Educational Sciences: Theory & Practice • 14(5) • 1945-1956
©2014 Educational Consultancy and Research Center
www.edam.com.tr/estp
DOI: 10.12738/estp.2014.5.1841

Academic Locus of Control, Tendencies towards Academic Dishonesty and Test Anxiety Levels as the Predictors of Academic Self-efficacy

Etem YEŞİLYURT[a]
Mevlana (Rumi) University

Abstract

Many studies have focused on finding the level of effect that academic locus of control, tendencies towards academic dishonesty, and test anxiety levels have had on academic self-efficacy, and providing a separate explanation ratio for each. The relationship among the effects of the academic locus of control, tendencies towards academic dishonesty, test anxiety levels and academic self-efficacy with each other and explanation ratios of these relationships to each other were tested in this research. The participating group of the research consisted of 256 teacher candidates in their 2nd year of education at the Faculty of Education at a University in Turkey in the spring semester of the 2010-2011 academic year. The research was conducted using the relational survey model. The Academic Self-efficacy Scale, Academic Locus of Control Scale, The Scale of Academic Dishonesty Tendencies, and The Scale of Test Anxiety Levels were used as data collection instruments. Data was analyzed via SPSS 16.0 and AMOS 17.0 software programs. Consequently, it emerged that tendencies towards academic dishonesty, test anxiety, and academic locus of control together significantly and positively affect and account for academic self-efficacy. In other words, it was found that tendencies towards academic dishonesty, test anxiety levels, and academic locus of control are crucial predictors of the academic self-efficacy of teacher candidates.

Keywords

Academic Locus of Control, Academic Dishonesty Tendencies, Test Anxiety, Academic Self-efficacy, Structural Equation Modeling.

Teachers, who are in a key position to raise qualified individuals should possess the desired characteristics to be able to fulfill this duty. This situation entails teacher training to include being qualified in cognitive, emotional and psycho-motor aspects during the process of pre-service education. These characteristics should exclude tendencies towards academic dishonesty and include being able to overcome test anxiety and use it positively, possessing good personal traits in terms of academic control, and having high academic self-efficacy.

In literature, there is a relationship between academic self-efficacy and tendencies towards academic dishonesty, test anxiety levels and academic locus of control. In general, many studies on these variables are observed in the literature (Brannick, Miles, & Kisamore, 2005; Demirkasimoğlu, Aydın, Erdoğan, & Akın, 2012; Dunkin & Precians, 1993; Ferla, Valcke, & Schuyten 2009; Grimley, Dahraei, & Riding, 2008; Kreber, 2010; Lorenz, Slof, Vermue, & Canrinus., 2012; Martin, 2006; Pietsch & Williamson, 2010;

a **Etem YEŞİLYURT, Ph.D.**, is an associate professor of Curriculum and Instruction. His research interests include curriculum development and evaluation, learning and teaching processes. *Correspondence:* Mevlana (Rumi) University, Faculty of Education, Department of Curriculum and Instruction, 42003 Konya, Turkey. Email: eyesilyurt@mevlana.edu.tr

Román, Cuestas, & Fenollar 2008; Stephens & Nicholson, 2008; Suphi & Yaratan, 2012; Watt & Richardson, 2012). In this study, the relationship ratio and statistical significance of the separate and combined effects of perceived academic locus of control, tendencies towards academic dishonesty and level of impact from test anxiety on academic self-efficacy are dwelt upon. For this study, this point is the biggest unique point when compared to the studies both stated above and which appear in the literature. To say this another way, no study has been conducted on the effect of and correlation between the academic locus of control, tendencies towards academic dishonesty, test anxiety level, and academic self-efficacy as well as their ratio to each other. Moreover, by beginning to use high-level analysis software (AMOS, Lisrel etc.) in the social sciences, the level of effect and explanatory ratio of one or more independent variables on one or more dependent variables can be detected.

Academic Dishonesty

Academic dishonesty is an unethical as well as illegal behavior that individuals exhibit in the process of testing their knowledge or ability (Eminoglu, 2008). Cheating and plagiarism rank first within the behavior of academic dishonesty. Therefore, the behavior of academic dishonesty is considered to be an important problem which negatively affects both the individual's behavior in his/her future life and the level of education in terms of achieving general and behavioral goals (Harding, Carpenter, Finelli, & Passow, 2004). As a matter of fact, the findings in the literature suggest that the tendencies possessed by individuals and behavior of academic dishonesty displayed during the educational period affect the post-educational period behavior (Eminoglu, 2008). For example, academic dishonesty may adversely affect the performance of the teaching profession competences.

Test Anxiety

Test anxiety can be defined as all behaviors that effect achievement in school and exams which incorporate things such as insufficient studying techniques, excessive physiological reactions, and non-test related thoughts (Duman, 2008). Inadequate learning and studying skills as well as negative thoughts during tests are shown as sources of test anxiety (Kutlu & Bozkurt, 2003). Test anxiety can be examined in two sub-dimensions, worry and emotionality. Personal inner negative evaluations of an individual constitute the worry dimension. Physiological signs appearing in an individual during a test comprise the dimension of emotionality. Thus, while the worry dimension contains the cognitive aspect of test anxiety; the dimension of emotionality contains the physiological aspect of test anxiety (Oner, 1990). Test anxiety also brings along many negativities such as concern, a fall in academic achievement, academic mistakes, self-insecurity, and not being able to display potential fully all of which effect experiential and professional decisions and so on (Zeidner, 1990). These problems are also related to academic locus of control (Rotter & Mulry, 1965 as cited in Akin, 2007).

Academic Locus of Control

Locus of control is based on Rotter's (1954) social learning theory. In a general sense, locus of control is classified as internal and external locus of control. Internal locus of control is associated with an individual's belief that events or outputs stem from his/her own behavior or a personality trait of theirs such as talent that exhibits permanency. External locus of control is associated with an individual's belief that events or outputs stem from factors out of one's control such as change, the difficulty of the task or the behavior of other individuals (Battle & Rotter, 1963; Rotter & Mulry, 1965; Stipek, 1993 as cited in Akin, 2007).

People with an external locus of control think that rewards and punishments are applied by outside forces, therefore they give importance to the achievement of rewards and the avoidance of punishments. People with an internal locus of control think that rewards and punishments are to a great extent a result of one's own works (Yesilyaprak, 2004). For this reason, various research results put forth the idea that students with an internal locus of control generally use cognitive and meta-cognitive strategies more frequently, further test the development of their own knowledge and skills, and become more successful (Durna & Senturk, 2012). As a result, while all these findings put forth the possession of internal locus of control as a positive personality trait, they also put forth that possessing external locus of control depicts a negative situation (Basol & Turkoglu, 2009; Yalcin, Tetik, & Acikgoz, 2010). The concept of self-efficacy is also present among the positive personality traits of individuals. In this way, it is stands out that academic locus of control may be linked to academic self-efficacy.

Academic Self-efficacy

Self-efficacy is based on Bandura's (1977) social learning theory. An individual's judgment regarding one's power of organization and execution of required actions to realize a specific aim is called self-efficacy (Bandura, 1986). According to another definition, self-efficacy is an individual's trust in organizing one's knowledge and skills and putting them into practice in order to solve a problem or accomplish a mission (Eccles & Wigfield, 2002). Based on these definitions, it is seen that self-efficacy rests on the belief in one's own skills, and it is necessary for them to organize and be able to put forward the necessary behavior in order to achieve one's goals (Hamurcu, 2006; Ozcelik & Kurt, 2007). Academic self-efficacy defines students' belief toward their efficacies in materializing school-related activities (Linnenbrink & Pintrich, 2002; Schunk, 1991). Self-efficacious perceptions of students affect and increase their learning and success. As knowledge of a subject accumulates, the academic self-efficacious perception of that subject also increases (Brannick et al., 2005). One student's self-efficacious perception about a subject affects academic self-efficacious perceptions about that subject.

Bandura states that even though an individual possesses the ability to perform a task, there is a possibility for him to fail or never to try that task when his self-efficacious perception about being able to do it is low (Bandura, 1997). Moreover, it has been observed that individuals who have low perceptions of self-efficacy quickly give up when encountering hardships and under conditions of higher stress they display a lower performance and become less successful (Tschannen-Moran & Hoy, 2001).

Individuals with high academic self-efficacy cope with complex incidents, overcome problems, are patient in their studies, more successful in their school and professional life and trust themselves to be able to accomplish (Korkmaz, 2011). Academic performance of such individuals is higher (Chemers, Hu, & Garcia, 2001). Besides, individuals who hold positive perceptions on their efficacy are more durable against hardships know their weak points, as well as what they should do when they encounter difficulties (Bandura, 1997; Pajares & Schunk, 2001).

Research Hypotheses

The purpose of the research is to test the relationship among the latent variables of academic self-efficacy, academic locus of control, tendencies toward academic dishonesty, test anxiety levels, and their effect on each other and the levels of explanation. In the light of this purpose, the hypotheses which are based on theory were tested.

H1: There is a positive and significant relationship between tendencies towards academic dishonesty and test anxiety levels of pre-service teachers (teacher candidates).

H2: Tendencies of teacher candidates towards academic dishonesty positively and significantly affect their academic locus of control.

H3: Test anxiety levels of teacher candidates positively and significantly affect their academic locus of control.

H4: Tendencies towards academic dishonesty together with test anxiety levels of teacher candidates significantly explain academic locus of control.

H5: Teacher candidates' tendencies towards academic dishonesty and test anxiety levels together with their academic locus of control positively and significantly affect academic self-efficacy.

H6: Teacher candidates' tendencies towards academic dishonesty and test anxiety levels together with academic locus of control significantly explain academic self-efficacy.

Method

The Research Model

A relational survey model was utilized in conducting this research. A relational survey model is a research model that aims to determine the presence and extent of covariance among two or more variables (Karasar, 2012). In this context, academic self-efficacy, academic locus of control, tendencies towards academic dishonesty, and test anxiety levels with each other, their effect on each other and the level to which they can be attributed to each other are dwelt upon in this research.

Participants

The participant group of the research consisted of 256 teacher candidates in their second year at the Faculty of Education in Turkey in the spring semester of the 2010-2011 academic year. A participant group with substantial numbers (200 and above) is necessary for complex models in structural equation modeling (Bayram, 2010). The demographic characteristics of the participants are

as follows: in terms of gender, 54.3% (f = 139) of the participants are women and 45.7% (f = 11) are men. In terms of the program studied, 27.0% (f = 69) of the participants come from the department for teaching science and technology, 16.0% (f = 41) from the department for teaching Turkish, 15.6% (f = 40) from the department for teaching religious, cultural and moral knowledge, 14.5% (f = 37) from the department for teaching pre-school, 14.5% (f = 37) from the department for teaching elementary school mathematics and 12.5% (f = 32) from the department of classroom teaching.

Data Analysis

The data obtained was first entered into the 16.0 software package. The demographic characteristics of the participants and exploratory factor analyses of scales were analyzed via this software. For the confirmatory factor analyses of scales and of the model, AMOS 17.0 programs were used. The above mentioned properties also put forth the reasons for using confirmatory factor analysis and structural equation modeling in this study. The maximum likelihood estimation method was used to estimate the model parameters for confirmatory factor analysis. The root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the goodness of fit index (GFI), the comparative fit index (CFI), the adjusted goodness of fit index (AGFI), the normed fit index (NFI), the chi-square/degree of freedom (X2/sd = CMIN/DF) and the level of significance (p) fit indexes were taken into account in the evaluation of the model for goodness of fit. With an RMSEA value between 0 and 0.08, an SRMR value between 0 and 0.10, a GFI value between .90 and 1.00, a CFI value between .90 and 1.00, an AGFI value between .85 and1.00, an NFI value between .90 and 1.00, an X2/sd (CMIN/DF) value between 0 and 3, and a p value between 0.01 and 0.05, good fit indexes are shown (Byrne, 2001; Joreskog & Sorbom, 1993; Reisinger & Mavondo, 2006). The lower boundary of factor loadings in the exploratory and confirmatory factor analysis were accepted as being .30. If there is a limited number of items in a scale prepared in the field of social sciences, the boundary value can be reduced to .30 for factor loadings. Moreover, if an item whose factor loadings is below .30 considerably affects the content validity of the scale, analyses can be conducted without omitting the respective item from the scale (Buyukozturk, 2007). In addition, the critical ratio was based on being below 10 in normality testing for confirmatory factor analysis and structural equation modeling. According to Kline (2005), the critical ratio is somehow a normalized estimation of multivariate kurtosis, to wit, the z value.

Data Collection Instruments and Confirmatory Factor Analyses

Academic Self-efficacy Scale: The scale developed by Jerusalem and Schwarzer (1981) consists of seven items and one factor. The scale was adapted to Turkish by Yilmaz, Gurcay, and Ekici (2007). The items were prepared and analyzed in the form of a 4-point Likert type scale with 4: Completely suits me, 3: Suits me, 2: Suits me slightly and 1: Does not suit me at all. Factor loadings of the items range between .829-.500. The Cronbach Alpha reliability value of the scale was determined to be .79. If the Cronbach Alpha value is .70 or higher, reliability is considered valid (Buyukozturk, 2007).

Negative items in the scale were transformed into

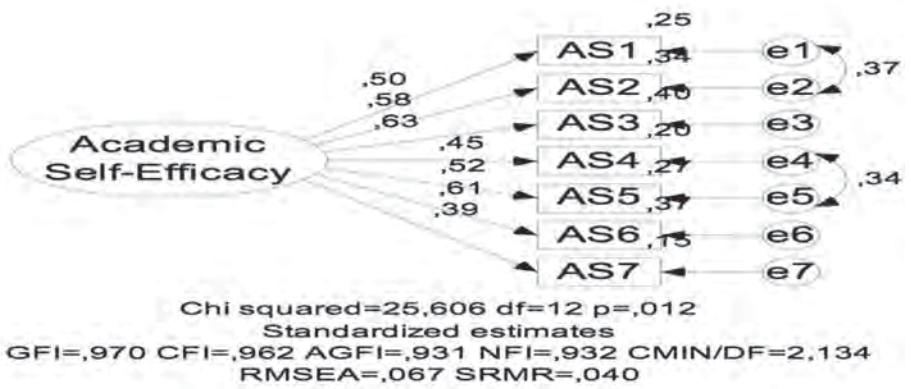


Figure 1: Diagram for confirmatory factor analysis of the Academic Self-efficacy Scale.

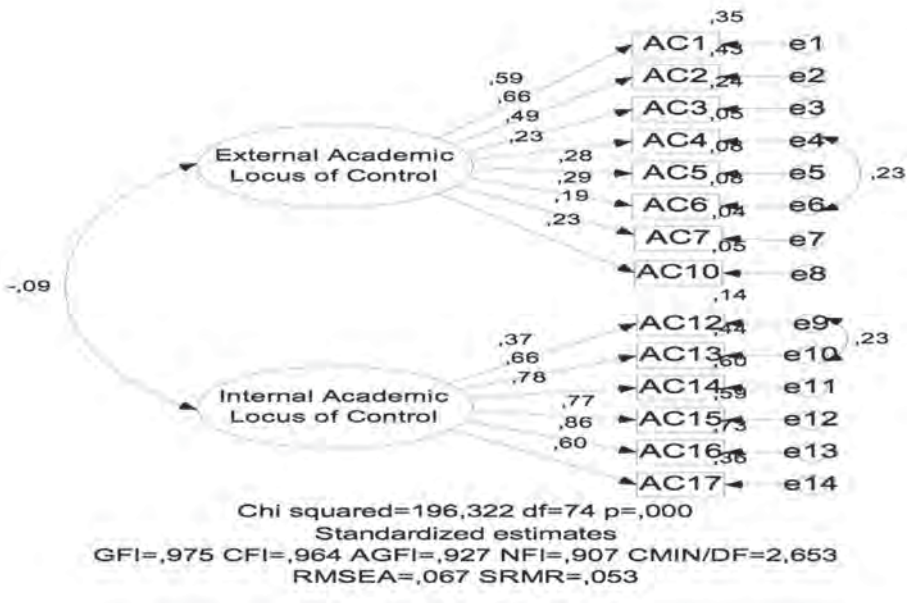


Figure 2: Diagram for confirmatory factor analysis of the Academic Locus of Control Scale.

positive items and then analysis was continued. As a result of the analysis conducted on the data obtained from this study, the Cronbach Alpha reliability value of the scale was detected at .758. According to Buyukozturk (2007) a Cronbach Alpha value of .70 or higher, is considered reliable. In addition, as a result of exploratory factor analysis, factor loadings of the items appearing in the scale were detected to be between .725 and .456, and all coefficients were found to be within acceptable limits. Also, the diagram for confirmatory factor analysis of the scale is shown in Figure 1.

As a result of confirmatory factor analysis and taking normality tests into consideration, the critical ratio (c.r.) turned out to be 11.871 in terms of multivariate (Mardia) values. However, due to the fact that the model fit index was not within acceptable limits, the error values of four items were combined. In this case, considering confirmatory factor analysis results, the fit index of the scale was as follows: RMSEA=.067, SRMR=.040, CMIN/DF (X^2/sd) =2.134, GFI=.970, CFI=.962, AGFI=.931, and NFI=.932. This result demonstrates that the model fit index is at an acceptable and desired level.

Academic Locus of Control Scale: The scale developed by Akin (2007) consists of two factors including external academic locus of control and internal academic locus of control as well as 17 items. The factor loadings for the scale range between .95 and .61. The Cronbach Alpha reliability value of the scale was found to be .94 for the internal academic locus of control and .95 for the external academic locus of control. The items in the scale were prepared and analyzed in a 5-point Likert type scale with 5: Completely appropriate, 4: Quite Appropriate, 3: I am undecided, 2: Quite contradictory and 1: Completely contradictory.

Negative items in the scale were transformed into positive items and then the analysis continued. As a result of the analysis conducted on the data obtained from this study, the Cronbach Alpha reliability value of the scale was detected as .88 for the internal academic locus of control and .83 for the external academic locus of control. Furthermore, as a result of the exploratory factor analysis, factor loadings of the items appearing in the scale were detected to be between .798 and .447, and all coefficients were found to be within acceptable limits. Figure 2 displays the diagram for confirmatory factor analysis of the scale.

As a result of confirmatory factor analysis, considering the assessment of normality, the critical ratio (c.r.) turned out to be 14.236 in terms of multivariate (Mardia) values. For this reason, the items with a critical ratio higher than 10 were firstly omitted from the scale. In this case, considering confirmatory factor analysis results of the scale which consists of 14 items, the fit index of the scale was as follows: RMSEA=.067, SRMR=.053, CMIN/DF (X^2/sd)=2.653, GFI=.975,

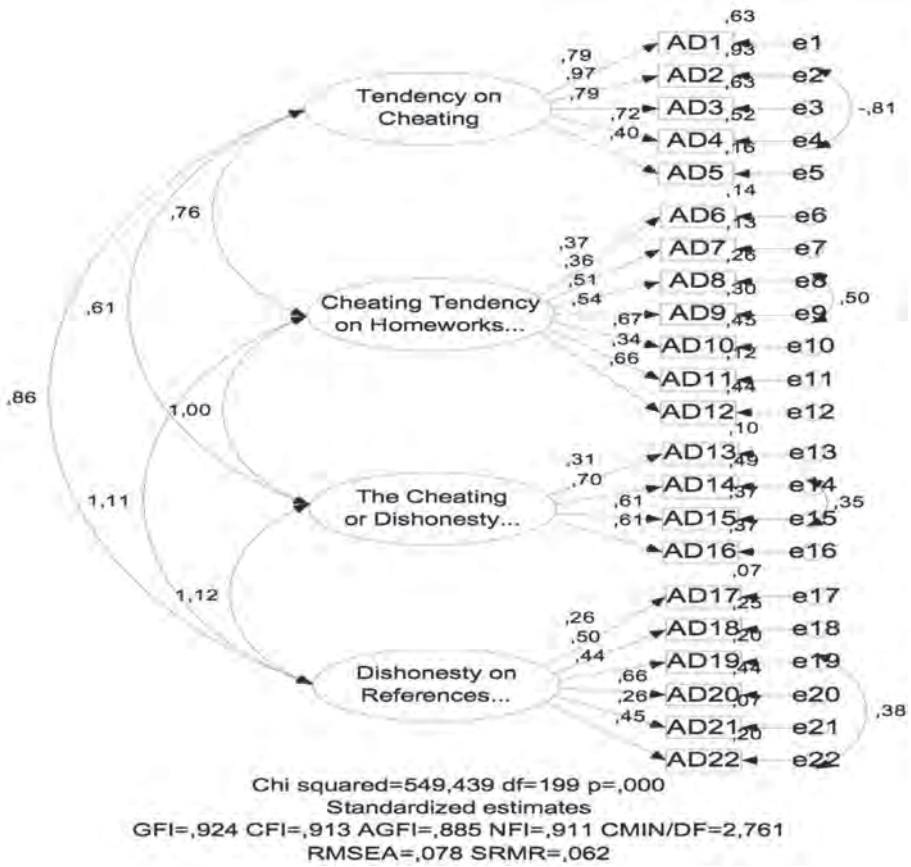


Figure 3: Diagram for confirmatory factor analysis of the Scale of Tendencies towards Academic Dishonesty.

CFI=.964, AGFI=.927, and NFI=.907. This result demonstrates that the model fit index is at an acceptable and desired level.

The Scale of Tendencies towards Academic Dishonesty: The scale developed by Eminoglu (2008) consists of four factors and 22 items. Factors appearing in the scale were denominated as "tendency to cheat," "tendency to cheat in homework/projects," "cheating or dishonesty while doing project research and making a report for a project," and "dishonesty in references and quotations." Factor loadings of the items located in the scale range between .743-.408. The Cronbach Alpha internal consistency coefficient concerning the scale in general was calculated to be .90. The items appearing in the scale were prepared and analyzed using a 5-point Likert type scale in the form of 5: Completely agree, 4: Agree, 3: Undecided, 2: Do not agree and 1: Absolutely do not agree. Negative items in the scale were transformed into positive items and then the analysis continued. As a result of the analysis conducted on the data obtained from this study, the Cronbach Alpha reliability value was detected to be .895 concerning the scale in general. Moreover, as a result of exploratory factor analysis, factor loadings of the items appearing in the scale were detected to be between .847 and .598, and all coefficients were found to be within acceptable limits. The diagram for confirmatory factor analysis of the scale is shown in Figure 3.

As a result of confirmatory factor analysis, taking normality testing into consideration, the critical ratio (c.r.) turned out to be 27.310 in terms of multivariate (Mardia) values. For this reason, as first seen in Figure 3, the error values of some items were combined to bring the critical ratio below 10, reducing it to 9.258. Considering the confirmatory factor analysis results of the scale, the fit index of the scale was as follows: RMSEA=.078,

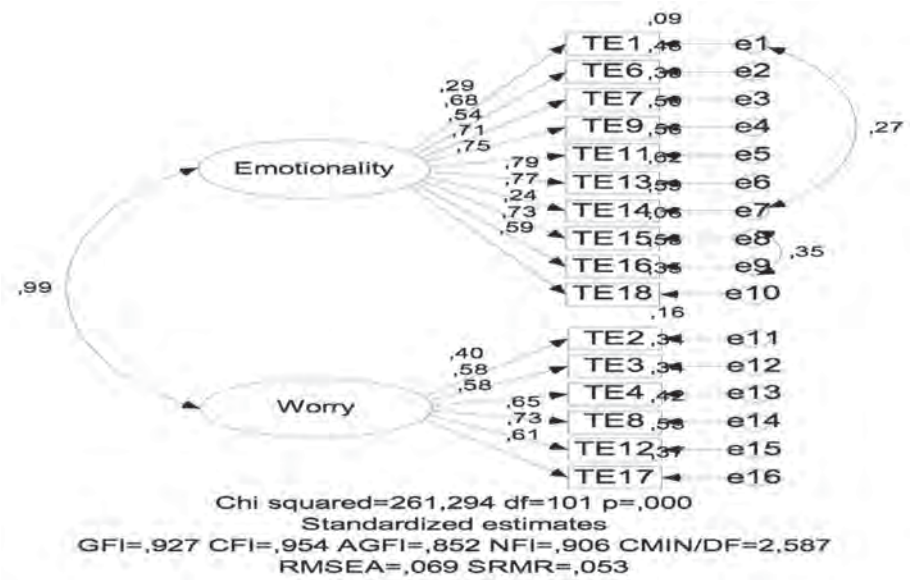


Figure 4: Diagram for confirmatory factor analysis of the Scale of Test Anxiety Levels.

SRMR=.062, CMIN/DF (X^2/sd)=2.761, GFI=.924, CFI=.913, AGFI=.885, and NFI=.911. This result demonstrates that the model fit index is at an acceptable and desired level.

The Scale of Test Anxiety: The test scale anxiety inventory developed by Spielberger (1980) was adapted to Turkish by Albayrak-Kaymak (1987) and Oner (1990). The scale of test anxiety levels consists of two factors, worry and emotionality, as well as 20 items. The Cronbach Alpha internal consistency coefficient of the scale was calculated at .89. As stated previously, a Cronbach Alpha value of .70 or higher, is considered reliable (Buyukozturk, 2007). The items in the scale were prepared and analyzed in a 4-point Likert type scale in the form of 4: Almost always, 3: Frequently, 2: Sometimes, 1: Almost never.

Negative items in the scale were transformed into positive items and then the analysis continued. As a result of the analysis conducted on the data obtained from this study, the Cronbach Alpha reliability value was detected to be .915 concerning the scale in general. In addition, as a result of exploratory factor analysis, factor loadings of the items appearing in the scale were detected to be between .770 and .449, and all coefficients were found to be within acceptable limits. Figure 4 displays the diagram for confirmatory factor analysis of the scale.

As a result of confirmatory factor analysis and taking the normality test into consideration, the critical ratio (c.r.) turned out to be 28.716 in terms of multivariate (Mardia) values. For this reason, the items with a critical ratio higher than 10 were firstly omitted from the scale. In this case, considering the confirmatory factor analysis results of the scale consisting of 16 items, the fit index of the scale was as follows: RMSEA=.069, SRMR=.053, CMIN/DF (X^2/sd)=2.587, GFI=.927, CFI=.954, AGFI=.852, and NFI=.906. This result demonstrates that the model fit index is at an acceptable and desired level.

Results

As a result of the research, a model showing the relationship of the latent variables of academic self-efficacy, academic locus of control, tendencies towards academic dishonesty, and test anxiety levels with each other, their level of effect on each other, and explanatory ratios for each were put forward. While forming this model, consideration was given for testing the hypotheses of the study. Structural equation modeling built for this purpose is present in Figure 5.

The fit index of the model, which is built as a structural equation model, is as follows: RMSEA=.078, SRMR=.096, CMIN\DF=2,900, GFI=.937, CFI=.953, AGFI=.877, NFI=.903, Chi squared=4751.08, df=1638, and p = .000. This result illustrates that the model fit index is at an acceptable and desired level.

The scale of tendencies towards academic dishonesty has four latent and 22 observed

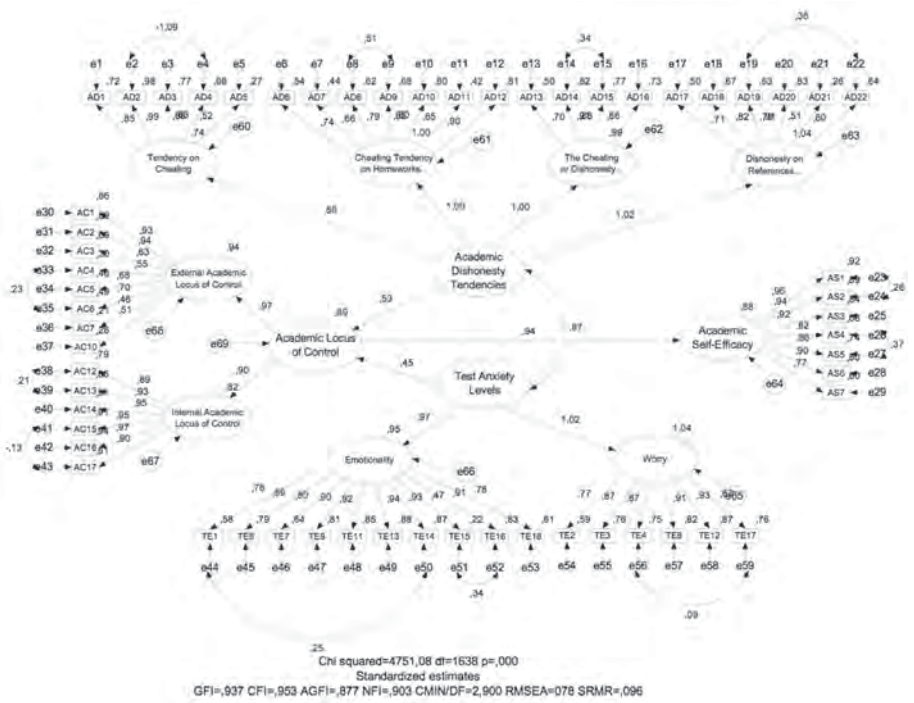


Figure 5: Structural equation modeling and analysis results concerning the research hypotheses.

variables. The latent variable for a tendency to cheat has a correlation coefficient of .86, the latent variable for a tendency to cheat on homework/projects is 1.00, the latent variable for cheating or dishonesty of doing a project search and making a report for a project is 1.00, and the latent variable for dishonesty in references and quotations has a correlation coefficient of 1.02. Furthermore, observed variables in the latent variable for a tendency to cheat have correlation coefficients ranging between .99 and .52. Observed variables in the latent variable for cheating tendencies in homework/projects have correlation coefficients ranging between .90 and .65. Observed variables in the latent variable for cheating or dishonesty of doing a project search and making a report have correlation coefficients ranging between .99 and .70. Finally, observed variables in the latent variable for dishonesty in references and quotations range between .91 and .51.

The scale for test anxiety levels has two latent and 16 observed variables. The latent variable of emotionality has a correlation coefficient of .97 and the latent variable of worry 1.02. Moreover, observed variables in the latent variable of emotionality have correlation coefficients ranging between .94 and .47. The observed variables in the latent variable of worry have correlation coefficients ranging between .93 and .77.

The academic locus of control scale has two latent and 14 observed variables. The latent variable of external academic locus of control has a correlation coefficient of .97 and the latent variable of internal academic locus of control .90. In addition, observed variables in the latent variable of external academic locus of control have correlation coefficients ranging between .94 and .51 and the observed variables in the latent variable of internal academic locus of control have correlation coefficients ranging between .97 and .89.

The academic self-efficacy scale has seven observed variables. AS1 has the highest effect coefficient within the observed variables and AS7 has the lowest effect coefficient. Effect coefficients of the latent variables in this scale range between .96 and .77.

The following results were obtained by considering the research hypotheses. As a result of the research, the model presented in Figure 5 shows that there was a positive and significant correlation between tendencies towards academic dishonesty and test anxiety levels at the level of .87. This attained outcome verifies the hypothesis appearing in H1 that there is a positive and significant correlation

between tendencies towards academic dishonesty and the test anxiety levels of teacher candidates.

According to the second research hypothesis, tendencies towards academic dishonesty apparently affected academic locus of control positively and significantly at the level of .53. This outcome obtained puts forth the accuracy of the hypothesis stated in H2 that the tendencies towards academic dishonesty of teacher candidates positively and significantly affect their academic locus of control. Furthermore, it was detected that test anxiety levels affected academic locus of control positively and significantly at the level of .45. This result verifies the hypothesis situated in H3 that the test anxiety levels of teacher candidates positively and significantly affect their academic locus of control. In parallel to these results, it emerged that tendencies towards academic dishonesty and test anxiety levels together significantly explain the academic locus of control being a ratio of 89%. In other words, 89% of the change in the variable academic locus of control can be accounted for by tendencies towards academic dishonesty and test anxiety levels. This outcome supports the accuracy of the hypothesis stated in H4 that the tendencies towards academic dishonesty and test anxiety levels of teacher candidates together significantly explain academic locus of control.

In accordance with the fifth research hypothesis, tendencies towards academic dishonesty, test anxiety levels and academic locus of control turned out to affect academic self-efficacy positively and significantly at the level of .94. This result verifies the hypothesis stated in H5 that tendencies towards academic dishonesty, test anxiety levels and the academic locus of control of teacher candidates together positively and significantly affect academic self-efficacy. In parallel with this result, it was detected that tendencies towards academic dishonesty, test anxiety levels and academic locus of control together significantly explain academic self-efficacy at a ratio of 88%. In other words, 88% of the change in the variable academic self-efficacy can be accounted for by tendencies towards academic dishonesty, test anxiety levels and academic locus of control. This result verifies the hypothesis stated in H6 that tendencies towards academic dishonesty, test anxiety levels and the academic locus of control of teacher candidates together significantly explain academic self-efficacy.

Discussion and Conclusion

As a result of the research, a positive and significant correlation appeared between academic dishonesty tendencies and test anxiety levels of teacher candidates at a high level (H1) and can be seen in the model presented in Figure 5. Many studies put forth that students display tendencies towards academic dishonesty. For example, a study on academic dishonesty was conducted by Wajda-Johnston, Handal, Brawer, and Fabricatore (2001). As a result of the study it was detected that 2.5%-55% of students perform dishonest academic behavior and students and instructors stated that they exhibit 40 types of behavior of academic dishonesty. In parallel to this, as a result of the research conducted by Austin et al., (2006) it appeared that 80% of university students participate in at least one type of academic dishonesty. Another study regarding the subject was conducted by Modiri (2011) on 137 teacher candidates. As a result of this study the following result emerged that teacher candidates exhibit moderate academically dishonest behavior. Bolin (2004) conducted a study on 799 students from colleges and universities in the USA. As a result of this research correlations emerged between will and attitude versus academic dishonesty, and opportunity attained and academic dishonesty.

As part of the research, it was detected that tendencies towards academic dishonesty of teacher candidates positively and significantly affect their academic locus of control (H2). Some research results related to academic dishonesty put forth that students think academic dishonesty is wrong but they sometimes engage in academic dishonesty (Austin et al., 2006; Chapman, Davis, Toy, & Wright, 2004; Ersoy & Ozden, 2011; Perry, 2010; Smyth & Davis, 2003). As a result of a study conducted on 87 undergraduate students, Coşkun (2010) stated that low self-control and a predisposition towards social influence are crucial factors in predicting academic infractions.

The test anxiety levels of teacher candidates positively and significantly affecting their academic locus of control is also present among the research results (H3). Results of studies conducted on the subject back up this outcome. According to the result of research conducted by McDonald (2001), two-thirds of high school students have test anxiety. As a result of a research carried out by Akman, Izgi, Bagce, and Akilli (2007), a significant correlation was found between test anxiety scores and test attitude scores of students. In Dogan and Coban's (2009) study it was detected that when teacher candidates' attitudes

towards the teaching occupation are positive, their anxiety levels are low and there is a low-level negative and significant correlation between attitude and anxiety. In another study, Piji Kucuk (2010) ascertained a significant correlation between the test anxiety levels and achievement marks of teacher candidates, and also between their test anxiety levels and self-respect levels.

With regard to the fourth research hypothesis, tendencies towards academic dishonesty together with the test anxiety levels of teacher candidates significantly accounting for their academic locus of control is also present (H4). Results of the research conducted on this subject show the characteristic of supporting this outcome. As a matter of fact, Kockar, Kilic, and Sener (2002) investigated the correlation between test anxiety and academic achievement in a study they conducted. According to the result of their study, a significant correlation was found between test anxiety and academic achievement, and it was determined that the achievement of children with high test anxiety drops.

Another result emerging from the research is that together, the tendencies towards academic dishonesty, test anxiety levels and academic loci of control of teacher candidates positively and significantly affect their academic self-efficacy at a high level (H5). With regard to the final research hypothesis, it was detected that together, the tendencies towards academic dishonesty, test anxiety levels and academic locus of control of teacher candidates significantly explain their academic self-efficacy (H6). Results of research conducted on this subject have the characteristic of supporting the outcomes obtained. In a study they conducted, McCarth and Goffin (2005) examined the correlation between test anxiety and test performance. According to the research results, a negative and significant correlation was found between test anxiety and test performance. A similar outcome was obtained as a result of a study carried out by Basoglu (2007). According to the aforementioned study, there was a negative correlation between self-confidence and test anxiety. In his study, Gore (2006) found that self-efficacious belief is an important predictor of the academic performances of university students. As a result of a study conducted by Aydin (2010) it was ascertained that academic self-efficacy and test anxiety predict academic achievement. As a result of a study performed by Eryenen (2008) on 636 teacher candidates, a significant correlation was detected among the academic achievement levels, goal orientations, academic self-efficacies and teaching self-efficacies of teacher candidates. Moreover, it was observed that these variables had a predictive role on academic achievement. A similar result was obtained from the research performed by Ergene (2011). A significant correlation was found between test anxiety and academic achievement level, between study habits and academic achievement level and between study habits and motivation of achievement. Furthermore, it was determined that test anxiety and study habits are positively associated with academic achievement.

Consequently, it emerged that tendencies towards academic dishonesty, test anxiety levels and academic locus of control together significantly affect and explain academic self-efficacy. In other words, it was ascertained that tendencies towards academic dishonesty, test anxiety levels, and academic locus of control are crucial predictors of the academic self-efficacy of teacher candidates. In this respect, teacher candidates should complete pre-service (undergraduate) education by distancing themselves from academic dishonesty, keeping test anxiety under control and developing positive personality traits in terms of academic locus of control. This situation will contribute to the fact that the academic self-efficacies of teacher candidates are at a desired level both in the pre-service education process and in their professional life.

References

Akin, A. (2007). The academic locus of control scale: A validity and reliability study. *Cukurova University Faculty of Education Journal, 34*(3), 9-17.

Akman, B., Izgi, U., Bagce, H., & Akilli, H. I. (2007). The effect of elementary students' attitude towards science on their levels of test anxiety. *Education and Science, 32*(146), 3-11.

Albayrak-Kaymak, D. (1987). Sınav Kaygısı Envanterinin Türkçe formunun oluşturulması ve güvenirliği (Establishment of the Turkish version of the inventory of test anxiety and reliability). *Turkish Journal of Psychology, 6*(21), 55-62.

Austin, Z., Collins, D., Remillard, A., Pharm D., Kelcher, S., & Stephanie Chui, S. (2006). Influence of attitudes toward curriculum on dishonest academic behavior. *American Journal Pharmaceutical Education*, *70*(3), 1-9.

Aydin, F. (2010). *Academic motivation, self-efficacy and test anxiety as the predictors of academic success* (Master's thesis, Hacettepe University, Institute of Institute of Social Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman and Company.

Basoglu, T. S. (2007). *The relationship between the pre-exam anxiety and the self-confidence and to search the effects of those concepts on the neolagnium* (Master's thesis, Maltepe University, Institute of Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Basol, G., & Turkoglu, E. (2009). The relationship between the locus of control and thinking styles of teacher candidates. *International Journal of Human Sciences, 6*(1), 732-757.

Bayram, N. (2010). *Yapısal eşitlik modellemesine giriş - AMOS uygulamaları* (Introduction to structural equation modeling - AMOS applications). Bursa: Ezgi Pub.

Bolin, A. U. (2004). Self-control, perceived opportunity, and attitudes as predictors of academic dishonesty. *The Journal of Psychology, 138*(2), 101-114.

Brannick, M. T., Miles, D. E., & Kisamore, J. L. (2005). Calibration between student mastery and self-efficacy. *Studies in Higher Education, 30*(4), 473-483.

Buyukozturk, S. (2007). *Sosyal bilimler için veri analizi el kitabi (Handbook of data analysis for social sciences).* Ankara: Pegem A Pub.

Byrne, B. M. (2001). *Structural equation modeling with AMOS.* Mahwah, N.-J.: Lawrence Erlbaum Associates.

Chapman, K. J., Davis, R., Toy, D., & Wright, L. (2004). Academic integrity in the business school environment: I'll get by with a little help from my friends. *Journal of Marketing Education, 26*(3), 236-249.

Chemers, M., Hu, L., & Garcia, B. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology, 93*(1), 55-64.

Coskun, C. (2010). *The effects of self-control and social influence on academic dishonesty: An experimental and correlatıonal investigation* (Master's thesis, Middle East Technical University, Institute of Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Demirkasimoğlu, N., Aydın, I., Erdoğan, C., & Akın, U. (2012). Organisational rules in schools: Rule-following and breaking behaviours in relation to their locus of control. *Educational Studies, 38*(2), 235-247.

Dogan, T., & Coban, A. E. (2010). The investigation of the relations between students' attitude toward teaching profession and anxiety level in faculty of education. *Education and Science, 34*(153), 157-168.

Duman, G. K. (2008). *An examination of the relationship between state – trait anxiety levels, test anxiety levels and parental attitudes in the 8th grade primary school students* (Master's thesis, Dokuz Eylül University, Institute of Educational Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Dunkin, M. J., & Precians, R. P. (1993). Award-winning university teachers' self-efficacy regarding teaching. *Asia-Pacific Journal of Teacher Education, 21*(1), 5-14.

Durna, U., & Senturk, F. K. (2012). A study to determine the locus of control of university students with the contribution of different variables. *Zonguldak Karaelmas University Journal of Social Sciences, 8*(15), 37-48.

Eccles, J., & Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Review of Psychology -53-,* 109-132.

Eminoglu, E. (2008). *A study of a scale related to academic dishonesty tendencies of university students* (Master's thesis, Abant Izzet Baysal University, Institute of Social Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Ergene, T. (2011). The relationships among test anxiety, study habits, achievement, motivation, and academic performance among Turkish high school students. *Education and Science, 36*(160), 320-330.

Ersoy, A., & Ozden, M. (2011). The views of teacher candidates regarding the role of instructor in plagiarizing from Internet in their assignments. *Elementary Education Online, 10*(2), 608-619.

Eryenen, G. (2008). *The relationships between the goal orientations, academic self-efficacy, and teacher sense of efficacy of pre-service teachers and the predictive roles of these variables on academic achievement* (Master's thesis, Istanbul University, Institute of Sciences, Turkey). Retrieved from tez.yok.gov.tr/UlusalTezMerkezi.

Ferla, J., Valcke, M., & Schuyten, G. (2009). Student models of learning and their impact on study strategies. *Studies in Higher Education, 34*(2), 185-202.

Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment, 14*(1), 92-115.

Grimley, M., Dahraei, H., & Riding, R. J. (2008). The relationship between anxiety-stability, working memory and cognitive style. *Educational Studies, 34*(3), 213-223.

Hamurcu, H. (2006). Class teacher candidates' self-efficacy beliefs towards science education. *Eurasian Journal of Educational Research, 6*(24), 112-122.

Harding, T. S., Carpenter, D. D., Finelli, C. J., & Passow, H. J. (2004). Does academic dishonesty relate to unethical behavior in professional practice? An exploratory study. *Science and Engineering Ethics*, *10*, 311-324.

Jerusalem, M., & Schwarzer, R. (1981). Fragebogen zur Erfassung von "Selbstwirksamkeit". In R. Schwarzer, (Ed.), *Skalen zur Befindlichkeit und Persoenlichkeit* (pp. 15-28), Berlin: Freie Universitaet, Institut fuer Psychologie.

Joreskog, K. G., & Sorbom. D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language.* Chicago, IL: Scientific International Software.

Karasar, N. (2012). *Bilimsel araştırma yöntemi (Scientific research methods)*. Ankara: Nobel Pub.

Kline, B. R. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: The Guilford Press.

Kockar, A. I., Kilic, B. G., & Sener, S. (2002). Test anxiety and academic achievement in primary school students. *Çocuk ve Gençlik Ruh Sağlığı Dergisi, 9*(2), 100-105.

Korkmaz, I. (2011). *Eğitim psikolojisi (Educational psychology)*. In B. Yeşilyaprak (Ed.), *Sosyal öğrenme kuramı (Social learning theory)* (pp. 245-269). Ankara: Pegem A Pub.

Kreber, C. (2010). Academics' teacher identities, authenticity and pedagogy. *Studies in Higher Education, 35*(2), 171-194.

Kutlu, O., & Bozkurt, M. C. (2003). *Okulda ve sınavlarda adım adım başarı (Success in school and exams, step by step)*. Konya: Çizgi Pub.

Linnenbrink, E. A., & Pintrich, P. R. (2002). Achievement goal theory and affect: An asymmetrical bidirectional model. *Educational Psychologist, 37*(2), 69-78.

Lorenz, M. H., Slof, B., Vermue, C. E., & Canrinus, E. T. (2012). Beginning teachers' self-efficacy and stress and the supposed effects of induction arrangements. *Educational Studies, 38*(2), 189-207.

Martin, A. J. (2006). The relationship between teachers' perceptions of student motivation and engagement and teachers' enjoyment of and confidence in teaching. *Asia-Pacific Journal of Teacher Education, 34*(1), 73-93.

McCarth, J. M., & Goffin, R. D. (2005). Selection test anxiety: Exploring tension and fear of failure across the sexes in simulated selection scenarios. *International Journal of Selection and Assessment, 13*(4), 282-295.

McDonald, A. S. (2001). The prevalence and effects of test anxiety in school children. *Educational Psychology, 21*(1), 89-101.

Modiri, I. G. (2011). Compare of arts teacher candidates' and classroom teacher candidates' academic dishonesty tendencies. *The Online Journal of New Horizons in Education, 1*(3), 23-33.

Oner, N. (1990). *Sınav kaygısı envanteri elkitabı (Exam anxiety inventory handbook)*. İstanbul: Yöret Pub.

Ozcelik, H., &. Kurt, A. A. (2007). Primary school teachers' computer self-efficacies: sample of Balıkesir. *Elementary Education Online, 6*(3), 441-451.

Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding & S. Rayner (Eds.), *Self-perception* (pp. 239-266). London: Ablex Publishing.

Perry, B. (2010). Exploring academic misconduct: Some insights into student behaviour. *Active Learning in Higher Education, 11*(2), 97-108.

Pietsch, M., & Williamson, J. (2010). Getting the pieces together": Negotiating the transition from pre-service to in-service teacher. *Asia-Pacific Journal of Teacher Education*, *38*(4), 331-344.

Piji Kucuk, D. (2010). Assessment of relation between test anxiety, self-esteem and success in instrument for candidates of music teacher. *Ahi Evran University Journal of Kırsehir Education Faculty, 11*(3), 37-50.

Reisinger, Y., & Mavondo, F. T. (2006). Structural equation modelling: Critical issues and new development. *Journal of Travel and Tourism Marketing, 21*(4), 41-72.

Román, S., Cuestas, P. J., & Fenollar, P. (2008). An examination of the interrelationships between self-esteem, others' expectations, family support, learning approaches and academic achievement. *Studies in Higher Education, 33*(2), 127-138.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*(3-4), 207-231.

Smyth, M. L., & Davis, J. R. (2003). An examination of student cheating in the two-year college. *Community College Review*, *31*(1), 17-32.

Spielberger, C. D. (1980). *Test anxiety ınventory. Preliminary professional manual*. Palo Alto, CA: Consulting Psychologists Press.

Stephens, J. M., & Nicholson, H. (2008). Cases of incongruity: exploring the divide between adolescents' beliefs and behavior related to academic dishonesty. *Educational Studies, 34*(4), 361-376.

Suphi, N., & Yaratan, H. (2012). Effects of learning approaches, locus of control, socio-economic status and self-efficacy on academic achievement: A Turkish perspective. *Educational Studies, 38*(4), 419-431

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783-805.

Wajda-Johnston, V. A., Handal, P. J., Brawer, P. A., & Fabricatore, A. N. (2001). Academic dishonesty at the graduate level. *Ethics & Behaviour, 11*(3), 287-305.

Watt, H. M. G., & Richardson, P. W. (2012). An introduction to teaching motivations in different countries: comparisons using the FIT-Choice scale. *Asia-Pacific Journal of Teacher Education, 40*(3), 185-197.

Yalcin, B., Tetik, S., & Acikgoz, A. (2010). A study on the determination of the perceptions of problem solving skills and the levels of locus of control of high school students. *Organizasyon ve Yönetim Bilimleri Dergisi, 2*(2), 19-27.

Yesilyaprak, B. (2004). *Denetim odağı, eğitimde bireysel farklılıklar (Locus of control, individual differences in education)*. Ankara: Nobel Pub.

Yilmaz, M., Gurcay, D., & Ekici, G. (2007). Adaptation of the academic self-efficacy scale to Turkish. *Hacettepe University, The Journal of Education, 33*, 253-259.

Zeidner, M. (1990). Does test anxiety bias scholastic aptitude test performance by gender and sociocultural group? *Journal of Personality Assessment, 55*(1-2), 145-160.