HATICE IREM OZTEKE KOZAN

Necmettin Erbakan University, Turkey

SAHIN KESICI

Necmettin Erbakan University, Turkey

MUSTAFA BALOGLU

Hacettepe University, Turkey

THE PREDICTION OF TEST ANXIETY BY SELF-REGULATED LEARNING STRATEGIES

Abstract:

Aim of this study is to determine whether self-regulated learning strategies predict test anxiety or not among 8th grade students. Participants of study consist of 8th grade students consulted school counseling services with problems of test anxiety in Konya/Turkey. While 186 (61,4%) of the participants are female, 117 (38.6%) of them are male. In data collection process, 'Motivational Beliefs and Self-Regulated Learning Strategies Scale' developed by Pintrich, Smith, Garcia and McKeachie (1993) and adapted into Turkish by Karadeniz, Buyukozturk, Akgün, Cakmak and Demirel (2008) and "Test Anxiety Inventory' developed by Speilberger (1980) and adapted into Turkish by Oner (1990) are used. Regression analysis are used in data analysis. Results of study indicate that self-regulated learning strategies predict test anxiety in 8th grade students. In details, effort regulation –one of the subdimensions of self-regulated learning strategies predict worry. Other subdimensions of self-regulated learning strategies such as time and study environment management and metacognitive self-regulation predict emotion. In sum, when students regulate their effort, manage time and study environment and use metacognitive learning strategies in positive ways their test anxiety would be decreased.

Keywords:

Self-regulated learning, test anxiety, 8th grade

Introduction

Self-regulated learning straregies was studied in the literature for years (Kesici, Girgin-Buyukbayraktar, Ozteke-Kozan, Yalcin, Dilmac, & Eksi, 2016; Kesici, Baloglu, & Deniz, 2011; Pintrich & De Groot, 1990; Zimmerman, 1990). Self-regulated learning strategies may define as actions that are directed to achievement of skills and behaviors of learners (Zimmerman, 1990). In academic self-regulation, there are basic and complex strategies (Jain & Dowson,2009). Pintrich, Smith, Garcia and McKeachie (1991) Learning Strategies emphasized that self-regulated learning strategies include resource management strategies, cognitive and metacognitive strategies.

Self-regulated learning strategies are related to academic achievement (Zimmerman, 1989;1990), self-efficacy (Zimmerman & Martinez-Ponz, 1990), statistics anxiety (Kesici et.al., 2011). One of the important aspects of anxiety is test anxiety and this type of anxiety is studied in the literature for years (Liebert & Morris, 1967; Wine, 1971). Like test anxiety, maths and statistics anxiety are also has been studied in the literature (Kesici et. al., 2011; Baloglu, Deniz, & Kesici, 2011; Zakaria & Nordin, 2008; Zeidner, 1991). Atkinson and Litwin (1960) state that test anxiety is an important factor that decrease test performance of individuals. Test anxiety has worry and emotionality dimensions. Worry is a cognitive concerns about one's own performance and emotionality is sensual responses in under test evaluation (Liebert & Morris, 1967)

In current study, we aim to examine the associations between self-regulated learning strategies and test anxiety in 8th grade students. Further, we examine the predictive power of self-regulated learning strategies.

Method

Survey model was used in this study.

Study Group

Participants of study consist of 303 8th grade students.While 186 were female, 117 were male. Participants was choosen among the students who apply school counseling service for test anxiety problem. Among these students volunteers were participate the current research.

Instruments

Motivated Strategies For Learning Questionnaire (MSLQ)

MSLQ were developed by Pintrich, Smith, Garcia and McKeachie (1991) and adapted into Turkish by Karadeniz, Buyukozturk, Akgün, Cakmak and Demirel (2008). Scale has two sections named as Motivation with 6 subscale and Learning strategies with 9 subscale. These two sections were used together or seperately. In this study only Learning Strategies section were used. MSLQ-TR has 81 items and scored on a 7 point likert. 9 subdimensions of Learning strategies section are named as effort

management, peer learning, rehearsal, metacognitive, elaboration, organization, time and study management, critical thinking, help seeking. According to confirmatory factor analysis, the fit indexes were found: Chi-Square $\square$2 =2464.84, p=.000, df=747, χ 2 df =3.30 RMR=0.15, SRMR=0.042, GFI=0.90, AGFI=0.89, RMSEA=0.046, CFI=0.91, NNFI=0.90. Factor loadings change between 0.24 to 0.79.

Test Anxiety Inventory

Test anxiety inventory was adapted into Turkish by Oner (1990) with 20 items and two subscales. The subscales named as "Worry" and "Emotionality". Cronbach alpha for the total scale were found .87.

Data Analysis

Pearson correlation and stepwise regression analysis were used for data analysis. SPSS packet program were used. In stepwise regression analysis, the predictive power of self-regulated learning strategies on test anxiety were examined.

Findings

Table 1: Correlation betwewen Self-regulated learning strategies and Test Anxiety

	Rehearsal	Organization	Elaboration	Critical thinking	Metacognitive	Help seeking	Effort regulation	Peer learning	Time and study management
Worry	-,046	-,125[*]	-,124[*]	-,058	-,100	-,136[*]	-,262[**]	-,013	-,197[**]
Emotional	-,012	-,073	-,065	-,003	-,012	-,079	-,115[*]	-,013	-,122[*]

*p<.05, **p<.01

According to Table 1, there are significant and low correlations between worry – subscale of test anxiety- and organization (r=-.12, p<.05), eloboration (r=-.12, p<.05), help-seeking (r=-.13, p<.05), effort regulation (r=-.26, p<.01), time and study management (r=-.19, p<.01). There are also significant and low correlations between emotionality –subscale of test anxiety- and effort regulation (r=-.11, p<.05), time and study management (r=-.12, p<.05).

Table 2: Stepwise regression Analysis Result For Worry

Model	R	R²	R²(Adj)	Std Error	F	p
A	.26	.06	.06	5.51	22.14	.00

A predictor : Effort regulation

Dependent variable: Worry

*p<.05, **p<.01

According to stepwise regression analysis results effort regulation is significant predictor of worry. 6% of the variance in worry dimension was explained by effort regulation.

Table 3: Stepwise regression Analysis Result For Emotionality

Model	R	R²	R²(Adj)	Std Error	F	p
A	.12	.01	.01	7.38	4.56	.03
B	.16	.02	.02	7.34	4.43	.01

A predictor : Time and study management
B predictor: Time and study, metacognitive
Dependent variable: Emotion

*p<.05, **p<.01

According to stepwise regression analysis results time and study management and metacognitive strategy were significant predictors of emotionality. 1% of the variance in emotionality was explained by time and study management. 2% of the variance in emotionality dimension was explained by time and study management and metacognitive strategy together.

CONCLUSION AND RECOMMENDATION

Results of this study indicate that there are significant and negative correlations between self-regulated learning strategies and test anxiety. Also, self-regulated learning strategies have been found significant predictors of test anxiety.

Recommendations were given below;

1. Teachers need to increase self-regulated learning strategies among elementary and high school students to overcome maths, statistics, test anxiety

2. Students motivational beliefs need to be increased

3. Schools must involve self-regulational and motivational activities school counseling programs

4. Schools must involve self-regulational an motivational activies in curriculum

REFERENCES

Atkinson, J. W., & Litwin, G. H. (1960). Achievement motive and test anxiety conceived as motive to approach success and motive to avoid failure. *The Journal of Abnormal and Social Psychology*, *60*(1), 52.

Baloğlu, M., Deniz, M. E., & Kesici, Ş. (2011). A descriptive study of individual and cross-cultural differences in statistics anxiety. *Learning and Individual Differences*, *21*(4), 387-391.

Jain, S., & Dowson, M. (2009). Mathematics anxiety as a function of multidimensional self-regulation and self-efficacy. *Contemporary Educational Psychology, 34*(3), 240-249.

Karadeniz, S., Bueyuekoeztuerk, S., Akguen, O. E., Cakmak, E. K., & Demirel, F. (2008). The Turkish adaptation study of Motivated Strategies for Learning Questionnaire (MSLQ) for 12-18 year old

children: Results of confirmatory factor analysis. *TOJET: The Turkish Online Journal of Educational Technology*, *7*(4).

Kesici, Ş., Baloğlu, M., & Deniz, M. E. (2011). Self-regulated learning strategies in relation with statistics anxiety. *Learning and Individual Differences, 21*(4), 472-477.

Kesici, S., Girgin-Buyukbayraktar, C., Ozteke-Kozan, H. I., Yalcin, S. B., Dilmac, B., & Eksi, F. (2016). Human Values Predicting the Self-regulation Strategies. *Anthropologist*, *24*(2), 676-684.

Liebert, R. M., & Morris, L. W. (1967). Cognitive and emotional components of test anxiety: A distinction and some initial data. *Psychological Reports*, *20*(3), 975-978.

Öner, N. (1990). Sınav kaygısı envanteri el kitabı. *İstanbul: Yöret Yayınları*.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). A manual for the use of the motivated strategies for learning questionnaire. Technical report no. 91- B-004, Ann Arbor, University of Michigan.

Wine, J. (1971). Test anxiety and direction of attention. *Psychological Bulletin*,*76*(2), 92.

Zakaria, E., & Nordin, N. M. (2008). The effects of mathematics anxiety on matriculation students as related to motivation and achievement. *Eurasia Journal of Mathematics, Science & Technology Education*, *4*(1), 27-30.

Zeidner, M. (1991). Statistics and mathematics anxiety in social science students: Some interesting parallels. *British Journal of Educational Psychology*, *61*(3), 319-328.

Zimmerman, B. J. (1989). Models of self-regulated learning and academic achievement. In Self-regulated learning and academic achievement (pp. 1-25). Springer New York.

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*(1), 3-17.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82(1), 51.