Development and validation of Tehran Multidimensional Perfectionism Scale

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Abstract

This paper presents an account of the development, reliability, and validity of Tehran Multidimensional Perfectionism Scale. Five hundred students from the University of Tehran (300 females, 200 males) were included in this study. All participants were asked to complete Tehran Multidimensional Perfectionism Scale (TMPS), the Inventory of Interpersonal Problems (IIP), Neuroticism and Extraversion subscales of the NEOPI-R, and the Mental Health Inventory (MHI). Results supported three-factor structure, convergent and discriminant validity, internal consistency, and test-retest reliability of the TMPS. It was concluded that the TMPS is a reliable and valid scale to measure multidimensional perfectionism in Iranian population.

Keywords: Tehran Multidimensional Perfectionism Scale; Reliability; Validity; Psychometry

1. Introduction

Perfectionism is a personality trait characterized by striving for flawlessness and setting excessively high standards for performance, accompanied by tendencies toward overly critical evaluations of one's behaviour (Flett & Hewitt, 2002). Perfectionism is seen as a multidimensional personality disposition (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). The two most prominent measures of perfectionism are the similarly named Multidimensional Perfectionism Scales (MPS) developed independently by Frost et al. (1990) and Hewitt and Flett (1991).

Frost et al’s scale consist of six dimensions, including Personal Standards (a tendency to set high standard and place excessive importance on these for self-evaluation), Concerns over Mistakes (a tendency to react negatively to mistakes and to equate mistakes with failure), Doubts about Actions (a tendency to doubt the quality of one’s performance), Parental Criticism (a tendency to perceive one’s parents being overly critical), Parental Expectations (a tendency to perceive one’s parents as having high expectations), and Organization (a tendency to emphasize the importance of order and organization). With the exception of Personal Standards and Organization, the other subscales were described as measuring maladaptive psychological characteristics.

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Hewitt and Flett’s scale consists of three dimensions, including Self-oriented Perfectionism (the tendency to have high standards and using those standards to evaluate performance), Other-oriented Perfectionism (the tendency to have high standards for significant others and using those standards for significant others and using those standards to evaluate their performance), and Socially Prescribed Perfectionism (the tendency to believe that significant others are imposing high standards and expectations on the self). High scores on all three dimensions are considered to be indicative of pathology (e.g., Flett, Hewitt, & Dyck, 1989; Flett, Hewitt, Blankstein, & O’Brien, 1991).

Previous studies (Frost, et al., 1990; Hewitt & Flett, 1991) provided the primary sources of items for generating Tehran Multidimensional Perfectionism Scale (TMPS). The present study aimed to investigate the psychometric properties of the TMPS with specific reference to its internal consistency, test-retest reliability, construct validity, and factor structure.

2. Method

2.1. Participants and Procedure

Five hundred undergraduate students (200 males, $M_{age} = 22.65$ years, age range: 19-29 years, and 300 females, $M_{age} = 22.50$ years, age range: 18-29 years) attending the University of Tehran participated in this study as volunteers. They were asked to complete Tehran Multidimensional Perfectionism Scale (TMPS; Besharat, 2007), Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988), Neuroticism and Extraversion subscales of the NEO Personality Inventory-Revised (NEOPI-R; Costa & McCrae, 1992), and Mental Health Inventory (MHI; Veit & Ware, 1983) at the same time to assess concurrent, convergent, and discriminant validity of the instrument. Seventy eight students completed the TMPS twice, with a two to four-week interval between measurements, in order to assess test-retest reliability of the scale. The TMPS factor structure was examined using confirmatory factor analysis.

2.2. Measures

**Tehran Multidimensional Perfectionism Scale (TMPS; Besharat, 2007)** - An original pool of 67 items for the TMPS was derived from the Frost et al. (1990), Hewitt and Flett (1991) MPS, and the Positive and Negative Perfectionism Scale (Besharat, 2005, 2009a; Terry-Short et al., 1995) and validated for the purpose of measuring dimensions of perfectionism in Iranian population (Besharat, 2007). Items consisted of statements that had previously proved in terms of assessing dimensions of the perfectionism. After the 67 items were discussed and examined for clarity of expression and ambiguities, a set of 45 items was retained for the subsequent steps of scale development. Then, according to the results of Kendall’s coefficients of concordance of 10 expert psychologists in the field, 30 items with factor loadings > .60 were selected for three dimensions of the TMPS: Self-oriented Perfectionism, Other-oriented Perfectionism, Socially Prescribed Perfectionism. Participants respond to the items using a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Inventory of Interpersonal Problems (IIP; Horowitz et al., 1988)** - This is a 127-item self-report instrument designed to measure difficulties that people experience in interpersonal relationships. It consists of six subscales including hard to be assertive, hard to be sociable, hard to be intimate, hard to be submissive, too responsible, and too controlling. Items are rated on a five-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). Adequate psychometric properties of the IIP have been reported (Besharat, 2008, 2009b; Horowitz et al., 1988).

**The NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992)** - The NEO-FFI is a 60-item self-report measure of five-factor model of personality. It consists of five 12-item scales measuring neuroticism, extraversion, openness, agreeableness, and conscientiousness. Respondents rate each item on a five-point scale from “strongly disagree” to “strongly agree.” The NEO-FFI has been used extensively in psychology research and has demonstrated good internal consistency, test-retest reliability, and validity (Costa & McCrae, 1992).
Mental Health Inventory (MHI; Veit & Ware, 1983) - This is a 38-item measure that provides two subscales of Psychological Well-Being and Psychological Distress. Participants are asked to report how often they feel a variety of affective states on a five-point Likert scale anchored by 1 = strongly disagree to 5 = strongly agree. Satisfactory psychometric properties of the MHI have been reported (Besharat, 2006, 2009c; Manne & Schnoll, 2001; Veit & Ware, 1983).

3. Results

3.1. Confirmatory Factor Analysis

Using confirmatory factor analysis, the three-factor structure of Tehran Multidimensional Perfectionism Scale was tested for the entire sample. The parameter estimates for each of the items are presented in Table 1.

<table>
<thead>
<tr>
<th>SOP Item</th>
<th>PE</th>
<th>OOP Item</th>
<th>PE</th>
<th>SPP Item</th>
<th>PE</th>
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</table>

SOP = Self-Oriented Perfectionism; OOP = Other-Oriented Perfectionism; SPP = Socially Prescribed Perfectionism; PE = Parameter Estimates; All parameter estimates are significant at P < .05.

The three-factor structure of the TMPS was found to meet the criteria standards for adequacy of fit to the data: goodness-of-fit index = .91, adjusted goodness-of-fit index = .89, nonnormed fit index = .95, comparative fit index = .96, and root-mean-square error of approximation = .05. All parameter estimates met the criteria standards for adequacy of fit.

3.2. Correlations between the TMPS, the IIP, the NEOPI-R, and the MHI

To examine the relationship between the TMPS, the IIP, the NEOPI-R, and the MHI, a series of zero-order correlations were conducted. Table 2 shows correlations of the TMPS with interpersonal problems, neuroticism, extraversion, psychological well-being, and psychological distress. These correlations support concurrent, convergent and discriminant validity of the TMPS. Internal reliability coefficients and mean inter-item correlations for the TMPS are also presented at the bottom of this table.

<table>
<thead>
<tr>
<th>Scales</th>
<th>SOP</th>
<th>OOP</th>
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<td>.19</td>
<td>NS</td>
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<td>Neuroticism</td>
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3.3. Reliability

In order to examine the internal consistency for the TMPS, Cronbach alpha coefficients were calculated for the entire sample of 500 participants. The alpha coefficients for the Self-Oriented Perfectionism, Other-Oriented Perfectionism, and Socially Prescribed Perfectionism were .90, .91, and .81, respectively. These findings suggest that the TMPS is internally consistent.

To examine the test-retest reliability of the TMPS, 78 students completed the scale two to four weeks after initial testing. Intraclass correlation coefficients between the scale scores at time 1 and time 2 were calculated. The evidence of the temporal stability was .85 for Self-Oriented Perfectionism, .79 for Other-Oriented Perfectionism, and .84 for Socially Prescribed Perfectionism.

4. Discussion

The overall results of the present study provided support for factorial validity of the TMPS in a sample of Iranian students. The results of the confirmatory factor analysis provided support for the three dimension perfectionism: Self-Oriented Perfectionism, Other-Oriented Perfectionism, and Socially Prescribed Perfectionism. This is in line with the factorial structure found in the previous multidimensional perfectionism scales (Frost et al., 1990; Hewitt & Flett, 1991). The examination of parameter item estimates revealed that all estimates were significant. Parameter item estimates revealed that all estimates were significant.

The concurrent, convergent, and discriminant validity of the TMPS was demonstrated in the pattern of correlations between the TMPS factors and measures of related constructs including interpersonal problems, neuroticism, extraversion, psychological well-being, and psychological distress. Findings confirmed the concurrent, convergent, and discriminant validity of the TMPS. The pattern of correlations is consistent with the results from previous studies (Frost et al., 1990; Hewitt & Flett, 1991).

The results indicated that the TMPS has adequate internal consistency and test-retest reliability. The homogeneity of the factor scales was confirmed by the mean inter-item correlations, which tended to fall within the optimal range of .20 to .40 (Cole, 1987; Breckler, 1990). The results also revealed that test-retest reliability was satisfactory for the TMPS subscales.

The TMPS demonstrated a replicable three-factor structure that was congruent with the theoretical construct of perfectionism. Future research in the field of perfectionism can benefit from the TMPS. The scale can help in understanding mechanisms in personality characteristics. Iranian findings on perfectionism can also contribute to our knowledge of cultural influences on the construct. These findings, however, are limited in terms of the stability of the factorial structure. Although this study provides evidence about the psychometric properties of the TMPS, the task of establishing the reliability and validity foundations of the instrument is an ongoing process.
Acknowledgements

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References


