

INVESTIGATION OF ADAPTIVE AND MALADAPTIVE
PERFECTIONISM WITH TURKISH ALMOST
PERFECT SCALE–REVISED¹

İNCİ PINAR ULU

Middle East Technical University

ESİN TEZER

Middle East Technical University

ROBERT B. SLANEY

The Pennsylvania State University

Summary.—The present study examined the factor structure of the Turkish Almost Perfect Scale–Revised to identify adaptive and maladaptive perfectionists and non-perfectionists and examined whether the participants ($N = 383$) in these groups differed on a measure of psychological distress. A confirmatory factor analysis of the Turkish Almost Perfect Scale–Revised yielded three subscales: High Standards, Order, and Discrepancy. A cluster analysis identified adaptive perfectionists, maladaptive perfectionists, and non-perfectionists and these groups were found to be significantly different from each other on a measure of psychological distress.

The construct of perfectionism has received increasing attention in the psychology literature. Previous research on perfectionism has focused on the adverse effects of perfectionism on psychological health. This unidimensional view has been evident in the dictionary definition of perfectionism as “a disposition to regard anything short of perfection as unacceptable” (Merriam-Webster’s Collegiate Dictionary, 1993, p. 863). However, with the increasing number of factor analytic studies, perfectionism has come to be viewed as a multidimensional construct with both adaptive and maladaptive components (Frost, Marten, Lahart, & Rosenblate, 1990; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Rice, Ashby, & Slaney, 1998; Suddarth & Slaney, 2001). Hamachek (1978) categorized perfectionists into two groups: “normal and positive” or “neurotic and dysfunctional.” According to Hamachek, both groups have high standards, however, normal perfectionists feel satisfied when their standards are achieved, whereas maladaptive perfectionists do not feel satisfied and harshly criticize themselves even for minor mistakes.

After Hamachek’s definition, attempts to identify positive aspects of perfectionism lead to some new conceptualizations of the construct and the development of multidimensional perfectionism scales (Frost, *et al.*, 1990; Hewitt & Flett, 1991; Johnson & Slaney, 1996). Factor analyses of the various subscales from these measures have supported two, higher-order

¹Address correspondence to İ. Pınar Ulu, Health and Counseling Center, Middle East Technical University, 06531, Ankara, Turkey or e-mail (pinar@mc.metu.edu.tr).

dimensions of adaptive and maladaptive perfectionism. Slaney and Ashby (1996) conducted the first known qualitative study that investigated how perfectionists described their experiences and understanding of perfectionism. These researchers identified three basic characteristics of perfectionism: having high standards for performance, being neat and orderly, and perceiving a discrepancy between high standards for performance and actual performance. Based on these three aspects of perfectionism, Slaney, Rice, Mobley, Trippi, and Ashby (2001) developed the Almost Perfect Scale-Revised (APS-R) which consists of three subscales: High Standards, Discrepancy, and Order. After a series of factor analytic studies, Slaney, *et al.* (2001) concluded that having high standards for performance and being orderly provided a useful definition of adaptive perfectionism and the perceived discrepancy between standards and performance provided a definition of maladaptive perfectionism. These dimensions have been validated by the selection of positive adjustment variables as outcome measures in addition to psychopathological ones (see Slaney, Rice, & Ashby, 2002, for a review).

In addition to exploring the multidimensional measures of perfectionism, several studies were conducted to explore three groups of perfectionists: adaptive, maladaptive, and non-perfectionists (e.g., Periasamy & Ashby, 2002; Rice & Slaney, 2002; Grzegorek, Slaney, Franze, & Rice, 2004; Martin & Ashby, 2004; Gilman, Ashby, Sverko, Florell, & Varjas, 2005; Nakano, 2009; Wang, Yuen, & Slaney, 2009). In these studies, groups of perfectionists were generally identified as follows: adaptive perfectionists had high scores on the High Standards and Order subscales but low scores on the Discrepancy subscale. Maladaptive perfectionists had high scores on the High Standards and Discrepancy subscales and lower scores on the Order subscale as compared to adaptive perfectionists. Finally, non-perfectionists had low scores on all subscales. In general, research results demonstrated the existence of adaptive and maladaptive dimensions of perfectionism and groups of perfectionists (see Enns & Cox, 2002, for a review).

Several studies examined whether the types of perfectionists could be discriminated in terms of some psychological health variables. For example, maladaptive perfectionists, as compared to adaptive perfectionists and non-perfectionists, scored higher on depression (Rice & Slaney, 2002; Grzegorek, *et al.*, 2004), anxiety (Rice & Slaney, 2002; Mobley, Slaney, & Rice, 2005; Wang, Slaney, & Rice, 2007), and interpersonal problems (Slaney, Pincus, Uliaszek, & Wang, 2006), whereas adaptive perfectionists scored higher on self-esteem (Rice & Slaney, 2002), positive affect (Rice & Slaney, 2002), satisfaction with life (Wang, *et al.*, 2009) and adaptive coping strategies (Stoltz & Ashby, 2007). All these studies provided strong support for the conceptual differences among the three groups of perfectionists.

Perfectionism Studies in Different Cultures

Studies on perfectionism carried out with the samples of U.S. college students demonstrated significant differences for some ethnic groups. For example, Asian Americans, as compared with Euro-Americans and African Americans, had significantly higher scores on maladaptive aspects of some measures of perfectionism, that is, doubts about their actions, over concern about their mistakes, their parents' expectations, and criticisms (Chang, 1998; Kawamura, Frost, & Harmatz, 2002; Castro & Rice, 2003). In another study conducted with Chinese adolescents in Hong Kong, the most critical aspects of perfectionism included concern over mistakes and doubts about actions and were found to be related with psychological distress and self-esteem (Cheng, Chong, & Wong, 1999). The results of these studies seemed to suggest that perfectionism dimensions related to others' expectations, especially parental expectations, are emphasized in collectivist cultures.

A limited number of Turkish perfectionism studies conducted by using the same perfectionism measures mentioned above have demonstrated similar trends as in other collectivist cultures. These studies demonstrated that these dimensions of perfectionism were related to various psychological problems of university students such as anger, depressive symptoms, obsessive-compulsive symptoms (Oral, 1999; Dinç, 2001; Yorulmaz, 2002), helpless exploratory style, i.e., a habitual way of explaining bad events by internal, stable, and global attributions (Sun-Selişik, 2003), and shyness (Koydemir, 2006). The results of these studies indicated not only the cultural orientation in perfectionism but also its role in psychological health among Turkish youth.

Present Study

Based on the recent interest in the positive aspects of perfectionism, Ulu (2007; Ulu & Tezer, 2010) examined the role of anxiety and avoidance dimensions of attachment and Big Five personality traits in adaptive and maladaptive perfectionism among Turkish university students. After obtaining some preliminary findings regarding factor structure of the APS-R, significant relationships were found between two dimensions of perfectionism, attachment, and Big Five personality traits. The findings of this study seemed to suggest a need for further investigations regarding the adaptive nature of perfectionism which might provide some supporting evidence regarding the relationships of perfectionism with some psychological health variables. Thus, the goal of this study was (a) to confirm the factor structure of the responses of Turkish university students to the Turkish APS-R, (b) to identify the adaptive and maladaptive perfectionists and non-perfectionists by using cluster analytic procedures, and (c) to

examine whether the participants in these clusters differ on a measure of psychological distress.

METHOD

Participants

The participants were 383 (141 women, 242 men) first year undergraduate students of a leading campus university in Ankara, Turkey. The students represented several departments at the university: 5.7% were studying Architecture, 14.6% Arts and Sciences, 14.9% Administrative Sciences, 12.0% Educational Sciences, and 52.2% Engineering. The students' ages ranged from 18 to 20 years ($M = 18.2$, $SD = 0.8$).

Measures

The Almost Perfect Scale–Revised (APS–R) is a self-report instrument originally developed by Johnson and Slaney (1996) and later revised by Slaney, *et al.* (2001) to measure adaptive and maladaptive dimensions of the perfectionism construct. The APS–R consists of 23 items using a 7-point Likert-type scale with anchors 1: Strongly Disagree to 7: Strongly Agree. There are three subscales: High Standards (7 items measuring personal standards for performance, e.g., “I have high expectations for myself”), Discrepancy (12 items measuring distress caused by the perceived discrepancy between performance and personal standards, e.g., “I often feel frustrated because I can’t meet my goals”), and Order (4 items measuring desire for organization and need for orderliness, e.g., “I am an orderly person”). The total range of scores for High Standards subscale is between 7 and 49, for Discrepancy subscale between 12 and 84, and for Order subscale between 4 and 28. Exploratory and confirmatory factor analyses have supported the factor structure and independence of the subscales (Slaney, *et al.*, 2001). The results of a confirmatory factor analysis yielded a goodness-of-fit index (GFI) of .92. In two separate studies using undergraduate samples, factor loadings of the items ranged from .49 to .86. Cronbach’s alphas were .92 for Discrepancy, .85 for High Standards, and .86 for Order (Slaney, *et al.*, 2001). Studies provided additional support for the factor structure as well as the concurrent and discriminant validity of the APS–R (Ashby, Kottman, & Schoen, 1998; Rice, *et al.*, 1998; LoCicero & Ashby, 2000; Suddarth & Slaney, 2001).

A preliminary study regarding the reliability and validity of the APS–R were conducted by Ulu (2007). After translation and back translation studies, factor analytic studies were carried out to examine the dimensions of the APS–R. The results of exploratory factor analysis yielded three interpretable factors, explaining 53.01% of the total variance after omitting Items 13 and 22, which loaded above .39 on both Discrepancy and High

Standards factors. Confirmatory factor analysis conducted with the same sample yielded the following goodness of fit indices: χ^2 (180) = 547.158, $p < 0.01$; $\chi^2 / df = 3.03$; GFI = 0.90; AGFI = 0.87; RMSEA = 0.07; and CFI = 0.90 for the three-factor model of the APS-R (21 items). These goodness-of-fit statistics showed that the model seemed acceptable, although a slightly lower value of AGFI was obtained. The Cronbach alpha coefficients were .78 for the High Standards subscale, .85 for the Discrepancy subscale, and .86 for the Order subscale. Overall, these results could be considered as good preliminary evidence for validity and reliability of the scale. However, because the exploratory and confirmatory factor analyses were conducted on the same sample, there was a need to re-examine the confirmatory factor structure of the 23-item version with a different sample to prevent the problems of "capitalization on chance" (MacCallum, Roznowski, & Necowitz, 1992).

The General Health Questionnaire-12 (GHQ-12) is a brief self-report measure developed by Goldberg and Williams (1988) for screening psychological problems in community and non-psychiatric clinical settings. It consists of 12 items assessing the severity of psychological problems over the past few weeks rated on a 4-point Likert-type scale anchored by 0: Not at all and 3: Much more than usual. The possible range of total scores is between 0 and 36. Higher scores indicate higher psychological distress. Split-half reliability for the total scale was reported as .95. It is a well-validated and extensively used instrument for the identification of psychological problems.

Kılıç (1996) translated the GHQ-12 into Turkish and reported the Cronbach alpha coefficient as .78 for the total scale. The Turkish version of the GHQ-12 has been used in various studies conducted with university students (Özdemir & Rezaki, 2007; Üner, Özcebe, Telatar, & Tezcan, 2008; Yoldaşcan, Özenli, Kutlu, Topal, & Bozkurt, 2009). For the present study, the Cronbach alpha reliability coefficient was .85.

Procedure

After obtaining necessary permissions, participants were administered the Turkish version of the APS-R and GHQ-12 in their classrooms during regular class hours. Anonymity was guaranteed.

RESULTS

Confirmatory Factor Analysis

The LISREL 8.30 (Jöreskog & Sörbom, 1993) program was used to perform a confirmatory factor analysis to test the original three-factor model of the APS-R. Maximum likelihood of the estimation method and covariance matrices were analyzed. The fit of the models was eval-

uated by using multiple criteria: χ^2/df ratio, the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the root mean square error of approximation (RMSEA), and comparative fit index (CFI). The following criteria were used: GFI, AGFI, and CFI .90 and higher, RMSEA .08 or lower, and χ^2/df ratio 3.0 or lower (Cole, 1987; Bentler, 1990; Bollen, 1990). In this model, seven items related to personal standards were specified to identify with the High Standards factor, four items with Order factor and 12 items were specified to identify with the Discrepancy factor. The CFA model proposed that Item 22 loaded onto both High Standards and Discrepancy factors. The model fit indices were: χ^2 (223)=783.07, $p < 0.1$; $\chi^2/df = 3.51$; GFI = 0.84; AGFI = 0.81; RMSEA = 0.08; and CFI = 0.87. Also, the modification indices indicated error covariances between some Discrepancy items allowed to be free because of overlapping content between these items. The items that allowed to have error covariances freed to correlate were Item 6 ("My best just never seems to be good enough for me"), Item 11 ("Doing my best never seems to be enough"), Item 9 ("I rarely live up to my high standards"), Item 16 ("My performance rarely measures up to my standards"), and Item 19 ("I am seldom able to meet my own high standards of performance"). After these modifications, CFA yielded the following goodness of fit indices: χ^2 (222)=682.23, $p < .01$; $\chi^2/df = 3.07$; GFI = 0.87; AGFI = 0.83; RMSEA = 0.07; and CFI = 0.89. These goodness-of-fit statistics showed that the model seemed acceptable although values of GFI and AGFI were lower than desirable. Factor 1 represented the items of the High Standards subscale. Seven items positively and significantly loaded on this factor. For Factor 2, 13 items loaded on Discrepancy (including Item 22 which belongs to the High Standard subscale) and four items loaded on Factor 3, Order. In calculating the subscale scores, Item 22 is retained in High Standards subscale, as it was in the original scale. To conclude, the results of the confirmatory factor analyses supported the original factor structure and proposed the use of the Turkish APS-R with 23 items in three subscales.

Significant correlations were found between the High Standards and Order subscales ($r = .33$, $p < .01$), the High Standards and Discrepancy subscales ($r = .30$, $p < .01$), and the Discrepancy and Order subscales ($r = .20$, $p < .01$). For the Turkish version of the APS-R, Cronbach's alpha coefficients were .80 for the High Standards subscale, .87 for the Discrepancy subscale, and .87 for the Order subscale in the present study.

Cluster Analysis

Cluster analysis was used to identify the groups of perfectionists and non-perfectionists using the APS-R subscale scores. A two-step procedure involving both hierarchical and non-hierarchical analyses was used fol-

lowing past studies of adaptive and maladaptive perfectionists (Rice & Mirzadeh, 2000; Rice & Slaney, 2002; Grzegorek, *et al.*, 2004; Ashby, Rahoop, & Martin, 2005; Gilman, *et al.*, 2005; Wang, *et al.*, 2007; Wang, *et al.*, 2009). A hierarchical cluster analysis using Ward's linkage method with the squared Euclidian distance measure was performed. Standardized scores of subscales of High Standards, Order, and Discrepancy were used as variables in the analysis. Examination of the change in the agglomeration coefficients and dendrogram indicated that the three-cluster solution was supported by the data and was consistent with theoretical expectations and prior research findings. An increase in the agglomeration coefficient of 34% occurred in the step when the solution decreased from three to two clusters. Thus, a three-cluster solution was chosen for the subsequent analysis.

A non-hierarchical k-means cluster analysis was conducted by using the three-cluster solution from the first step. The standardized APS-R subscale means from the three-cluster solution were used as the starting points in the k-means analysis. A three-cluster k-means solution converged in 9 iterations. The analysis placed 118 (30.8%) participants in the first cluster, 159 (41.5%) participants in the second cluster and 106 (27.7%) participants in the third cluster. Cluster membership did not differ significantly by sex [$\chi^2(2, N = 383) = 4.37, p = .11$]. Participants in the first cluster had the highest scores on the High Standards, Discrepancy, and Order subscales and they were labeled as maladaptive perfectionists. Participants in the second cluster had the second highest scores on the High Standards, Discrepancy, and Order subscales and they were labeled as adaptive perfectionists. Participants in the third cluster had the lowest scores on the High Standards, Discrepancy, and Order subscales. This group was labeled as non-perfectionists.

Analysis of Variance

Univariate analysis of variance (ANOVA) was conducted with the cluster membership as the between-subjects factor and the APS-R subscale scores as dependent variables. Results indicated statistically significant between-cluster differences on each dependent variable. Effect sizes (η^2) for the statistically significant mean differences were .11, .82 and .09 for High Standards, Discrepancy, and Order dimensions respectively. The results along with Tukey *post hoc* comparisons are presented in Table 1.

Findings indicated that adaptive perfectionists, maladaptive perfectionists, and non-perfectionists had significantly different mean scores from each other on the High Standards and Discrepancy subscales. For the Order subscale, no significant difference in means was found between adaptive and maladaptive perfectionists. The means of the non-perfec-

TABLE 1
MEANS AND STANDARD DEVIATIONS BY CLUSTERS

Measure	Adaptive Perfectionists (<i>n</i> = 159)		Maladaptive Perfectionists (<i>n</i> = 118)		Non-perfectionists (<i>n</i> = 106)		<i>F</i>	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Perfectionism								
High Standards	36.80 _a	6.52	39.36 _b	6.29	33.02 _c	7.67	24.51	.11
Discrepancy	42.22 _a	4.97	59.84 _b	7.09	26.66 _c	5.74	886.01	.82
Order	19.18 _a	5.54	19.52 _a	5.36	15.48 _b	6.23	17.66	.09
GHQ total	11.45 _a	5.11	14.59 _b	6.36	10.74 _a	5.42	15.79	.08

Note.—All univariate *F* tests were significant at $p < .001$. Values with differing subscripts indicate significant within-row differences between the clusters of perfectionists using Tukey *B post hoc* comparisons significant at $p < .05$.

tionist cluster differed significantly from adaptive and maladaptive perfectionists.

To investigate differences between clusters on the measure of psychological distress, a univariate ANOVA was conducted with cluster membership as the between-subjects factor and the total scores of the GHQ-12 as the dependent variable. The results along with Tukey *post hoc* comparisons are presented in Table 1. Findings indicated that the maladaptive perfectionist cluster had a significantly higher GHQ-12 mean total score compared to adaptive perfectionist and non-perfectionist clusters. Adaptive perfectionists' and non-perfectionist clusters' mean scores did not significantly differ from each other.

DISCUSSION

The result of confirmatory factor analysis demonstrated that, similar to the original APS-R (Slaney, *et al.*, 2001), the Turkish APS-R meaningfully distinguished High Standards, Discrepancy, and Order subscales. The reliability coefficients for the three subscales indicated good internal consistencies in the present study. In other words, although slightly lower values were obtained for some fit indices (GFI, AGFI, and CFI) as compared to Ulu (2007), the Turkish APS-R with 23 items seems to have acceptable psychometrics. In spite of the fact that Item 22 ("I have a strong need to strive for excellence") loaded onto both High Standards and Discrepancy factors, results of the goodness-of-fit statistics showed that the model seemed acceptable. Regarding Item 22, some issues need to be addressed: from a measurement perspective, the result of confirmatory analysis supported the retention of the item in the Discrepancy subscale. That is, the best model fit was achieved with the loading of the item into two subscales. Within this context, another interesting finding of the present study was the positive correlation of .30 between High Standards and Dis-

crepancy subscale scores. While this finding is different from U.S. studies, it is similar to results in Eastern studies. The correlations found in the U.S. studies ranged between $-.17$ (Gilman & Ashby, 2003) and $.10$ (Suddarth & Slaney, 2001; Ashby, LoCicero, & Kenny, 2003), whereas the correlations were $.37$ among Taiwanese college students (Wang, *et al.*, 2007) and $.27$ in Hong Kong high school students (Wang, *et al.*, 2009). A person from a collectivist culture may define his or her performance based on others' expectations, whereas an individual from an individualistic culture may define performance more from his or her own experiences of success and failure. As mentioned by Wang, *et al.* (2007, 2009), this higher correlation might reflect the cultural differences between Western and Eastern perspectives of perfectionism. In other words, there seemed to be a dilemma for the students in both being modest as a rewarded trait in a collectivist culture and maintaining other people's expectations, especially parents' expectations, about success. In Turkish culture, parents tend to expect their children to be increasingly successful and excel their own past performance. That is, Turkish students may more strongly experience others' expectations of them when setting standards than students from more individualistic cultures. Kağıtçıbaşı (2002) supported this view and mentioned the concept of socially-oriented achievement motivation which refers to "a sense of achievement that is not individualistic but rather extends from the self to close others such as the family or the group. The key here is the related self." Phalet and Claeys (1993) found that for Belgian youth, future achievement had only an individual meaning, whereas for Turkish youth it had the additional meaning of the family sharing the pride. However, additional research is needed to validate this finding.

The results of the cluster analysis demonstrated the dimensionality of the perfectionism construct measured by the Turkish APS-R. The present study found three clusters which were conceptually identified as maladaptive perfectionists, adaptive perfectionists, and non-perfectionists. These results were consistent with the findings of past studies (Rice & Slaney, 2002; Grzegorek, *et al.*, 2004; Wang, *et al.*, 2009). Cluster analysis indicated that 72.3% of the sample could be clustered into the perfectionism clusters, supporting a high prevalence of perfectionism among Turkish university students who participated in this study. In addition, the findings of the present study supported cluster group differences in the measure of psychological distress. Specifically, as expected, maladaptive perfectionists had higher mean scores on the GHQ-12 indicating higher psychological distress than adaptive perfectionists and non-perfectionists. In the literature, the GHQ-12 has been investigated in relation to perfectionism (Hamilton & Schweitzer, 2000; Hanstock & O'Mahony, 2002; Schweitzer & Hamilton, 2002; O'Connor & O'Connor, 2003; Miquelon,

Vallerand, Grouzet, & Cardinal, 2005; O'Connor, O'Connor, & Marshall, 2007). Considering that the General Health Questionnaire refers to the severity of psychological problems, it can be concluded that the results of the present study contributed to the discriminating nature of psychological problems among clusters of perfectionists.

An important difference from previous studies using cluster analysis is that, in the present study, there was a greater difference between the adaptive perfectionist and non-perfectionist clusters on their mean Discrepancy scores. Even though the non-perfectionist cluster had high standards similar to adaptive and maladaptive perfectionist clusters, their mean Discrepancy scores were lower as compared to the perfectionist clusters. This finding may be related with the characteristics of the sample. The students of the university where the sample was drawn needed to attain a very high performance on the public examination to gain admission into this university and a strong emphasis is placed on superior achievement in both the general education system and this university specifically. For Turkish students, entering the university system is a highly competitive process and a major aspiration that students and their families aim for and invest toward for many years. Moreover, for universities that emphasize a message of high standards to their students such as the sample of the present study, being competitive is important for maintaining high performance. Students with a non-perfectionist outlook may also possess high standards but perceive less discrepancy between their standards and actual performance. It may be also possible that Discrepancy can be seen as a strategy to improve and increase success among those scoring as perfectionist, but for those in the non-perfectionist cluster, discrepancy may be a more negative characteristic. Further research is needed to understand the underlying issues.

In summary, the Turkish APS-R appears to support the reliability and validity of the assessment of the dimensions of adaptive and maladaptive perfectionism and that adaptive perfectionism, maladaptive perfectionism, and non-perfectionism exist among university students who participated in this study. Several limitations of the present study should also be mentioned. It was carried out with the students of one university, which limits the generalizability of the results. Since the measures used in the study are self-report measures, other types of data collection procedure such as qualitative methods may provide more detailed information about the meaning and dimensions of perfectionism. That is, to better understand the Turkish cultural factors affecting perfectionism, in-depth investigation of the High Standards and Discrepancy dimensions with qualitative methods may be important. Although cluster analysis was used to classify participants, it is criticized for involving subjective judgment.

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