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Students' Cognitive Test Anxiety and Secondary School Examination Performance: Moderating Effect of Gender and School Sector

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ABSTRACT

Despite a bulk of research in international context investigating the relationship of cognitive test anxiety with students' academic performance, little work has yet been done in this area on samples of students in Pakistan. This correlational design study was, therefore, conducted to examine the relationship between secondary school students' cognitive test anxiety and their examination performance in educational context of Pakistan and to ascertain how the direction and/or strength of this relationship may be moderated by students' gender and their school sector. Data were collected on students' cognitive test anxiety, total obtained marks in SSC examination and obtained marks in English along with students' gender and school sector from 1712 mixed ability students enrolled in year 11 in 91 public and private institutions. Both the descriptive and inferential statistical techniques (i.e., Mean, SD and Independent samples t-test) along with Pearson's R correlations and hierarchical multiple regression were performed to analyze the data. Results depicted that female sample students reported higher level of cognitive test anxiety in comparison to their male counterparts. Results also suggested a small but significant negative effect of cognitive test anxiety on students' examination performance and that student cognitive test anxiety component accounted for 10% of variance in their examination performance. Results further revealed that the magnitude of relationship between students' cognitive test anxiety and examination total point scores do not change much for the moderating variables and these variables accounted only for 3% of variance. The magnitude of moderating effect, however, found to be somewhat stronger in the school sector in comparison to students' gender.

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1. Introduction

Examinations, tests and all the other assessment methods are a substantial source of stress and anxiety for students at all school levels worldwide (Hodge et al., 1997; Jegede et al., 1996; Kouzma & Kennedy, 2004; Kyriacou & Moutantzi, 2003). The annual examination conducted at the completion of secondary school in Pakistan, the Secondary School Certificate (SSC) examination is no exception. Putwain (2008) suggests that students' success or failure in secondary school examination signifies a critical moment in their lives. The result of this examination becomes first publicly accessible indicator of student self-identity and it shapes their future life trajectory i.e., entrance to further education and/or access to professional opportunities. Consequently, the unpredictability and ambiguity of secondary school examination performance and the work load linked with school-based weekly and/or monthly assessments signify a considerable and new source of anxiety and stress in students' lives (Putwain, 2008).

Anxiety as defined by Asadullapoor et al. (2010) is an undesirable and/or an unclear feeling in a difficult situation and affects individual's personal, familial, social, educational and occupational performance (Zahrakar, 2008). Likewise, in view of Al-Atram (2015) and Dawood et al. (2016), anxiety is a common incidence that constitutes a prevalent reason of poor school performance among adolescents across the globe. Though normal level of anxiety supports individuals to work hard and accept responsibility (Kahan, 2008; Donnelly, 2009); plays a major role in one's life (Anjum et al., 2019; Chiu et al., 2012; Reddy et al., 2018; Rezazadeh & Tavakoli, 2009) but it also affects their achievements in a number of situations (Dawood et al., 2016). Generally, the symptoms of anxiety appear when a person perceives that the demands of an evaluative situation exceed from his/her potentials, abilities and skills (Akca, 2011).

Test anxiety is a severe psychological condition that is experienced by any student either before or during the examination and/or evaluative situation (Akca, 2011; Zeidner & Mathews, 2005). Numerous previous scholars (i.e., De Civita et al., 2004; Davis-Kean, 2005; Zhan, 2006) listed following reasons as key instigators of test anxiety i.e., highly autocratic or democratic parenting style, gender anxiety perception differences, parental qualification, procrastination in test and inability to enhance learning and to solve learning difficulties. Other reasons of test anxiety may include environmental factors, cultural expectations, societal demands, competition among peers, instructors' characteristics, difficulty level of tests and/or familial pressure (Duraku, 2017; Rana & Mehmood, 2010; Subramani & Venkatachalam, 2019; Thergaonkar & Wadkar, 2007).

Test anxiety and its various aspects has been one of the prevalent research areas in recent years (Dawood et al., 2016). Dawood et al. (2016) further proclaimed that test anxiety is identified as two-factor construct i.e., cognitive and affective as well as an inner state of conflict (Legesse, 2014). Cassady and Jhonson (2002) found that the cognitive component (worry) directly affects student examination performance, while affective component (emotionality) though interrelated but not directly influence student examination performance. As regards cognitive component of test anxiety, it is defined as putting oneself below the actual potential and thinking about ultimate failure. It is related to the negative thoughts of failure in any given test situation (Dawood et al., 2016; Sarason & Sarason, 1990). Feeling helpless in testing, negative thinking about performance, doubting potential of learning and intellectual competencies may also lead towards cognitive test anxiety (Legesse, 2014).

With regard to symptoms of cognitive test anxiety, Cassady and Jhonson (2002) suggested following cognitive reactions earlier or after or even during the test to different evaluative circumstances, i.e., comparing performance with peers, considering the results of failure, low level of

certainty in execution, cognitive reaction on evaluation of test, feeling sorrow to parental expectations, insufficient knowledge and misfortune of self-worth. A number of other symptoms of cognitive test anxiety may include: decreased potential to make decisions, forgetfulness, short attention span, inability to concentrate on task, to express feelings, self-absorption with thoughts, sensitivity to illness, cognitively diverted and negative self-beliefs (Legesse, 2014). Writing in the same vein, several previous researchers (i.e., Subramani & Venkatachalam, 2019; Duraku, 2017; Rana & Mehmood, 2010; Thergaonkar & Wadkar, 2007) highlighted following cognitive symptoms of test anxiety: avoidance of testing situations, drop out of school, taking medicines or alcohol for escaping from test uneasiness, forgetting known test answers, negative self-talk and problematic thoughts.

Test anxiety, according to Eysenck (2001), specifically cognitive component of test anxiety has an effect on academic performance. A number of other researchers (Cassady & Jhonson, 2002; Duraku, 2017; Vogel & Wei, 2005) also analyzed the extent of relationship between cognitive test anxiety and students' academic performance and found that students with high cognitive test anxiety reduced their span of attention as well as attentiveness and consequently performed poorly in examinations. Likewise, Dordinejad et al. (2011) found that there was a negative relationship between the cognitive test anxiety and students' academic performance at university level. Cumulative evidence has also shown that among four dimensions of text anxiety, worry (cognition) was inversely related with students' examination performance (Stober, 2004). Similarly, the findings of Onyeizugbo (2010) and Mohammadyari (2012) confirmed the negative impact of test anxiety on students' examination performance. Alternatively, some researchers (i.e., Anjum et al., 2019; Chiu et al., 2012; Donnelly, 2009; Kahan, 2008) believed that test anxiety make students better prepare for learning.

As regards demographic and contextual variables, multiple studies have been conducted to examine effect of student gender and school sector on their level of test anxiety. Three types of anxieties, i.e., general trait anxiety, fear of failing in vocational career and fear of not fulfilling parental expectations, were found in students of both the genders (Giota & Bergh, 2021). A number of other scholars (Dordinejad et al., 2011; Ghosh, 2016; Rezazadeh & Tavakoli, 2009; Sridevi, 2013; Tehrani et al., 2014) concluded that test anxiety among female students was greater as compared to the anxiety level in male students. Furthermore, effects of test anxiety on learning and retention have shown that test anxiety level was higher among students attending private schools in comparison with the anxiety level of students enrolled in public schools (Thenmozhi & Poornima, 2020; Nidhi & Kumar, 2019; Ghosh, 2016; Tehrani et al., 2014; Sridevi, 2013).

Review of literature particularly suggests that rarely a study has been conducted to examine the relationship of cognitive test anxiety with academic performance of secondary school students in the context of Pakistan. Considering the literature and situation, this study attempted to analyze whether and to what extent the cognitive aspect of test anxiety is an influential factor to affect students' examination performance at secondary level in Pakistan. Results of this study may be helpful for school students to cope up with their cognitive, social, personal, behavioral and emotional issues efficiently. Findings of this study may further be useful to modify and improve the existing academic practices at individual and institutional level. Advantages can be augmented by developing guidance and counseling programs for students to provide them with at least one expert trained teacher to deal efficiently with issues related to test anxiety.

2. The Current Study

This study was primarily conducted to examine the relationship between secondary school students' cognitive test anxiety and their examination performance in Pakistan and to ascertain how the direction

and/or strength of this relationship may be moderated by students' gender and their school sector. Following five research questions guided this study.

- What is students' perception of cognitive test anxiety at secondary level?
- Are there any gender-based and school sector-based differences in students' perception of cognitive test anxiety at secondary level?
- Are there any gender-based and school sector-based differences in students' examination performance scores at secondary level?
- Is there any relationship between students' perceived cognitive test anxiety score and their examination performance score at secondary level?
- Is the relationship between students' cognitive test anxiety and their examination performance moderated by students' gender and their school sector?

3. Material and Methods

3.1 Research Design and Participants

This study used correlational research design. Researchers use this design to find out relationship between two or more variables (Creswell, 2012) and/or to see if they impact each other (Ketner et al., 1997). This design also allows the researcher to predict an outcome (Anderson & Keith, 1997), such as in this study, the prediction that cognitive test anxiety influences student examination performance. The sample comprised 2081 students enrolled in year 11, aged 15-17, taken from 91 higher secondary level public and private institutions (i.e., school and colleges) in District Multan, Pakistan. Keeping in view the diverse nature of population, stratified proportionate random sampling technique was used to select the sample. The study sample was finalized with the help of Krejcie and Morgan (1970) formula.

3.2 Instrumentation and Data Collection

Data on students' cognitive test anxiety were collected using Cognitive Test Anxiety Scale (CTAS) developed by Cassady and Johnson (2002). This scale was preferred for two main reasons. First, this instrument seems to be most suitable for use with juvenile school age students. Second, as a trait measure of cognitive test anxiety, a student can complete the CTAS even several weeks before his/her examination. The CTAS is not required to be completed immediately before a forthcoming examination. The CTAS required student to respond to 27 items (e.g. "During tests, I have the feeling that I am not doing well") on a four-point Likert type scale (1 = Not at all true, 2 = somewhat true, 3 = Pretty true and 4 = Very true). The CTAS was adapted with minor changes. For better understanding of native non-English speaking Pakistani students, Urdu translation was given with each item. To measure students' gender and their school sector, two questions/items were added in demographic section as a dichotomous categorical variable (male/female, public/private).

Content and face validity of the CTAS were ensured with the help of the three expert teachers' opinion from education department at Institute of Southern Punjab, Multan. All the experts examined the items individually and validated overall structure and language of the questionnaire as correct. A pilot test was conducted to further ensure the validity of the instrument. For this purpose, 13 female and 11 male students of year 11 were randomly approached. They were particularly requested to report any ambiguity faced regarding the clarity, difficulty and understanding level of the items. General feedback of pilot testing ensured that participants were clear enough regarding the items. Questionnaire was finalized as per the suggestions of experts as well as of the participants' comments. Cronbach's Alpha value for the cognitive test anxiety scale was 0.85 and is in line with Cronbach (1951) who indicated that reliability coefficients above 0.6 are desirable.

Final version of the CTAS was distributed to the all the 2081 sample students by paying self-visit in their institutions during working hours. The process of tool administration was initiated after getting authorized permission from respective CEO and director colleges along with consent from class teachers. Finally, 1712 (82.3%) sample participants responded. Specifically, among all the 1712 valid responses, 54.4% were male and 45.6% female. Likewise, 65.2% respondents were attending state-owned public educational institutions and 34.8% were from privately-managed institutions. Students' examination performance was measured using the students' total obtained marks and obtained marks in the subject of English from Secondary School Certificate (SSC) annual examination.

4. Data Analysis and Results

Researchers applied both the descriptive and inferential statistical techniques (i.e., Mean, SD and Independent samples t-test) to analyze students' perception of cognitive test anxiety as well as to calculate gender and sector-based differences in their perception of cognitive test anxiety. Furthermore, Pearson's R correlations were performed to establish strength of relationship between students' perceived cognitive test anxiety scores and their secondary school examination scores while hierarchical multiple regression model was used to find out the effect of moderating variables (i.e., gender and school sector). Table 1 to Table 4 portrays the results.

Table 1 : Differences in students' perception of cognitive test anxiety based on gender and sector

Variable	Group	N	Mean	SD	Df	t-value	p-value
Gender	Male	780	59.79	12.16	1710	2.88	.004
	Female	932	61.57	13.21			
School Sector	Public	1116	60.85	13.81	1710	0.41	.686
	Private	596	60.59	10.59			

Table 1 portrays descriptive and inferential analysis for students' cognitive test anxiety based on students' gender and their school sector. With regard to gender, an Independent samples t-test indicated a significant effect ($df = 1710$, $t = 2.88$, $p\text{-value } 0.004 < 0.05$) of students' gender on their cognitive test anxiety. Analysis in Table 1 further depicts that female sample students reported higher level of cognitive test anxiety (Mean = 61.57) in comparison to male students (Mean = 59.79). It can, therefore, be inferred that gender-based differences were significant in students' perception of cognitive test anxiety. With regard to school sector, however, an Independent samples t-test demonstrated an insignificant effect ($df = 1710$, $t = 0.41$, $p = 0.686 > 0.05$). Analysis in Table 1 further depicts that students attending public schools reported marginally higher level of cognitive test anxiety (Mean = 60.85) in comparison to students attending private schools (Mean = 60.59). It can, therefore, be inferred that school sector-based differences were insignificant in students' perception of cognitive test anxiety.

Table 2: Differences in students' examination performance score based on gender and sector

Variable	Group	N	Mean	SD	Df	t-value	p-value
Gender	Male	780	886.16	113.79	1710	1.38	.166
	Female	932	878.62	110.94			
School Sector	Public	1116	868.25	116.26	1710	7.06	.000
	Private	596	907.90	99.49			

Table 2 portrays descriptive and inferential analysis for students' secondary school examination performance score based on students' gender and their school sector. With regard to gender, an Independent samples t-test indicated an insignificant effect ($df = 1710$, $t = 1.38$, $p\text{-value } 0.166 > 0.05$) where the examination performance scores of male students found to be marginally higher (Mean = 886.16) in comparison to female students' scores (Mean = 878.62). It can, therefore, be inferred that gender-based differences were insignificant in students' examination performance score and students of both the genders performed almost equally. With regard to school sector, however, an Independent samples t-test demonstrated a significant effect ($df = 1710$, $t = 7.06$, $p = 0.000 < 0.05$) where the examination performance scores of private school students found to be reasonably higher (Mean = 907.90) in comparison to students attending public schools (Mean = 868.25). It can, therefore, be inferred that school sector-based differences were significant in students' secondary school examination performance score.

Table 3: Relationship between cognitive test anxiety and examination performance scores

	Exam performance	Marks in English	Cognitive test anxiety
Exam performance	1		
Marks in English	.283 **	1	
Cognitive test anxiety	-.320 **	-.185 **	1

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the results of Pearson's R correlations between cognitive test anxiety scores; secondary school students' total obtained examination scores and scores in the subject of English. These results in Tables 3 indicate small but significant negative correlations between cognitive test anxiety score and secondary school students' examination scores. The relationship is moderately negative ($r = -.320$) for cognitive test anxiety and students' total obtained scores/examination performance scores and comparatively a very weak negative relationship ($r = -.185$) for English scores. This means that increase in students' cognitive test anxiety level negatively affects their academic performance and achievement scores. It can, therefore, be concluded from the coefficient values of ' r ' that students' cognitive test anxiety and their academic performance in terms of obtained marks found to be negatively associated.

Table 4: Hierarchical multiple regression analysis to find out the effect of moderating variables

		R ²	ΔR^2	ΔF	β	Sig.
Model 1	(Constant)	0.10		194.96		.000
	Cognitive test anxiety				-0.32	.000
Model 2	(Moderating variables)	0.13	0.03	84.91		.000
	Cognitive test anxiety				-0.32	.000
	School sector				0.165	.000
	Gender				-0.013	.570

Table 4 shows the results of hierarchical multiple regression analysis. This analysis was used to find out if students' gender (male verses female) and school sector (public verses private) moderate the negative relationship observed between students' cognitive test anxiety score and their secondary school examination total point score. Table 4 further indicates that cognitive test anxiety score accounts for 10% of variance in secondary school students' examination total point score. It means that for each unit increase in cognitive test anxiety, the secondary school students' examination total point score decreases by 0.32. This result is indicative of a small but significant negative effect ($p\text{-value} = 0.000 < 0.05$) of cognitive test anxiety on students' examination performance.

An additional 3% of variance in secondary school students' examination total point score was accounted for the moderating variables of students' gender and their school sector. Although this effect is significant but small, demonstrating that the magnitude of relationship between students' cognitive test anxiety and examination total point scores do not change much for the moderating variables of students' gender and their school sector. It can, therefore, be concluded that gender ($\beta = -0.013, p > .05$) does not qualify to be a moderating variable in this study. Table 4 further shows that magnitude of effect is somewhat stronger in the school sector ($\beta = 0.165, p < .05$) in comparison to students' gender, and it can, thus, be concluded that students' school sector is a small moderating factor in relation to students' cognitive test anxiety and their examination performance.

5. Discussion

This quantitative correlational design study mainly focused on examining the relationship between secondary school students' cognitive test anxiety and their examination performance in Pakistan and to ascertain how the direction and/or strength of this relationship may be moderated by students' gender and their school sector. The findings of this study, drawn from a sample of secondary school students in Pakistan, are in line with previous studies (i.e., Cassady & Jhonson, 2002; Dordinejad et al., 2011; Duraku, 2017; Vogel & Wei, 2005) reported somewhere else in international literature, that students' perceived cognitive test anxiety score is negatively related with students' examination performance score. It means that for each unit increase in cognitive test anxiety, the secondary school students' examination performance scores decrease. The findings of this study, however, were not aligned well with the findings of some other researchers (i.e., Anjum et al., 2019; Chiu et al., 2012; Donnelly, 2009; Kahan, 2008) who believed that test anxiety make students better prepare for learning.

This study also found that the relationship between secondary school students' cognitive test anxiety and their examination performance was moderated to some extent by school sector, but not by student gender. In line with previous predictions (i.e., Dordinejad et al., 2011; Ghosh, 2016; Rezazadeh & Tavakoli, 2009; Sridevi, 2013; Tehrani et al., 2014), this study found that cognitive test anxiety level was higher among female students as compared to male students. These findings suggest that female students perceived examination situation as more worrisome. But this higher level of cognitive test

anxiety did not convert into a stronger relationship between test anxiety and examination performance for female students in comparison with their male competitors.

These findings suggest that lower level of cognitive test anxiety positively affects students' performance at SSC examination and vice versa. These findings also put forward that female students in comparison to male students might be at higher possibility of lower performance in SSC examination, in part, owing to cognitive test anxiety. Furthermore, in contradiction with previous predictions (i.e., Thenmozhi & Poornima, 2020; Nidhi & Kumar, 2019; Ghosh, 2016; Tehrani et al., 2014; Sridevi, 2013), students from both the public and private school backgrounds reported no significant differences in their cognitive test anxiety. The school background, however, moderated the cognitive test anxiety and examination performance relationship in such a way that magnitude of effect is somewhat positive in the school sector in comparison to students' gender. One key practical implication of this study is that the applied psychologists should consider potential scope for improving SSC achievement both at individual as well as group level by addressing students' cognitive test anxiety.

6. Conclusion

The results of this study clearly suggest that a higher reported cognitive test anxiety score is linked with students' lower performance score in secondary school certificate (SSC) examination and that school sector is a small moderating factor in this relationship, but not gender. To be specific, following four main conclusions were drawn in this study. First, this study revealed that female sample students reported higher level of cognitive test anxiety in comparison to male students. Second, students' gender-based differences were significant with regard to their perception of cognitive test anxiety, but not in their examination performance. Third, Pearson's R correlation indicated small but significantly negative correlation between students' cognitive test anxiety score and their examination score. Finally, findings of this study revealed that the magnitude of relationship between students' cognitive test anxiety and examination total point scores do not change much for the moderating variables. The magnitude of moderating effect, however, found to be somewhat stronger in the school sector in comparison to students' gender. This study recommends for educational psychologists involved in designing and delivery of test anxiety interventions as well as treatment that they should carefully think about varied "types" and manifestations of test anxiety and avoid presumptions that targeting anxiety itself will certainly result in an increase in students' academic performance.

References

- Akca, F. (2011). The relationship between test anxiety and learned helplessness. *Social Behavior and Personality: An International Journal*, 39 (1), 101-111.
- Al-Atram, A. A. (2015). The relationship between parental approach and anxiety. *Arch Depress Anxiety*, 1 (1), 6-9.
- Anderson, E. S., & Keith, T. Z. (1997). A longitudinal test of a model of academic success for at-risk high school students. *Journal of Educational Research*, 90, 259-266.
- Anjum, M. N., Abbas, Q., Ali, F., & Irshad, A. (2019). Sources of anxiety study and exam performance of university students: A case of Pakistan. *UCP Management Review*, 3 (1), 57-68.
- Asadullapoor, A. Fati, L., & Gharaee, B. (2010) Metacognitive anxiety and the immediate and delayed judgment of learning. *Journal psychiat clinic psychol.* 16 (4), 412-19.
- Cassady, J. C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary educational psychology*, 27 (2), 270-295.
- Chiu, J., Economos, J., Markson, C., Raicovi, V., Howell, C., Morote, E. S., & Inserra, A. (2012). Which matters most? Perceptions of family income or parental education on academic

- achievement. *New York Journal of Student Affairs*, 16 (2), 3.
- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Bostan, CA: Pearson Education.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297-334.
- Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19 (2), 294-304.
- Dawood, E., Al Ghadeer, H., Mitsu, R., Almutary, N., & Alenezi, B. (2016). Relationship between test anxiety and academic achievement among undergraduate nursing students. *Journal of Education and practice*, 7 (2), 57-65.
- De Civita, M., Pagani, L., Vitaro, F., & Tremblay, R.E. (2004). The role of maternal educational aspirations in mediating the risk of income source on academic failure in children from persistently poor families. *Children and Youth Services Review*, 26, 749-769.
- Donnelly, R. (2009). Embedding interaction within a blend of learner centric pedagogy and technology. *World Journal on Educational Technology*, 1(1), 6-29.
- DordiNejad, F. G., Hakimi, H., Ashouri, M., Dehghani, M., Zeinali, Z., Daghighi., M. S., & Bahrami, N. (2011). On the relationship between test anxiety and academic performance. *Procedia Social and Behavioral Sciences* 15 (2011), 3774-3778.
- Duraku, Z. H. (2017). Factors influencing test anxiety among university students. *The European Journal of Social & Behavioral Sciences*, 18 (1), 23-25.
- Eysenck, M. W. (2001). *Principles of cognitive psychology*. London, Psychology Press.
- Giota, J., & Bergh, D. (2021). Adolescent academic, social and future achievement goal orientations: implications for achievement by gender and parental education. *Scandinavian Journal of Educational Research*, 65 (5), 831-850.
- Ghosh, S. M. (2016). Academic stress among government and private high school students. *The International Journal of Indian Psychology*, 3 (2), 119-125.
- Hodge, G.M., McCormick, J., & Elliot, R. (1997). Examination-induced stress in a public examination at the completion of secondary schooling. *British Journal of Educational Psychology*, 67, 185-197.
- Jegede, O. J., Naidoo, P., & Okebukola, P. A. O. (1996). The validity of the science student stress inventory using a sample of South African high school students. *Research in Science and Technological Education*, 14, 67-89.
- Kahan, L. M., (2008). The correlation of test anxiety and academic performance of community college students. Capella University. United State. Pro Quest LLC journal. <https://www.proquest.com/openview/7a28865ed77fd3be2394f0c856594ec9/1>
- Ketner, C. S., Smith, K. E., & Parnell, M. K. (1997). Relationship between teacher theoretical orientation to reading and endorsement of developmentally appropriate practice. *Journal of Educational Research*, 90, 212-220.
- Kouzma, N.M., & Kennedy, G.A. (2004). Self-reported sources of stress in senior high school students. *Psychological Reports*, 94, 314-316.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Kyriacou, C., & Butcher, C. (1993). Stress in Year 11 school children. *Pastoral Care in Education*, 11, 19-21.
- Legesse, A. (2014). The relationship between test anxiety and academic performance at Addis Ababa university institute of technology. Master's thesis submitted to the School of Graduate Studies of Addis Ababa University. Available at

<http://etd.aau.edu.et/handle/123456789/10894>

- Mohammadyari, G. (2012). Comparative study of relationship between general perceived self-efficacy and test anxiety with academic achievement of male and female students. *Procedia - Social and Behavioral Sciences*, 69, 2119-2123.
- Nidhi, & Kumar, R. (2019). Comparison of students stress between government and private school going adolescents. *International Journal of Education and Psychological Research (IJEPR)*, 8 (1), 45-49.
- Onyeizugbo, E. U., (2010). Self-Efficacy and Test Anxiety as Correlates of Academic Performance. *Journal of Educational Research*, 1 (10), 477-48
- Putwain, D. W. (2008) Test anxiety and GCSE performance: The effect of gender and socio-economic background. *Educational Psychology in Practice: Theory, Research and Practice in Educational Psychology*, 24 (4), 319-334
- Rana, R., & Mahmood, N. (2010). The relationship between test anxiety and academic achievement. *Bulletin of Education and research*, 32 (2), 63-74.
- Reddy, K. J., Menon, K. R., & Thattil, A. (2018). Academic stress and its sources among university students. *Biomedical and Pharmacology Journal*, 11 (1), 531-537.
- Rezazadeh, M., & Tavakoli, M. (2009). Investigating the relationship among test anxiety, gender, academic achievement and years of study: A case of Iranian EFL university students. *English Language Teaching*, 2 (4), 68-74.
- Sarason, I. G., & Sarason, B. R. (1990). Test anxiety. In *handbook of social and evaluation anxiety*. Springer, Boston, MA. 475-495.
- Sridevi, K. V. (2013). A study of relationship among general anxiety, test anxiety and academic achievement of higher secondary students. *Journal of Education and Practice*, 4 (1), 122-130.
- Stober, J. (2004). Dimensions of test anxiety: Relations to ways of coping with pre-exam anxiety and uncertainty. *Anxiety, Stress & Coping*, 17 (3), 213-226.
- Subramani, C., & Venkatachalam, J. (2019). Parental expectations and its relation to academic stress among school students. *International Journal of Research and Analytical Reviews (IJRAR)*, 6 (2), 95-99.
- Tehrani, L. A., Majd, M. A., & Ghamari, M. (2014). Comparison of self-efficacy, test anxiety and competitiveness between students of top private schools and public schools. *Mediterranean Journal of Social Sciences*, 5 (23), 2749-2749.
- Thenmozhi. P & Poornima. R (2020). Comparison of academic stress between government and private school higher secondary students. *The International Journal of Indian Psychology*, 8 (1), 545-551.
- Thergaonkar, N. R., & Wadkar, A. J. (2007). Relationship between test anxiety and parenting style. *Journal of Indian Association for Child and Adolescent Mental Health*, 3 (1), 10-12.
- Vogel, D. L., & Wei, M. (2005). Adult Attachment and Help-Seeking Intent: The Mediating Roles of Psychological Distress and Perceived Social Support. *Journal of Counseling psychology*, 52 (3), 347-357.
- Zahrakar, K., (2008). *Stress Consultant* (1st ed.). Tehran: Bal University Publication.
- Zhan, M. (2006). Assets, parental expectations and involvement, and children's educational performance. *Children and Youth Services Review*, 28 (8), 961-975.
- Zeidner, M., & Mathews, G. (2005). Evaluation anxiety. In ed. A.J. Elliot and C.S. Dweck (Eds.), *Handbook of competence and motivation*, 141-163. London: Guildford Press