional courses. The results are in line with the findings of (Kumar, 1999) who reported no significant difference in distance learners with respect to stream. These results of present study are contrary to the findings of (Thapliyal, 2014) who reported significant difference in test anxiety of students pursuing social science, arts and science where students pursuing social sciences have more test anxiety than the students pursuing arts and science disciplines. The studies by Shelly (2009) and Negi (2010) reported that students pursuing professional discipline scored low in test anxiety. Boyer &Usinger (2015) found that students of humanities and social science scored low in test anxiety. Significant differences were reported with respect to faculty/department in the research study of Ilhani & Karatas (2015).
3. In the present study no significant difference was found in test anxiety of urban and rural distance learners. But in interaction effect of residential background and course of study significant differences were observed.
4. On the basis of analysis the non-significant main effects of gender, residential background and course of study are dependent on each other in explaining test anxiety among distance learners. Rural distance learners pursuing academic courses exhibit significantly higher level of test anxiety than rural distance learners of professional courses. However, results are reverse though not significant for distance learners of urban area. Urban distance learners

# Periodic Research

of professional courses showed significantly higher level of test anxiety than rural distance learners of professional courses. However, reverse though not significant results were observed for distance learners of academic courses. Male distance learners of urban area pursuing professional courses scored significantly high than the male distance learners of rural area pursuing professional courses in test anxiety.

**Conclusions**

Findings of the study revealed that rural distance learners pursuing academic courses exhibit significantly higher level of test anxiety. In professional courses urban distance learners showed high level of test anxiety where male distance learners from urban area showed high test anxiety. There is need to train the students in the use of effective learning strategies and test taking skills which will help them to decrease the degree of anxiety (Zeidner, 1998). Knowledge of content, familiarity of concept and mastery in the subject helps to decrease test anxiety and helps to perform well in test. It is suggested that efforts should be made through counselling to minimize the magnitude of test anxiety of distance learners whether belonging to academic group, professional group, rural area or urban area. In spite of discussion with the teacher/ instructor discussion with peers as well as in the classroom can help the learner to clarify the course material so the strategy of peer learning can be promoted which will be of great help for the learners.

**References**

1. AlKhatib, S. A. (2010). Meta-cognitive self-regulated learning and motivational beliefs as predictors of college students' performance. International Journal for Research in Education (IJRE), (27), 57-72.
2. Asgahari, A., Abdul, K.R., Elias, H., and Baba, M. (2012). Test anxiety and its related concepts: A brief review Education Science and Psychology, 3(22), 3-8
3. Awino & Agolla, (2008). A quest for sustainable Quality Assurance Measurement for Universities: Case of Study of the University of Boswana, Educ. Res. Rev. 3(6), 213-218
4. Bhullar, K. (2016). Cognitive and metacognitive learning strategies, motivational beliefs and academic achievement of university professional students: A correlational study (Unpublished Ph.D. thesis in Education). Punjabi University, Patiala.
5. Boyer, N., &Usinger, P. (2012). Tracking pathways to success: identifying learning success factors across course delivery formats. International Journal of Self-Directed Learning,9(1), 25-37.
6. Boyer, N. R., & Usinger, P. (2015). Tracking pathways to success: triangulating learning success factors. International Journal of Self-Directed Learning, 12(2), 22-46.
7. Cherry, K. (2019). 'What is test anxiety?'. Retrieved from https://www.verywellmind.com. at 5.38 pm on 12th April 2019.
8. Cole, D.A., Truglio, R. and Peeke, L. (1997). Relation between symptoms of anxiety and depression in children: a multitrait- multimethod – multigroup assessment. Journal of Consulting and Clinical Psychology,65(1), 100-119
9. Duraku, Z.H. (2016). Factors influencing test anxiety among university students. The European Journal of Social and Behavioural Sciences, 18, 2325-2334
10. Erlauer, L. (2003). The brain-compatible classroom: using what we know about learning to improve teaching. Alexandria, Virginia: Association for Supervision and Curriculum Development (ASCD)
11. Hassenplug, C. A., &Harnish, D. (1998). The nature and importance of interaction in distance education credit classes at technical institutes. Community College Journal of Research&Practice, 22(6), 591-606.
12. Ilhani, D., & Karatas, H. (2015). An analysis of motivational beliefs and attitudes of undergraduates regarding learning English. The International Journal of Educational Research, 6(2), 1-14.
13. Kavakci, O., Semiz, M., Kartal, A., Dikici, A. (2014). Test Anxiety Prevalance and Related Variables in The Students Who are Going to Take The University Entrance Examination. Journal of Psychiatry and Neurological Sciences, 27(4):301–7.
14. Kumar. (1999). Open University distance learner's attitude towards distance education. Perspectives in Education, 15(3), 165-173.
15. Locker, J., & Cropley, M. (2004). Anxiety, Depression and Self-Esteem in Secondary School Children: An Investigation into the Impact of Standard Assessment Tests (SATs) and other Important School Examinations. School Psychology International, 25(3), 333-345.
16. Moore, M. G. (1991). Editorial: distance education theory. The American Journal of Distance Education, 5(3).
17. Nausheen, M., & Richardson, P. W. (2013). The relationships between the motivational beliefs, course experiences and achievement among postgraduate students in Pakistan. Higher Education Research and Development, 32(4), 603-616.
18. Negi, S. P. (2010). Motivation and learning strategies of distant learners of Punjabi University; An empirical study (Ph.D. thesis in Education). Punjabi University, Patiala.
19. Ongowo, R. O., & Hungi, S. K. (2014). Motivational beliefs and self-regulation in Biology learning: Influence of ethnicity, gender and grade level in Kenya. Scientific Research – An Academic Publisher, 5(4), 218-227.
20. Peleg, O.,Deutch , C. and Dan, O. (2016). Test anxiety among female college students and its relation to perceived parental academic expectations and differentiation of self. Learning and Individual Differences, Vol. 49, 428-436
21. Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). A manual for the use of

# Periodic Research

the motivated strategies for learning questionnaire (MSLQ). The University of Michigan: Ann Arbor, Michigan.

22. Sassenrath, J. M. (1967). Anxiety, aptitude, attitude and achievement. Journal of Psychology in Schools, 4, 341-346.

23. Shelly. (2010). Approaches to learning in relation to motivational beliefs and academic achievement of professional students of Punjab (Ph.D. thesis in Education). Punjabi University, Patiala.

24. Soyogul, E. C. (2015). Students' motivational beliefs and learning strategies: An Investigation of the scholar development program (Master dissertation in Education). Bilkent University, Ankara.

25. Stevens, S.A.(2000).   "Test anxiety and beliefs about testing in college students with and without learning disabilities."   Doctoral Dissertations , University of Massachusetts Amherst.

26. Sumi ,K., Kanda, K. (2002). Relationship between neurotic perfectionism, depression, anxiety, and psychosomatic symptoms: A prospective study among Japanese men. Personality and Individual Differences, 32 (5), 817-826

27. Thapliyal, U. (2014). Learning strategies motivational beliefs and course experiences as correlates of academic achievement among university students (Ph.D. thesis in Education). Panjab University, Chandigarh.

28. Zeidner, M. (1998). Test anxiety: The state of the art. New York: Plenum.