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Adaptation of the Performance Failure Appraisal Inventory (PFAI) into Turkish*

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ABSTRACT

The present study aimed at evaluate the psychometric properties of the 25-item Performance Failure Appraisal Inventory (PFAI), developed by Conroy, 2001, for Turkish middle school students to assess their fear of failure. The Turkish version of the PFAI was administered to two independent samples. Sample 1 consisted of 211 and sample 2 consisted of 977 middle school students. Confirmatory factor analyses supported five-factor structure of Turkish version of the PFAI. Reliabilities were deemed acceptable. In addition, the five-factor PFAI was found to be invariant across gender. MANOVA results revealed small to no significant gender differences with respect to the PFAI sub-scale scores. Besides that, the canonical correlation analysis suggests that mastery avoidance, performance avoidance and performance approach goals are positively related to all dimensions of fear of failure. Although, mastery approach goals have a relationship between fear of shame and embarrassment and fear of having uncertain future, the strength of the relationship was small.

Keywords: Fear of failure, gender, performance failure appraisal inventory.

Performans Başarısızlık Değerlendirme Envanteri'nin Türkçe'ye Uyarlanması*

ÖZ

Bu çalışma, Conroy (2001) tarafından başarısızlık korkusunu ölçmek için geliştirilen Performans Başarısızlık Değerlendirme Envanteri' nin Türkçe'ye uyarlamasının yapılmasını amaçlamaktadır. Ortaokul öğrencileri üzerinde yapılan çalışmaya 211 ortaokul öğrencisi katılmıştır. Doğrulayıcı faktör analizi ölçeğin Türkçe versiyonunda 5 boyutlu yapısını doğruladı. Güvenilirlik sonuçları da kabul edilebilir seviyedeydi. Bunun yanısıra, 5 faktörlü BDÖ cinsiyete göre değişmezlik göstermiştir. Kızlar ve erkekler arasındaki başarısızlık korkusu MANOVA ile incelendiğinde ise, boyutlara göre küçük farklılığın olduğu veya hiç anlamlı farklılığın olmadığı görülmüştür.

Anahtar kelimeler: Başarısızlık korkusu, Cinsiyet, Performans başarısızlık değerlendirme envanteri.

INTRODUCTION

Achievement motivation, which refers to directing energy to a competence based affect, explains the reasons of people's motivation by two components; need for

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achievement and fear of failure. Need for achievement refers to being motivated to approach a positive possibility, to approach a success. Conversely, fear of failure refers to being motivated to avoid a negative possibility, to avoid from a failure (Elliot& Shledon, 1997; Elliot, 1999). Although fear of failure can bring achievements especially for good performers, it can also cause people not to demonstrate their full potential on a given subject. (Conroy, 2001; Conroy, Willow, & Metzler, 2002). Fear of failure can arise from dwelling on past negative experiences (Kesici& Erdoğan, 1999). Additionally, fear of failure is related to negative affective outcomes, like test anxiety (Elliot & McGregor, 1999), and use of maladaptive cognitive strategies (Elliot & Thrash, 2004).

Researchers assessed fear of failure as a uni-dimensional construct in the past; because little was known about why people worry, why they are afraid of being unsuccessful (Conroy, 2001; Meece, Wigfield & Eccles, 1990). To elaborate the knowledge about worry, Birney, Burdick, and Teevan (1969) proposed a three dimensional fear of failure model. The model includes a) fear of devaluing one's self esteem, b) fear of non-ego punishment, and c) fear of reduced social value (Conroy, 2001). Moreover, Conroy, Poczwardowski, and Henschen (2001) enriched this model, and they defined five aversive consequences of failure: a) experiencing shame and embarrassment, b) devaluing one's self-estimate, c) having an uncertain future, d) important others losing interest, and e) upsetting important others. The first dimension of fear of failure, shame based fear of failure, refers to people's negative self-evaluations about themselves, in other words they think that failure brings them shame and embarrassment, for that reason they try to avoid from the failure. Secondly, some people can accuse themselves for the failure. They can blame their talent, intelligence, etc. Hence, the failure can cause to decrease in their self-confidence. The third possible consequence of failure is fear of having uncertain future. Some people believe that their future plans need to change after a failure, and these changes make them see the future ambiguous. Another reason to fear of failure is fear of losing interest. People who fear of losing interest believe that their value depends on their success, and they also believe that if they cannot success, their value will decrease for some people. According to them, failure brings loss social influence. Lastly, people don't want to be unsuccessful because they believe that they will upset other people who are important for them, like their parents, or their teachers (Conroy, 2001; Conroy, Willow, and Metzler, 2002). In line with this revised model, Conroy (2001) developed the Performance Failure Appraisal Inventory (PFAI) to assess individuals' beliefs about consequences of failure. He examined fear of failure in five subscales: the fear of shame and embarrassed, the fear of devaluing one's self estimate, the fear of having uncertain future, the fear of losing social influence, and lastly the fear of upsetting important others. During its development, Conroy (2001) tested the original instrument with 396 high school and college-aged students (167 females and 229 males) through series of confirmatory factor analyses. The first confirmatory factor analysis was conducted for the whole scale yielding the following fit indices: GFI= .77, CFI =.87, RMSEA=.06, SRMR=.06. Then, separate CFAs for each of the sub-scale

were performed. Concerning the reliability estimates, Cronbach's alpha coefficients were found to be .87 for the fear of shame and embarrassment, .75 for the fear of devaluing one's self estimate, .73 for the fear of uncertain future, .82 for the fear of losing social interest, and .87 for the fear of upsetting important others.

Because the instrument was long with many reverse scored items, Conroy, Willow, and Metzler (2002) revised the PFAI and developed a second version of the PFAI by removing some of the items from the original version. The revised version consists 25 items, consistent with the original version- in five-sub scales namely, the fear of shame and embarrassed (7 items), the fear of devaluing one's self estimate (4 items), the fear of having uncertain future (4 items.), the fear of losing social influence scale (5 items,), and the fear of upsetting important others (5 items,). While revising the inventory, the researchers conducted validation study with 438 college students (234 female, and 204 male). The internal consistency reliabilities were .80 for the fear of shame and embarrassment, .74 for the fear of devaluing one's self estimate, .80 for the fear of uncertain future, .81 for the fear of losing social interest, and .78 for the fear of upsetting important others. The developers also conduct the confirmatory factor analyses (CFA) to assess the fit of the data. The results indicated a good data fit to the model (GFI = .98, CFI = .95, RMSEA = .04, SRMR = .09). Thus, short version of the PFAI was demonstrated to be a valid and reliable measure of fear of failure.

Achievement Goals and Gender in relation to Fear of Failure

Researchers have shown that fear of failure has indirect effects on achievement behavior such as choosing a task, showing effort and performance for the task. In a sense, that fear has a domino effect; it affects directly the adaptation of achievement goals, and from there achievement goals directly affect achievement behaviour (Elliot& Church, 1997; Elliot& Sheldon, 1997; Elliot& McGregor, 1999; Conroy& Elliot, 2004; Elliot, Henry, Shell, & Maier, 2005). Since people who desire to avoid failure are also likely to desire success, fear of failure is seen as a predictor of not only avoidance goals, but also performance approach goals. In brief, fear of failure is an antecedent of achievement goals (Elliot, 1999). To illustrate, Elliot and Sheldon (1997) investigated that how fear of failure influences the adoption of approach and avoidance achievement goals. The researchers conducted the study using a trichotomous achievement goal framework; mastery goals, performance approach goals, and performance avoidance goals. Although, mastery goals and performance goals (approach goals) were not differentiated in the study, both of them were examined as approach goals. One hundred thirty-five undergraduate students (51male and 85 female) participated in the study. According to the results, there were positive relationships between fear of failure and avoidance goals. Researchers also concluded that fear of failure can be one of the antecedents of approach goals as well.

In another study, Conroy and Elliot (2004) investigated the relationship between fear of failure and achievement goals. Three hundred fifty-six undergraduates at a large university participated in the study. Researchers used 25-item PFAI to assess fear of failure. The results indicated that mastery-avoidance and performance-avoidance achievement goals were positively associated with each fear of failure appraisal score and each general fear of failure score. Additionally, performance approach goals were positively associated with fears of experiencing shame and embarrassment and also positively associated with general fear of failure, of having an uncertain future, and of important others losing interest.

In addition, Elliot and Murayama (2008) examined the effects of fear of failure on adoption of achievement goals. Two hundred twenty-nine (76 male, 150 female, and 3 unspecified) undergraduate students participated the study. They assessed students' achievement goals by revising Achievement Goal Questionnaire (Elliot& McGregor, 2001), and students' fear of failure by short form of Conroy's (2001) PFAI. The results confirmed the previous ones. In other words, students who have high fear of failure, tend to focus on avoiding word grades, misunderstanding, and demonstrating themselves. Additionally, there was no relationship between fear of failure and mastery approach goals.

To sum up, according to the research mentioned above, fear of failure has observable direct effects on adoption of achievement goals. Researchers suggest that approach and avoidance performance goals, along with mastery avoidance goals, can emerge from fear of failure. Further, there were no relationships between mastery approach goals and fear of failure. In conclusion, students with high fear of failure want to achieve their goals, because they feel uncomfortable of missing the point, not understanding, or looking stupid in front of their peers. They wish to appear intelligent and skilled in front of others. Accordingly, a positive relationship is expected to be found between students' fear of failure and students' approach and avoidance performance goals, as well as mastery avoidance goals.

Majority of research demonstrated that there is no gender difference with respect to fear of failure. For example, Caraway, Tucker, Reinke and Hall (2003) investigated the gender differences in fear of failure. 123 (61 boys, 62 girls) high school students participated in the study. The General Fear of Failure Scale (GFFS) was used to assess students' fear of failure level. The results suggested that there is no significant difference between boys and girls concerning fear of failure. Additionally, studying with 219 (148 female, 71 male) college students, Conroy, Elliot, and Pincus (2009) examined gender difference with respect to fear of failure. The PFAI was used to assess students' fear of failure. Results demonstrated no gender difference in fear of failure. In another study, Massey (2008) examined the differences in fear of failure among high school athletes. 95 athletes (53 males; 42 females) participated in the study. The researcher used the PFAI to assess students' fear of failure, and suggested that there is a significant

difference in only one dimension of the fear of failure. According to the findings, men experience fear of losing social influence more than women. Overall, relevant literature suggested no gender difference for fear of failure.

Current Study

The present study aimed at adapting the 25-item PFAI into Turkish to assess middle school students' fear of failure. In order to provide validity evidences, confirmatory factor analyses were conducted and the bivariate correlations between the PFAI scores and achievement goals scores were examined. Additionally, measurement invariance across gender was examined and gender differences with respect to the PFAI scores were investigated. Cronbach's alpha coefficients were computed as reliability estimates.

METHOD

Sample

This study included two independent samples: Sample 1 consisted of 217 (110 boys and 101 girls) students attending public middle schools, Sample 2 consisted of 977 middle school students. There were 494 girls and 483 boys in Sample 2.

Instruments

Performance Failure Appraisal Inventory (PFAI)

The PFAI is a self-report instrument on a 5 point Likert scale originally developed by Conroy (2001). The original instrument consisted of 41 items in five sub-scales: the fear of shame and embarrassed, the fear of devaluing one's self estimate, the fear of having uncertain future, the fear of losing social influence, and the fear of upsetting important others. Later, the instrument was revised and 25-item short version of the PFAI was developed. Consistent with the original version, short version of the PFAI measures fear of failure in five-sub scales namely, the fear of shame and embarrassed (7 items; e.g. When I am failing, it is embarrassing if others are there to see it"), the fear of devaluing one's self estimate (4 items, e.g. "When I am failing, I blame my lack of talent".), the fear of having uncertain future (4 items, e.g. "When I am failing, my future seems uncertain".), the fear of losing social influence scale (5 items, e.g. "When I am not succeeding, people are less interested in me"), and lastly the fear of upsetting important others (5 items, "When I am failing, it upsets important others").

Achievement Goal Questionnaire (AGQ)

The AGQ is a self-report instrument developed by Elliot and Church (2001) to assess students' adoption of achievement goals. It consists of 15 items on a five-point Likert scale ranging from strongly agree to strongly disagree. The AGQ includes four sub scales: mastery approach goals (e.g. "I desire to completely master the material that presented in this class", n=3 items, $\alpha = .69$), mastery avoidance goals (e.g. "I just want to avoid doing poorly in this class", n=3 items, $\alpha = .67$), performance approach goals (e.g. "It is important to me to do better

than other students", n=3 items, α = .64) and performance avoidance goals (e.g. "My goal for this class is to avoid performing poorly, n=6 items, α = .76). The Turkish version of AGQ was translated and adapted into Turkish by Senler and Sungur (2007). The confirmatory factor analysis results revealed a good model fit for Turkish version of achievement goal questionnaire (GFI=.92, CFI=.92, NFI=.90, SRMR=.07).

Procedure

In the present study, firstly, the PFAI was translated and adapted to Turkish. The translated instrument was examined by two instructors from science education department at the faculty of education for its content validity. The instructors also judged the quality of items regarding clarity, sentence structure, and comprehensiveness. Additionally, the grammar structure of the translation was examined by one of the instructors from Academic Writing Center. Moreover, middle school students' opinions were gathered concerning the clarity of these items. Then, the instrument was tested with middle school students.

RESULTS

Study 1

In order to validate the factor structure of the PFAI for Turkish sample, confirmatory factor analysis was conducted. In evaluating model fit standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), comparative fit index (CFI), and non-normed fit index (NNFI) were utilized. The following criteria were used to indicate goodness of fit: CFI and NNFI .90 and higher, RMSEA .08 or lower, and SRMR .10 and lower, (Bentler, 1990; Kline, 2005). Results revealed a good model fit (SRMR= .083; RMSEA= .085; CFI= .913; NNFI=.902) and acceptable reliability coefficients for each sub-scale. Reliability coefficients ranging from .64 to .85 were deemed acceptable. However, reliability analysis revealed that one of the items from the fear of devaluing one's self estimate factor (Item 16: When I am not succeeding, I am less valuable than when I succeed) did not contribute total variability well with a corrected item-total correlation of .14. Although, lambda-ksi estimate for this item was also low, remaining items had sufficiently large factor loadings and the factor loadings of all 25 items were significant. Because, Item 16 contributes to content validity, this item was decided be retained in the PFAI even though it does not meet statistical criteria fully (Netemeyer, Bearden, & Sharma, 2003).

Study 2

The second pilot study was conducted with 977 middle school students. The factor structure of 25-item PFAI was tested again using this new sample and measurement invariance across gender was examined. Additionally, gender difference was explored with respect to the PFAI sub-scales. Moreover, bivariate correlations among PFAI sub-scale scores and the AGQ scores were examined to provide further validity evidence. Finally, reliability estimates were computed.

Confirmatory Factor Analyses

The results of study revealed a good model fit and high reliability coefficients for each sub scale and reliability coefficients were deemed acceptable, ranging from .70 to .86. However, reliability analysis revealed that one of the items from the fear of devaluing one's self estimate factor (Item 16: When I am not succeeding, I am less valuable than when I succeed) did not contribute total variability well with a corrected item-total correlation of .14. Although, lambda-ksi estimate for this item was also low, remaining items had sufficiently large factor loadings and the factor loadings of all 25 items were significant. Because, Item 16 contributes to content validity, this item was decided be retained in the PFAI even though it does not meet statistical criteria fully (Netemeyer, Bearden, & Sharma, 2003).

In order to validate the factor structure of the PFAI for Turkish sample, confirmatory factor analysis was conducted. In evaluating model fit standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), comparative fit index (CFI), and non-normed fit index (NNFI) were utilized. Results revealed a good model fit for the expected five-factor structure (SRMR= .070; RMSEA= .087; CFI= .957; NNFI=.951). The *t* values across measurement items ranged from 9.34 to 27.02 ($p< .05$). Standardized pattern coefficients and factor structure coefficients were presented in Table 1. Standardized pattern coefficients indicate the magnitude of item loadings and factor structure coefficients indicates estimated correlation between the observed and latent variables. Standardized pattern coefficients were all significant and ranged from .31 to .78. The lowest standardized pattern coefficients belong to Item 12 and Item 16. Because, Item 12 and Item 16 had low factor loadings and Item 16 appeared to be problematic in the study, CFA was repeated again, deleting these two items. However, there were no substantial change in model-to-data fit (SRMR= .060; RMSEA= .079; CFI= .966; NNFI=.961). Due to this finding and content validity consideration, these two items were retained in the PFAI. Additionally, as reported in the reliability estimates section, with the presence of these two items, corresponding factors had sufficient reliabilities.

As shown in Table 1 factor structure coefficients for 25-item PFAI were in the range of .24 to .68. Each item was found to have higher correlation with the specified factor rather than the non-designated factor. The phi coefficients presented in Table 2 revealed that there were positive relations among the five factors.

Table 1. *Standardized Pattern Coefficients and Factor Structure Coefficients for the PFAI*

Items	FSE	FDSE	FUF	FLSI	FUIO
Item	*.60*	.44	.47	.45	.56
Item	*.57*	.42	.44	.43	.54
Item	*.66*	.49	.51	.50	.62
Item	*.68*	.50	.53	.51	.64
Item	*.67*	.50	.52	.50	.63

Item	*.63*	.47	.49	.47	.59
Item	*.65*	.48	.51	.49	.61
Item 1	.45	*.61*	.56	.46	.46
Item 4	.55	*.74*	.68	.56	.56
Item 7	.58	*.78*	.72	.59	.59
Item	.24	*.33*	.30	.25	.25
Item 2	.54	.63	*.69*	.54	.59
Item 5	.53	.63	*.68*	.53	.58
Item 8	.59	.70	*.76*	.59	.65
Item	.24	.28	*.31*	.24	.27
Item	.58	.58	.60	*.77*	.58
Item	.53	.54	.55	*.71*	.54
Item	.52	.52	.54	*.69*	.52
Item	.57	.58	.59	*.76*	.58
Item	.53	.53	.55	*.70*	.53
Item 3	.44	.36	.40	.36	*.47*
Item 6	.61	.49	.56	.49	*.65*
Item	.62	.50	.57	.50	*.66*
Item	.55	.44	.50	.44	*.58*
Item	.56	.46	.52	.46	*.60*

Note: Italicized numbers are the standardized pattern coefficients for each item with its designated factor. Nonitalicized numbers are the factor structure coefficient of each item with its nondesignated factors.

Table 2. *Phi Coefficients Between The Dimensions Of The PFAI*

	FDSE	FUF	FLSI	FUIO
FSE	.74	.78	.75	.94
FDSE		.92	.76	.76
FUF			.78	.86
FLSI				.76

Factorial Invariance of the PFAI across Gender

In order to test the factorial invariance of the Turkish version of the PFAI across male and female students, multigroup confirmatory factor analysis was conducted. In testing invariance across groups, firstly, configural invariance (unconstrained model) was examined. Configural invariance involves the least restrictive model with all parameters set to be free. Secondly, metric invariance was tested in which factor loadings were constrained to be equal across groups. Thirdly, factor covariances were constrained to be equal across males and females as well as factor loadings. Fourthly, invariance of factor loadings, covariances and variances was examined. Lastly, the most restrictive model with all parameters constrained to be equal across groups was tested. (Netemeyer, Bearden, & Sharma, 2003).

In order to test factorial invariance changes in CFI were examined rather than chi-square difference ($\Delta\chi^2$) test due to its sensitivity to sample size. According to

Cheung and Rensvold (2002) ΔCFI between constrained and unconstrained models to be equal or less than .01 indicates between group invariance. As shown in Table 3, changes in CFIs supported factorial invariance of the PFAI across male and female students in the sample.

Table 3. *Factorial Invariance of FFI*

Model	RMSEA	NNFI	CFI	ΔCFI
Unconstrained	.087	.950	.960	-
Factor loadings invariant	.086	.950	.960	.000
Factor loadings and factor covariances invariant	.086	.950	.950	.010
Factor loadings, factor covariances and factor variances invariant	.086	.950	.950	.010
Factor loadings, factor covariances, factor variances, and individual item	.086	.950	.960	.000

Gender Difference on the PFAI

A Multivariate Analysis of Variance (MANOVA) was conducted to investigate gender differences in middle school students' fear of failure. Dependent variables were fear of failure sub-scale scores. Results revealed a significant difference between girls and boys on the collective dependent variables (Wilks' Lambda= .914, F (1,976) = 18. 25 p = .000). As shown in Table 4, the pairwise comparisons using a Bonferroni adjusted alpha level of .01 showed a statistically significant mean difference between boys and girls with respect to fear of shame and embarrassment (η2 = .007) and fear of losing social influence (η2 = .021). However, effect sizes were small, so these differences do not have practical significance. Besides, no significant differences were found between girls and boys in terms of fear of having uncertain future, fear of devaluing one's self estimate and fear of upsetting important others.

Table 4. *MANOVA Pairwise Comparisons*

	F	P value	Eta Squared
Fear of Shame and Embarrassment	6. 59	.010*	.007
Fear of Devaluing One's Self Estimate	.18	.671	.000
Fear of Having Uncertain Future	5.17	.023	.005
Fear of Losing Social Influence	20. 78	.000*****	.021
Fear of Upsetting Important Others	2. 52	.113	.003

*The mean difference is significant at the .01 level (.05 /5 =.01)

Further Validity Evidence

In order to provide further validity evidence, the PFAI sub-scale scores were correlated with achievement goals (i.e. mastery approach goals, mastery

avoidance goals, performance approach goals, performance avoidance goals). Canonical correlation analysis was performed to investigate the relationship between the set of fear of failure variables and the set of achievement goals variables. The first canonical correlation was 0.36 (13 % overlapping variance), accounting for the significant relationships between the two sets of variables. As shown in table 3, with a cut off correlation of 0.30 (Tabachnick & Fidell, 2004), all the variables in the fear of failure set were negatively correlated with the first canonical variate. Concerning achievement goals variables, mastery avoidance goals, performance approach goals, and performance avoidance goals were found to be negatively correlated with the first canonical variate. Additionally, the first pair of canonical variates indicated that higher levels of fear of failure were positively associated with avoidance goals and performance approach goals.

Table 5. *Correlations, Standardized Canonical Coefficients, Canonical Correlations, and Percent of Variances*

	First Canonical Variate	
	Correlation	**Coefficient**
Fear of failure		
fear of shame and embarrassment	-.82	-.20
fear of devaluing one's self estimate	-.79	-.15
fear of having uncertain future	-.87	-.48
fear of losing social interest	-.74	-.19
fear of upsetting important others	-.82	-.19
Percent of variance	8. 62	
Achievement Goals		
Mastery approach goals	.11	.46
Mastery avoidance goals	-.79	-.60
Performance approach goals	-.43	-.18
Performance avoidance goals	-.78	-.50
Percent of variance	35. 91	
Canonical correlation	.36	

Reliability Estimates

As a measure of the internal consistency, Cronbach's alpha coefficients were calculated for the Turkish version of the PFAI factors. Cronbach's alpha values ranged from .70 to .86. Reliability estimates for both original and Turkish version of the instrument along with number of items were presented in Table 7.

Table 7. *Reliability Estimates*

Factor	Number of items	Cronbach's alpha (Turkish version)	Cronbach's alpha (Original version)
FSE	7	.84	.80
FDSE	4	.70	.74
FDSE	4	.70	.80
FDSE	5	.86	.80
FUIO	5	.73	.78

DISCUSSION

The present study was designed to evaluate the psychometric properties of Turkish version of the Performance Failure Appraisal Inventory for middle school students. During its validation, firstly, the PFAI was translated and adapted to Turkish. Then, the translated instrument was tested with 211 middle school students. CFA results revealed a good model-to-data fit supporting 5-factor structure of the PFAI Although, all factor loadings were found to be significant, factor loadings of item 16 and item12 were low and these two items did not contribute to the total variability well. However, due to contribution of the items to content validity and sufficient reliabilities in the presence of them in the corresponding sub-scales, they were decided to be retained in the Turkish version of PFAI (Netemeyer, Bearden, & Sharma, 2003). Indeed, reliability analyses revealed sufficient reliability coefficients with values ranging from .70 to .86. At this point it is worth mentioning that Item 12 was a negatively stated item. As stated by Benson and Hocevar (1985), it may be difficult for respondents to indicate agreement by disagreeing with negatively stated items. Thus, current findings suggest revision of Item 12 and transforming it to a positively stated item. After this transformation, factor structure of the PFAI for middle school students can be tested again.

Apart from conducting CFA on the whole data, measurement invariance across gender was also investigated and results revealed measurement invariance across gender. Moreover, examination of gender difference with respect to the PFAI sub-scale scores showed that there was no difference between boys and girls concerning fear of having uncertain future, fear of devaluing one's self estimate and fear of upsetting important others. Although the gender difference for fear of shame and embarrassment and fear of losing social influence was statistically significant, effect sizes were small. The significant findings may be due to large sample size. Thus, results can be considered to be consistent with previous findings indicating that there is no difference between girls and boys in terms of fear of failure (Caraway, Tucker, Reinke & Hall, 2003; Conroy, Elliot, & Pincus, 2009) and provided further validity evidence for Turkish version of PFAI. Overall, the current findings suggested 25-item Turkish PFAI as a valid and reliable measure of fear of failure for middle school students.

For external validity, correlations were computed between the PFAI sub-scale scores and achievement goals scores. Results showed that all dimensions of fear of failure were positively related to avoidance goals and performance approach goals. The PFAI sub-scale scores were found to show stronger correlations with both mastery avoidance and performance avoidance goals than with performance approach goals. There were no correlation between PFAI sub-scale scores and mastery approach goals. In other words, students with high fear of failure want to achieve their goals in science, because they feel uncomfortable of missing the point, not understanding, or looking stupid in front of their peers. They wish to appear intelligent and skilled in front of others. Relevant literature also suggests parallel results with the current one. For instance, Conroy and Elliot (2004) investigated the relationship between fear of failure and achievement goals and suggest that mastery-avoidance and performance-avoidance achievement goals were positively associated with each fear of failure appraisal score. Besides that, performance approach goals were positively associated with fears of experiencing shame and embarrassment and also positively associated with general fear of failure. In a recent study, Elliot and Murayama (2008) confirmed the previous results about students' achievement goals' relation to their fear of failure. In other words, students who have high fear of failure, tend to focus on avoiding word grades, misunderstanding, and demonstrating themselves. Additionally, there was no relationship between fear of failure and mastery approach goals.

Overall, the current findings suggested 25-item Turkish PFAI as a valid and reliable measure of fear of failure for middle school students. Future studies can examine the location of fear of failure in a nomological network with other theoretically relevant constructs such as anxiety, self-efficacy, and performance.

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GENİŞ ÖZET

Belirli bir yetkinliğe ulaşmak için gösterilen çaba olarak tanımlanabilen başarı motivasyonu, bireylerin güdülenme sebeplerini iki unsur ile açıklar: başarı ihtiyacı ve başarısızlık korkusu. Başarı ihtiyacı pozitif bir olasılık için motive olmayı ifade ederken, başarısızlık korkusu ise negatif bir sonuçtan, başarısızlıktan kaçınmak için motive olmak anlamındadır (Elliot& Shledon, 1997; Elliot, 1999). Başarısızlık korkusu bireylere, özellikle iyi performans sergileyen bireylere, başarı getirebilirken aynı zamanda bireylerin verilen bir görevde tüm potansiyellerini sergileyememesine de sebep olabilir. (Conroy, 2001; Conroy, Willow, and Metzler, 2002). Geçmişte yaşanan negatif olaylar sonucu ortaya çıkabilen (Kesici& Erdoğan, 1999) başarısızlık korkusu negatif duyuşsal sonuçlar (Elliot & McGregor, 1999) ve olumsuz bilişsel stratejiler ile ilişkilidir (Elliot & Thrash, 2004).

Araştırmacılar geçmişte başarısızlık korkusunu tek boyutlu kavram olarak ölçüyorlardı; çünkü bireylerin niçin kaygılandıkları ve başarısızlıktan niçin korktukları hakkında çok az bilgi mevcuttu (Meece, Wigfield& Eccles, 1990; Conroy, 2001). Birney, Burdick, ve Teevan (1969) kaygıyı daha detaylı bir şekilde incelemek için 3 boyutlu başarısızlık korkusu modeli önermiştir. Bu boyutlar; a) Özsaygı değerinin düşeceği korkusu b) gelecek belirsizliği korkusu c) sosyal değerinin düşeceği korkusu. Conroy, Poczwardowski ve Henschen (2001) bu modeli zenginleştirdiler ve başarısızlık korkusunun altında yatan beş tane olası sonuç tanımlamışlardır: a) Utanç ve mahcubiyet b) Özsaygı değerinin düşmesi c) gelecek belirsizliği d) Sosyal ilgiyi kaybetme e) Diğer kişileri hayal kırıklığına uğratma. (Conroy, 2001; Conroy, Willow, and Metzler, 2002; Conroy, Metzler, and Hofer, 2003; Conroy& Elliot, 2004). Bu model doğrultusunda, Conroy (2001) bireylerin başarısızlığın sonuçları hakkındaki inançlarını ölçmek için Performans Başarısızlık Değerlendirme Envanteri geliştirmiştir. Ölçek başarısızlık korkusunu 5 boyutta incelemektedir: a) Utanç ve mahcubiyet korkusu b) Özsaygı değerinin düşeceği korkusu c) Gelecek belirsizliği korkusu d) Sosyal ilgiyi kaybetme korkusu e) Diğer kişileri hayal kırıklığına uğratma korkusu. Fazla sayıda tersten puanlanan madde içermesi ve uzunluğu sebebiyle Conroy, Willow ve Metzler (2002) ölçeği tekrar gözden geçirmiş ve bazı maddeleri çıkartarak güncellemişlerdir. Bu haliyle ölçek 25 maddeden ve beş boyuttan oluşmaktadır. Boyutlar, ilk ölçek ile aynı boyutlardır: Utanç ve mahcubiyet korkusu (7 madde), Öz saygı değerinin düşeceği korkusu (4 madde), geleceğin belirsizliği (4 madde), Sosyal ilgiyi kaybetme (5 madde) Diğer kişileri hayal kırıklığına uğratmak (5 madde). Güncellenen ölçeğin geçerlilik çalışmaları 438 üniversite öğrencisi (234 kadın, 204 erkek) ile yapılmıştır. Boyutların Cronbach alfa değerleri ise; utanç ve mahcubiyet korkusu için .80, öz saygı değerinin düşeceği korkusu için .74, gelecek belirsizliği için .80, sosyal ilgiyi kaybetme boyutu için .78, diğer kişileri hayal kırıklığına uğratmak boyutu için ise .78 olarak hesaplanmıştır. DFA sonuçlarına göre de model iyi uyum indekslerine sahiptir (GFI=.98, CFI=.95, RMSEA=.04, SRMR=.09). Sonuç olarak, ölçek başarısızlık korkusunu ölçmek için geçerli ve

güvenilirdir. Bu çalışma 25 maddelik, Performans Başarısızlık Değerlendirme Envanteri'nin ortaokul öğrencilerinin başarısızlık korkusunu ölçmesi açısından Türkçe' ye adaptasyonunu yapmayı amaçlamaktadır.

Bu çalışma 2 bağımsız örneklem içermektedir. Örneklem 1 217, örneklem 2 ise 977 ortaokul öğrencisinden oluşmaktadır.

Ölçme araçları

Performans Başarısızlık Değerlendirme Envanteri

Conroy (2001) tarafından geliştirilip, Conroy, Willow ve Metzler (2002) tarafından güncellenen 25 maddelik bir ölçektir. 5'li Likert yapıya sahiptir.

Hedef Yönelimi Ölçeği

Öğrencilerin hedef yönelimlerini ölçmek için Elliot ve Church (2001) tarafından geliştirilen ölçek 15 maddeden oluşmaktadır. "Kesinlikle katılıyorum"dan "kesinlikle katılmıyorum"a doğru giden 5'li Likert yapıya sahiptir. Ölçeğin dört alt boyutu vardır: öğrenme yaklaşma hedefleri, öğrenme kaçınma hedefleri, performans yaklaşma hedefleri ve performans kaçınma hedefleri.

Doğrulayıcı faktör analizi indeksleri model ile iyi uyum -vermiştir (SRMR= .083; RMSEA= .085; CFI= .913; NNFI=.902). Ayrıca her bir boyut için güvenirlik katsayıları, .64 ila .85 arası, kabul edilebilir seviyededir. Ölçeğin Türkçe versiyonunun kız ve erkek öğrenciler açısından faktörel değişmezliğini incelemek için, çoklu grup doğrulayıcı faktör analizi yapılmıştır. Gruplar arası değişmezliği test etmek için öncelikle yapısal eşdeğerlik (yapılandırılmamış model) incelenmiştir. Yapısal eşdeğerlik tüm parametrelerin serbestçe tanımlandığı en az kısıtlayıcı modeli içermektedir. İkinci olarak, tüm faktör yüklerinin gruplar arasında eşit bir şekilde yapılandığı metrik değişmezliği test edilmiştir. Üçüncü adım olarak ise faktör kovaryansları gruplar arasında eşit olarak yapılandırıldı. Dördüncü adım olarak faktör yüklerindeki, kovaryanslarındaki ve varyanslarındaki değişmezlik incelenmiştir. Son olarak, tüm parametreleri gruplar arasında eşit olarak içeren en az kısıtlayıcı model test edilmiştir (Netemeyer, Bearden, & Sharma, 2003).

Faktöriyel değişmezlik, örneklem sayısındaki duyarlılığı sebebiyle ki-kare farklılığı ($\Delta\chi^2$) yerine doğrulayıcı faktör analizindeki değişiklik (ΔDFI) olarak incelendi. Cheung ve Rensvold (2002) yapılandırılmış ve yapılandırılmamış modeller arasındaki ΔDFI değerinin .01 veya daha düşük olmasının grup değişmezliğini gösterdiğini söylemektedir.

Çalışma bulguları ölçeğin geçerliliğini desteklemektedir. Sonuç olarak, bu çalışma Performans Başarısızlık Değerlendirme Envanterinin, Türkçe versiyonun ortaokul öğrencilerinin başarısızlık korkusunu ölçmek için geçerli ve güvenilir olduğunu önermektedir.

APPENDIX

Original version of PFAI	**Turkish version of PFAI**
1. When I am failing, it is often because I am not smart enough to perform successfully.	Başarısızlıklarımın nedeni yeterince zeki olmamamdır.
2. When I am failing, my future seems uncertain.	Başarısız olduğumda, geleceğim belirsiz görünür.
3. When I am failing, it upsets important others	Başarısız olduğumda, bu durum beni önemseyen kişileri (anne, baba, vb) üzer.
4. When I am failing, I blame my lack of talent.	Başarısız olduğumda, bunu yeteneksizliğime bağlarım.
5. When I am failing, I believe that my future plans will change.	Başarısız olduğumda, geleceğe yönelik planlarımın değişeceğine inanırım
6. When I am failing, I expect to be criticized by important others.	Başarısız olduğumda, beni önemseyen kişiler (anne, baba, vb) tarafından eleştirileceğimi düşünürüm.
7. When I am failing, I am afraid that I might not have enough talent.	Başarısız olduğumda, yeteri kadar yetenekli olmadığımdan korkarım.
8. When I am failing, it upsets my "plan" for the future.	Başarısız olduğumda, bu benim geleceğe yönelik planlarımı alt üst eder.
9. When I am failing, I lose the trust of people who are important to me.	Başarısız olduğumda, benim için önemli olan kişilerin güvenini kaybederim.
10. When I am not succeeding, I am less valuable than when I succeed.	Başarısız olduğum zamanlarda kendimi başarılı olduğum zamanlardan daha az değerli hissederim.
11. When I am not succeeding, people are less interested in me.	Başarılı olamadığımda, insanlar benimle daha az ilgilenir.
12. When I am failing, I am not worried about it affecting my future plans.	Başarısızlıklarımın gelecek ile ilgili planlarımı etkilemesinden endişe duymam.
13. When I am not succeeding, people seem to want to help me less.	Başarılı olamadığımda, insanlar bana daha az yardım etmek istiyormuş gibi hissederim.
14. When I am failing, important others are not happy.	Başarısız olduğumda, beni önemseyen kisiler mutsuz olurlar.
15. When I am not succeeding, I get down on myself easily.	Başarılı olamadığımda, hemen moralim bozulur. Elimde olmayan sebeplerden dolayı başarısız olmak
16. When I am failing, I hate the fact that I am not in control of the outcome.	Başarılı olamadığımda, insanlar beni yalnız bırakma eğilimindedir.

17. When I am not succeeding, people tend to leave me alone.	Başarısız olduğumda, başkalarının başarısızlığımı görmesi beni utandırır.
18. When I am failing, it is embarrassing if others are there to see it.	Başarısız olduğumda, beni önemseyen kişiler (anne, baba, vb) hayal kırıklığına uğrar.
19. When I am failing, important others are disappointed.	Başarısız olduğumda, herkesin başarısızlığımdan haberdar olduğunu düşünürüm.
20. When I am failing, I believe that everybody knows I am failing.	Başarısız olduğumda, insanlar benimle ilgilenmezler.
21. When I am not succeeding, some people are not interested in me anymore.	Başarısız olduğumda, bana şüpheyle bakan kişilerin haklı olduğunu düşünürüm.
22. When I am failing, I believe that my doubters feel that they were right about	Başarılı olamadığımda, bazı insanların gözünden düşerim.
23. When I am not succeeding, my value decreases for some people.	Başarısız olduğumda, başkalarının benim hakkımda ne düşündüğü merak ederim.
24. When I am failing, I worry about what others think about me.	Başarısız olduğumda, başkalarının benim yeterince çaba göstermediğimi düşünmelerinden endişelenirim
25. When I am failing, I worry that others may think I am not trying	Başarısızlıklarımın nedeni yeterince zeki olmamamdır.

Fear of Experiencing Shame & Embarrassment (FSE) = item (10 +15+ 18+ 20+ 22+ 24+ 25)/7

Fear of Devaluing One's Self-Estimate (FDSE) item (1+ 4+ 7+ 16)/4

Fear of Having an Uncertain Future (FUF) = item (2+ 5+ 8+ 12)/4

Fear of Important Others Losing Interest (FIOLI) item (11+13+17+21+23)/5

Fear of Upsetting Important Others (FUIO) =item (3+6+9+14+19)/5

General Fear of Failure Scale (FSE+ FDSE+ FUF+ FIOLI+ FUIO)/5