PSYCHOMETRIC PROPERTIES OF FRUSTRATION DISCOMFORT SCALE IN A TURKISH SAMPLE[1]

BILGE UZUN OZER   AYHAN DEMIR

Cumhuriyet University   *Middle East Technical University*

NEIL HARRINGTON

Fife Health Board, UK

Summary.— The present study assessed the psychometric properties of the Frustration Discomfort Scale for Turkish college students. The Frustration Discomfort Scale (FDS), Procrastination Assessment Scale–Student, and Rosenberg Self-Esteem Scale were administered to a sample of 171 (98 women, 73 men) Turkish college students. The results of the confirmatory factor analysis yielded fit index values demonstrating viability of the four-dimensional solution as in the original. Findings also revealed that, as predicted, the Discomfort Intolerance subscale of Turkish FDS was most strongly correlated with procrastination. Overall results provided evidence for the factor validity and reliability of the Turkish version of the scale for use in a Turkish population.

Frustration intolerance beliefs play an important role in Rational Emotive Behavior Therapy (REBT) and is one of the two main categories of belief, along with self-worth beliefs, posited to lead to emotional disturbance (Ellis & Dryden, 1987). Frustration intolerance represents the demand that reality should be as we want it to be and the refusal to accept the difference between a preference and reality. People may demand that frustration must not exist and be unwilling to tolerate such frustration or the discomfort associated with it (Ellis, 1995).

Frustration intolerance beliefs are related to a range of problems encountered by many college students. Evidence has shown an association between frustration intolerance and increased procrastination on academic tasks (Harrington, 2005b), higher test anxiety and lower achievement attitudes in college samples (Butterfield, 1962), and higher depression, anxiety, and anger in clinical samples (Harrington, 2006). This would suggest that frustration intolerance is of central importance to student performance at college. Frustration has been seen an obstacle to goal-directed behavior (Butterfield, 1962). Previous findings indicate that frustration intolerance is correlated with avoidance behavior (Harrington, 2005b). Ellis and Knaus (1977) suggested that it "constitute[s] the main . . . cause of procrastination" (p. 19). In this vein, procrastinators believe that there will be enough time to complete a task, have low frustration tolerance, and

[1]Address correspondence to Bilge Uzun Ozer, Department of Educational Sciences, Cumhuriyet University, Sivas, 58140, Turkey or e-mail (blguzun@gmail.com).

have a tendency to label themselves "lazy" or "unmotivated" (Froehlich, 1987). To explain the relations, Tuckman (1989) stated that "procrastination tends to result from a combination of (a) disbelieving in one's own capability to perform a task (Bandura, 1986), (b) being unable to postpone gratification, (c) and assigning blame for one's own 'predicament' to external sources" (p. 48). Although the relationship between self-esteem and procrastination in academic performance has been widely studied (e.g., Byrne, 1996), there has been little research on the relationships of frustration intolerance with these variables. This has partly been due to the lack of a suitable assessment instrument and a lack of clarity as to the range of beliefs involved.

The theory underlying REBT has tended to view frustration intolerance as a single dimension, ranging from low to high tolerance. However, reviews have suggested that frustration intolerance is a multidimensional concept composed of a range of associated beliefs (Neenan & Dryden, 1999). To clarify this, Harrington (2005b) investigated the beliefs described in the REBT literature as being characteristic of frustration intolerance. The development of the Frustration Discomfort Scale involved two studies carried out with clinical and student samples. In his first study, a preliminary scale was constructed from a pool of beliefs based on REBT. After conducting necessary reliability and principal component analysis, four interpretable factors were found. In the second study, the scale was revised and confirmatory factor analysis supported the initial factor structure. These dimensions consisted of emotional intolerance, discomfort intolerance, entitlement, and achievement frustration. Psychometric analysis indicated that these beliefs are distinct from irrational beliefs related to self-esteem, the other category of dysfunctional belief.

Understanding cross-cultural similarities and differences regarding the components of a scale is best achieved by adapting instruments to produce valid and reliable measures for use in non-English speaking populations. Due to the usefulness of the concepts in rational emotive theory, and their relation to achievement in school, higher education in non-English-speaking countries such as Turkey could potentially benefit greatly from instruments that are not presently available. This requires research to translate and demonstrate the utility of self-report measures and their validation with the target population. The present study was an examination of the reliability and validity of the Frustration Discomfort Scale for Turkish college students. Frustration intolerance has been considered as one of the most important causes of procrastination (Ellis & Knaus, 1977), which has obvious consequences to university students. In the original study, Harrington (2005b) used self-esteem and procrastination measures to test the convergent and divergent validity of the scale. The same meth-

od was used to provide a comparison of the Turkish version with the original. In the original study, Harrington (2005b) found weak but significant negative correlations between Frustration Discomfort subscales and Self-esteem (FDS; $r = .36$ to $.43$) supporting divergent validity of the scale. Similarly, the FDS subscales were found to be significantly positively correlated with procrastination ($r = .22$ to $.34$), with a weak indicator of convergent validity. In this respect in the present study, it is expected the Turkish version of the scale will be negatively correlated with self-esteem and positively correlated with procrastination.

<div align="center">METHOD</div>

Participants

Data for the present study were derived from a sample of Turkish college students consisting of 171 (98 women, 73 men) Turkish undergraduate students. The average age of the participants was 20.9 yr. ($SD = 1.6$, range = 18–28). These participants were in different years of the degree programs at a major, state-funded university in Turkey. They consisted of 55 freshmen students, 72 sophomores, 19 juniors, and 17 seniors. Eight of the participants did not indicate their year of study. Twenty-seven (8 women, 17 men, 2 did not indicate sex) of the students were included in the test-retest part of the study.

Measures

Frustration Discomfort Scale (FDS). — This scale was developed by Harrington (2005b) and consists of 28 items. Participants are asked to rate the strength with which they hold certain beliefs on a 5-point Likert-type scale (1: Absent, 2: Mild, 3: Moderate, 4: Strong, 5: Very strong). The scale has four subscales (Emotional intolerance, Entitlement, Discomfort intolerance, and Achievement) with seven items in each scale. Reliability and validity studies were reported for both student and clinical samples (Harrington, 2005b); Cronbach's alpha was .94 for the full scale, .88 for Discomfort intolerance, .85 for Entitlement, .87 for Emotional intolerance, and .84 for the Achievement frustration subscales in a sample of 254. In the same study, correlations with the Rosenberg Self-Esteem Scale were Discomfort ($r = -.43$), emotional intolerance ($r = -.49$), entitlement ($r = -.20$), achievement frustration ($r = -.29$), and full scale ($r = -.43$). The subscales showed unique relationships with specific psychological problems, and evidence of convergent and divergent validity.

Procrastination Assessment Scale–Student (PASS).—The Procrastination Assessment Scale–Student was developed by Solomon and Rothblum (1984) to assess students' procrastination tendencies in an academic setting. The PASS is a 5-point, Likert-type, self-report measure with 44 items divided into two parts. The first part has 18 items assessing the preva-

lence of procrastination in six areas of academic functioning. The second part of the PASS consists of 26 items assessing the reasons for academic procrastination. It first provides a procrastination scenario which portrays delaying writing a term paper, and then lists a variety of possible reasons of procrastination on the task. There are a number of studies indicating that PASS scores have adequate internal consistency reliability and validity. Onwuegbuzie (2004), for example, found Cronbach's alpha was .82 for the first and .89 for the second parts of the scale. Ferrari (1989) also found adequate coefficients alpha and test-retest reliability over a six-week interval: .74 for prevalence and .56 for reasons. The Turkish adaptation study was conducted by Uzun Ozer, Demir, and Ferrari (2009). They found the scale was internally consistent ($\alpha = .86$) and when comparing the scale to feedback obtained from expert opinions they found evidence regarding the construct validity of the scale. The reliability of the scale for the present study was found to be .83.

Rosenberg Self-Esteem Scale (RSES).—The Rosenberg Self-Esteem Scale (1965) consisted of 10 items on a 4-point, Likert-type scale (rating anchors 1: Strongly agree and 4: Strongly disagree). The scale had good internal consistency ($r = .80$) and test-retest reliability ($r = .85$). The Turkish adaptation study of RSES was conducted by Çuhadaroğlu (1985) who reported a test-retest (four-week interval) reliability of .75 and a significant association with psychiatric ratings from interviews ($r = .71$). In the present study the reliability of the observed scores was $\alpha = .70$.

Procedure

A several-step validation procedure was followed to establish a cross-cultural equivalence of the instruments (Flaherty, Gaviria, Pathak, Mitchell, Wintrop, Richman, *et al.*, 1988). The semantic equivalence of the instrument was established through translation-back translation procedure (Canino & Bravo, 1999). Three Turkish psychological counselors who were fluent in English, and two English instructors, independently translated the Frustration Discomfort Scale items into Turkish. These translated items then were given to an English literature expert to translate the Turkish version of Frustration Discomfort Scale items back into English. The back-translated items were given to three experienced psychologists to establish the content equivalence of the Turkish version of the scale. They were asked to suggest the best representative translated items among the back-translated item pool for each item.

After establishing the translation of the instrument, criterion equivalence was examined. In this respect, the scale was given to three counseling professors with at least Ph.D.-level qualifications who evaluated the scale critically in terms of its content equivalency and appropriateness for Turkish culture. The final draft of the scale was constructed based on the

revisions recommended by the three field experts. After establishing the content equivalency of the instrument, criterion equivalence was examined. The final form of the instrument was administered to a sample of college students. After obtaining necessary permissions from Human Research Ethical Committee and instructor of each class, students were invited to participate in the study in classroom settings. The participants were briefly informed about the study and they were asked to complete the measure. Some of the participants agreed to complete the scale twice for test-retest procedure. The test-retest data was obtained from 27 participants out of 29 who completed the scale twice within a 4-week interval. They took approximately 20 minutes to complete the scales with the demographic sheet.

<div align="center">RESULTS</div>

Sex differences were examined in the initial analysis. A significant sex difference was found on students' frustration intolerance scores ($F_{1,163} = 5.21$, $p < .05$, $\eta_p^2 = .03$), with female students ($M = 95.1$, $SD = 12.2$, range $= 69$–135) reporting higher frustration intolerance scores than male students ($M = 90.5$, $SD = 13.4$, range $= 55$–113). However, no significant sex differences were obtained on academic procrastination and self-esteem measures. The overall mean on frustration intolerance was 93.3 ($SD = 12.9$, range $= 55$-135). The Procrastination Assessment Scale–Students had a mean of 34.6 ($SD = 5.8$, range $= 19$–55) and the mean of the Rosenberg Self-Esteem Scale was 22.6 ($SD = 3.2$, range $= 10$–30).

Confirmatory Factor Analysis

A series of preliminary analyses were performed before conducting reliability and validity studies of the Turkish version of the FDS. The distribution of responses across the rating scale for each item was examined. Screening of the data was also performed, including analysis of the normality of each variable, skewness and kurtosis, outliers, and missing data. Normality was within the accepted level (± 3.29) of skewness and kurtosis. Replacement of missing values with the mean can be done if each variable has at least 5% missing value (Tabachnick & Fidel, 2001). In the present data, less than 5% of the given responses were missing values. Thus each value was replaced with the mean. Thereafter, a reliability analysis was performed with the 28 items. Corrected item-total correlations were also computed to highlight those items with poor reliability ($< .30$). As recommended in the original FDS study (Harrington, 2005b), corrected item-total correlations higher than .30 were accepted as the criterion for excluding an item from the analysis. Items 1, 5, 12, and 13 were detected as having the lowest corrected item-total correlations (corrected item-total correlations $= .22$, $.13$, $.29$, and $.12$, respectively). Content of Items 1, 5, and

13 all loaded on the discomfort intolerance subscale and motivation to-
wards difficult tasks. The poor loadings of these items might reflect the
particular characteristics of the sample population. It is fair to assume that
students at a major university are likely to be well motivated toward their
work, and therefore, may be less likely to score high on these items com-
pared to a more general population sample.

Confirmatory Analysis

    Confirmatory factor analysis was conducted using the maximum like-
lihood method (AMOS 18, Arbuckle & Wothke, 1999) on two alternative
models. The first model was the four-factor, 28-item model derived from
the original theoretical basis of the scale. The second tested model was a
four-factor, 24-item model derived from the present analysis, by exclud-
ing the items with lower corrected item-total correlations and by employ-
ing the suggestions given in the modification indices. The adequacy of the
competing models was evaluated using five different fit indices: (1) the
chi-squared fit statistic of the model, a measure of overall fit, with non-sig-
nificant χ^2 indicating good fit; (2) the χ^2 divided by the degrees of freedom,
with a ratio of between 2 and 3 signifying a good fit; (3) the comparative
fit index (CFI; Bentler, 1990), with values above .95 representing a good fit;
(4) the root mean square of approximation (RMSEA; with values over .10
leading to rejection of the model, those from .05 to .08 acceptable, and val-
ues below .05 indicating a good fit; and (5) the Tucker-Lewis Index (TLI),
which takes into account the degree of parsimony, with scores above .90
regarded as a reasonable fit (Schumacker & Lomax, 1996).

    The results of the confirmatory factor analysis tested for the first mod-
el showed that the chi square was significant, indicating poor fit ($\chi^2 = 537.8$,
$df = 406$). Because the χ^2 statistic is easily influenced by the large sample
sizes, multiple goodness-of-fit indices were used to evaluate the fit be-
tween the model and the data (Bentler & Bonett, 1980). Since the values
of fit indices (CFI = .76, GFI = .81, TLI = .73, RMSEA = .65) indicated a very
poor fit, the model was tested after removing the four items with low-
est corrected item-total correlations. Evaluation of the modification indi-
ces suggested a strong correlated error residual between Items 27 and 28
(maximum modification index = 18.95, expected parameter change = .27).
A closer examination of these two adjacent items (Items 27 and 28) in-
dicated that the content of the items overlapped substantially and both
items included similar terms (e.g., control, in Turkish = kontrol, see Table
1). Research literature on measurement error suggests that items with sim-
ilar wordings might cause correlated errors, that is, an individual might
respond to the items based on his/her response to the prior items with
similar wordings (Buckley, Cote, & Comstock, 1990; Green & Hershberg-
er, 2000). Because individuals might be more likely to retrieve their re-

TABLE 1

Turkish Items of Frustration Discomfort Scale Before Revision

Turkish Version	English Version
Bir problemle uzun süre uğraşmaya dayanamam, en kolay çözüm yoluna ihtiyaç duyarım.	I need the easiest way around a problem; I can't stand making a hard time of it.
Hemen olmasını istediğim şeyler için beklemek zorunda olmaya tahammül edemem.	I can't stand having to wait for things I would like now.
Rahatsız edici duygulardan mümkün olduğunca kısa sürede ve tamamen kurtulmalıyım, bu duyguların devam etmesine katlanamam.	I absolutely must be free of disturbing feelings as quickly as possible; I can't bear if they continue.
Kapasitemin tümünü gerçekleştirmekten alıkonulmaya dayanamam.	I can't stand being prevented from achieving my full potential.
Çok zor gibi görünen işleri yapmaya tahammül edemem.	I can't stand doing tasks that seem too difficult.
İnsanların benim isteklerimin aksine davranmalarına dayanamam.	I can't stand it if people act against my wishes.
Aklımı kaçırıyorum duygusuna katlanamam.	I can't bear to feel that I am losing my mind.
Amaçlarıma ulaşamamanın yaşattığı hayal kırıklığına katlanamam.	I can't bear the frustration of not achieving my goals.
Keyfim yerinde olmadığında, görevlerimi yapmaya tahammül edemem.	I can't stand doing tasks when I'm not in the mood.
İstediğim yolda diğer insanların engel çıkarmasına dayanamam.	I can't bear it if other people stand in the way of what I want.
Bazı düşünceleri aklımdan geçirmeye katlanamam.	I can't bear to have certain thoughts.
Benim için faydalı olsa bile standartlarımı düşürmeyi hoş göremem.	I can't tolerate lowering my standards even when it would be useful to do so.
Bir iş yaparken kendimi zorlamaya katlanamam.	I can't stand having to push myself at tasks.
Çantada keklik gibi görülmeyi hoş karşılamam.	I can't tolerate being taken for granted.
Bir işi tamamen içime sinmeden bırakmaya dayanamam.	I can't stand situations where I might feel upset.
Beni tam olarak tatmin etmeyen işlere devam etmeye katlanamam.	I can't bear to move on from work I'm not fully satisfied with.
İşleri hemen yapmak zorunda olmanın sıkıntısına tahammül edemem.	I can't stand the hassle of having to do things right now.
Başka insanların taleplerine boyun eğmek zorunda olmaya tahammül edemem.	I can't stand having to give into other people's demands.
Rahatsız edici duygulara katlanamam.	I can't bear disturbing feelings.
Bir işi iyi yapamıyorsam, o işi yapmaya tahammül edemem.	I can't stand doing a job if I'm unable to do it well.
Çok fazla sıkıntı içeren şeyleri yapmaya tahammül edemem.	I can't stand doing things that involve a lot of hassle.
Başkaları hatalı olduğunda değişmek zorunda olmaya tahammül edemem.	I can't stand having to change when others are at fault.

TABLE 1 (cont'd)
Turkish Items of Frustration Discomfort Scale Before Revision

Turkish Version	English Version
Bir şeyler değişmedikçe hayatımı yoluna koyamam ya da mutlu olamam.	I can't get on with my life, or be happy, if things don't change.
İşlerime hakim olamadığım duygusuna katlamam.	I can't bear to feel that I'm not on top of my work.
Hoşlanmadığım işleri sonuna kadar sürdürmek zorunda olmaya tahammül edemem.	I can't stand having to persist at unpleasant tasks.
Özellikle haklı olduğumu bildiğim zamanlarda eleştiriyi hoş göremem.	I can't tolerate criticism especially when I know I'm right.
Duygularımın **kontrolünü** kaybetmeye tahammül edemem.	I can't stand to lose control of my feelings.
Kendimi **kontrolde** herhangi bir aksamayı hoş göremem.	I can't tolerate any lapse in my self-discipline.

sponses to previous items from their working memory in answering the next item, the magnitude of the correlated error might be more substantial when items are adjacent (Green & Hershberger, 2000). Due to this possible method effect, residuals of Items 27 and 28 were allowed to correlate.

In the recent literature, item parceling is suggested since some scholars (Nasser & Wisenbaker, 2003; Bandalos, 2008) indicate the parcels' scores are more likely to be distributed normally than those of single items. Secondly, "the resulting reduction in the complexity of measurement models should lead to more parameter estimates" (Nasser & Wisenbaker, 2003, p. 730). Finally, since the parcels reduce the number of indicators in the model, researchers can use more realistic models. Thus, item parceling was adopted.

Removing the four problematic items, dealing with residual errors, and parceling the items resulted in a significant improvement in the model fit ($\chi^2 = 44.64$, $df = 28$, $\chi^2/df = 1.59$; GFI = 0.95, CFI = 0.97, RMSEA = 0.06); thus, this model was retained as the final model.

Reliability of the Measurement

The internal consistency reliability of the scale was computed at $\alpha = .86$. Test-retest reliability over four weeks was found to be .70. The results of the analyses showed that the subscales had also adequate internal consistency: .73 for the discomfort intolerance subscale (item-total correlations ranged from .33 to .52), .68 for the entitlement subscale (item-total correlations ranged from .35 to .53), and .63 for the emotional intolerance subscale (item-total correlations ranged from .22 to .44). Finally, Cronbach's alpha was .68 for the achievement subscale and the item-total correlations ranged from .27 to .48.

To assess the validity of the scale, divergent and convergent validities

were established by calculating Pearson correlation coefficients between the participants' Rosenberg Self-Esteem (RSES), PASS, and FDS scores. The literature (Harrington, 2005b) indicates a negative correlation of $r = -.43$ between FDS and the RSES compared to the present study that obtained a negative correlation of $r = -.27$. Since frustration intolerance and self-esteem are assumed to be independent dimensions, this weaker correlation supports construct and discriminative validity. Furthermore, analysis of the relationship between the subscales of FDS and the RSES showed that the strongest correlation (with Harrington, 2005b correlations in brackets) was with the discomfort intolerance ($r = -.29$ [−.43]) and emotional intolerance ($r = -.27$ [−.49]) subscales. The correlations with entitlement ($r = -.17$ [−.20]) and achievement ($r = -.14$, [−.29]) were weak but in the expected direction. Regarding procrastination, there was a significant correlation between the PASS and full FDS scores ($r = .35$) indicating that frustration intolerance is related to procrastination. As predicted from the original study, the present results showed that the PASS scores were most strongly correlated with the discomfort intolerance subscale ($r = .47$ [.31]), and more weakly correlated with the entitlement subscale ($r = .22$ [−.10]) and the emotional intolerance subscale ($r = .19$ [.08]). The stronger correlations in the present study, compared to the original, may suggest a closer relation between procrastination and frustration intolerance than first reported, and are slightly supportive of the construct validity of the FDS. Most of these correlations are so small as to be only theoretically interesting, and even so, the robustness of the results should be checked with another sample.

Regarding procrastination, there was a positive correlation between the PASS and full FDS scores ($r = .35$) indicating participants with higher frustration discomfort scores tended slightly to obtain higher scores on the PASS (approximately 12% of the variance was shared). In terms of subscales, the results showed that the PASS scores were significantly correlated with the discomfort intolerance subscale ($r = .47$), and weakly correlated with the entitlement subscale ($r = .22$) and the emotional intolerance subscale ($r = .19$). There were no significant correlations with the PASS, RSES, or Achievement subscale scores.

Discussion

Results of the confirmatory factor analysis supported the four-factor structure of the 24-item Turkish FDS in Turkish college students. Besides the factor structure, the results regarding the correlations between the PASS scale, the RSE scale, and FDS scores provided some evidence for convergent and divergent validity. Scores on the PASS and RSE scales were found significantly related to FDS scores in the expected directions in this sample of Turkish college students, consistent with previous studies (Harrington, 2005b).

The directions of correlations between the FDS, RSE, and PASS also support Rational Emotive Behavior Theory and previous research evidence that there are two groups of procrastinators: those with irrational beliefs about self-worth or those with frustration intolerance. In addition, the finding that procrastination is most strongly correlated with discomfort intolerance was consistent with earlier studies (Harrington, 2005a) and supports a multi-dimensional model of frustration intolerance. It also suggests that the most important frustration intolerance beliefs are related to the need to avoid discomfort and effort, rather than to avoid emotional distress. The lack of correlation between the achievement subscale and procrastination was also consistent with previous results (e.g., Onwuegbuzie, 2004), indicated that some aspects of perfectionism are related to procrastination, but not others, suggesting that the relationship between perfectionism and procrastination may not be straightforward. For instance, intolerance of being frustrated in achieving goals may drive some students to complete tasks, but perhaps at the cost of increased stress. Further studies might usefully examine the relationship between frustration intolerance, procrastination, and measures of wellbeing.

The present study indicated significant sex differences in participants' scores on the FDS, with the mean score for female students higher than that of the male students. In the original development studies, there were no sex differences in frustration intolerance beliefs (Harrington, 2005b). Such differences in emotional responses might indicate cultural factors which are important determinants of behavior (Eskin, 2003), e.g., the cultural response that females are more emotionally reactive than males has generated research studies on the difference of some emotional responses (Kayahan, Altıntoprak, Karabilgin, & Öztürk, 2003). These differences might be more noticeable in Turkey compared to Western countries (Karakitapoğlu & İmamoğlu, 2002). Hence, the results were expected since Turkish society might be influenced more by traditional gender roles. In this case, faced with some stressful decisions or events, females may be less unwilling to tolerate negative frustration and may more likely to escape from the undesirable feelings.

Based on the evidence provided in the present study, the Turkish FDS scores appear to have reasonable preliminary validity and reliability for Turkish college students, although refinement of the scale could continue. The Turkish adaptation of the FDS may be useful in assessing frustration intolerance beliefs in the Turkish college population. Researchers and counselors working with college students may find scores useful to help address academic problems.

There are several limitations of the present study. The sample in the present study was not random and was collected from only one study site. Further validation studies should be conducted to provide addition-

al evidence within the demographically diverse populations of different regions of Turkey. The present study is the first attempt to examine the psychometric properties of the Frustration Discomfort Scale in a Turkish university student population. As such, the results are best considered as preliminary research in the process of establishing cross-cultural equivalency of the scale.

REFERENCES

ARBUCKLE, J. L., & WOTHKE, W. (1999) *AMOS 4.0 user's guide*. Chicago, IL: SPSS.

BANDALOS, D. L. (2008) Is parceling really necessary? A comparison of results from item parceling and categorical variable methodology. *Structural Equation Modeling*, 15, 211-240.

BANDURA, A. (1986) *Social Foundations of thought and action: a social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

BENTLER, P. M. (1990) Comparative fit indices in structural models. *Psychological Bulletin*, 107, 238-246.

BENTLER, P. M., & BONETT, D. G. (1980) Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.

BUCKLEY, M. R., COTE, J. A., & COMSTOCK, S. M. (1990) Measurement errors in behavioral sciences: the case of personality/attitude research. *Educational and Psychological Measurement*, 50, 447-474.

BUTTERFIELD, E. C. (1962) Locus of control, test anxiety, reactions to frustration, and achievement attitudes. *Journal of Personality*, 32(3), 355-370.

BYRNE, B. M. (1996) Academic self-concept: its structure, measurement and relation to academic achievement. In B. A. Bracken (Ed.), *Handbook of self-concept*. New York, NY: Wiley. Pp. 287-316.

CANINO, G., & BRAVO, M. (EDS.) (1999) *The translation and adaptation of diagnostic instruments for cross-cultural use*. New York: Guilford.

ÇUHADAROĞLU, F. (1985) Adolesanlarda benlik saygısı. [Self-esteem in adolescents]. Unpublished Doctoral Dissertation, Hacettepe Univer., Ankara.

ELLIS, A. (1995) *Better, deeper, and more enduring brief therapy*. New York: Brunner/Mazel.

ELLIS, A., & DRYDEN, W. (1987) *The practice of rational-emotive therapy*. New York: Springer.

ELLIS, A., & KNAUS, W. J. (1977) *Overcoming procrastination: or how to think and act rationally in spite of life's inevitable hassles.* Bloomington, IN: Univer. of Indiana Press.

ESKIN, M. (2003) A cross-cultural investigation of the communication of suicidal intent in Swedish and Turkish adolescents. *Scandinavian Journal of Psychology*, 44, 1-6.

FERRARI, J. R. (1989) Reliability of academic and dispositional measures of procrastination. *Psychological Reports*, 64, 1057-1058.

FLAHERTY, J. A., GAVIRIA, F. M., PATHAK, D., MITCHELL, T., WINTROP, R., RICHMAN, J. A., & BIRZ, S. (1988) Developing instruments for cross-cultural psychiatric research. *The Journal of Nervous and Mental Disease*, 176(5), 257-263.

FROEHLICH, R. A. (1987) A descriptive study of general procrastination in a group oriented treatment setting. Unpublished doctoral dissertation, United States International Univer., Kenya.

GREEN, S. B., & HERSHBERGER, S. L. (2000)   Correlated errors in true score models and their effect on coefficient alpha. *Structural Equation Modeling*, 7(2), 251-270.

HARRINGTON, N. (2005a)   It's too difficult! Frustration intolerance beliefs and procrastination. *Personality and Individual Differences*, 39, 873-883.

HARRINGTON, N. (2005b)   The Frustration Discomfort Scale: development and psychometric properties. *Clinical Psychology & Psychotherapy*, 12(5), 374-387.

HARRINGTON, N. (2006)   Frustration intolerance beliefs: their relationship with depression, anxiety, and anger, in a clinical population. *Cognitive Therapy & Research*, 30, 699-709.

KARAKITAPOĞLU, A. Z., & İMAMOĞLU, E. O. (2002)   Value domains of Turkish adults and university students. *Journal of Social Psychology*, 142(3), 333-352.

KAYAHAN, B., ALTINTOPRAK, E., KARABİLGİN, S., & ÖZTÜRK, Ö. (2003)   On beş-kırk dokuz yaşları arasındaki kadınlarda depresyon prevalansı ve depresyon şiddeti ile risk faktörleri arasındaki ilişki [The relationship between risk factors and depression scores, and depression prevalence among women between 15–49 years of age]. *Anatolian Journal of Psychiatry*, 4, 208-219.

NASSER, F., & WISENBAKER, J. (2003)   A Monte Carlo study investigating the impact of item parceling on measures of fit in confirmatory fator analysis. *Educational & Psychological Measurement*, 63, 729-757.

NEENAN, M., & DRYDEN, W. (1999)   *Rational emotive behaviour therapy: advances in theory and practice*. London: Whurr.

ONWUEGBUZIE, A. J. (2004)   Academic procrastination and statistics anxiety. *Assessment & Evaluation in Higher Education*, 29(1), 3-19.

ROSENBERG, M. (1965)   *Society and the adolescent self-image*. Princeton, NJ: Princeton Univer. Press.

SCHUMACKER, R. E., & LOMAX, R. G. (1996)   *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.

SOLOMON, L. J., & ROTHBLUM, E. D. (1984)   Academic procrastination: frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, 31(4), 503-509.

TABACHNICK, B. G., & FIDEL, L. S. (2001)   *Using multivariate statistics.* (4th ed.) London: Allyn & Bacon.

TUCKMAN, B. W. (1989)   Procrastination "busting." *Educational Technology*, 29, 48-49.

UZUN OZER, B. U., DEMIR, A., & FERRARI, J. R. (2009)   Exploring academic procrastination among Turkish students: possible gender differences in prevalence and reasons. *Journal of Social Psychology,* 149(2), 241-257.