

Development of the Parent Irrational Beliefs Scale*

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Abstract

The aim of this study was to develop the scale to assess irrational beliefs of parents and test its psychometric properties. The research sample was comprised of parents whose children were attending primary schools. The results from the factor analysis were used to determine two factors in the scale: Expectations and Perfectionism. To examine the validity of the scale, the correlations between the scores on the Expectations sub-scale and the Dysfunctional Attitude Scale (DAS) (.14), the Irrational Belief Scale-Short Form (IBS-S) (.52), and the Beck Depression Inventory (BDI) (.30) were assessed. The perfectionism sub-scale was correlated with DAS (.27), IBS-S (.54), BDI (.19). The test-retest correlations were .84 for Expectations sub-scale and .80 for Perfectionism sub-scale. Cronbach Alpha internal consistency coefficient were .89 for Expectations sub-scale and .86 for Perfectionism sub-scale.

Key Words

Irrational Beliefs, Parent, Validity and Reliability.

According to the cognitive behavioral approach, thoughts that are regarded as irrational beliefs or cognitive distortions are important factors for the emergence and continuation of dysfunctional behaviors and psychological disorders (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979; Dryden, 2005; Ellis, 1975, 1977). The literature in this area has focused on specific beliefs than general irrational beliefs (Dobson & Dobson, 2009). Since 1970s, many studies emphasize that the irrational or dysfunctional beliefs about parenting play significant role in parental behaviors and attitudes with regard to child-rearing (Ellis, Moseley, & Wolfe, 1966; Joyce, 1989, 1990; 1994). The results of study showed that the irrational beliefs about parenting were sig-

nificantly associated with level of parental stress (Graeves, 1997; Mcdonalt, 1993; Starko, 1991) and depression (Eryüksel & Akün, 2003), perceived parenting efficacy (Ackerman, 1991), parent-adolescent conflict (Robin ve Foster, 1989).

Parental beliefs are also called in different ways; such as *child rearing beliefs*, *parenting cognitions*, *parenting schemas*. In a broad definition, however, parental beliefs consist of parents' beliefs about child rearing, parental expectation of their children's performing certain behavioral patterns, parental perceptions of children behavior and parental roles as childcares, parental attribution of their children's behavior, and parental self-efficacy (Azar, Nix, & Makin-Bryd, 2005; Bornstein & Cote, 2004; Haskett, Scott, Grant, Ward, & Robinson, 2003; Johnston, 1996).

Joyce's (2006) have identified following irrational parenting beliefs: *a) Demandingness*: This category of irrational beliefs contains absolutist, rigid beliefs which include should, ought, have to statements. *b) Making it Awfulizing*: In awfulizing, a negative event is evaluated as worse than it absolutely should be. *c) Low frustration tolerance*: These beliefs assert the fact that one cannot tolerate or bear an event or set of circumstances, therefore the situ-

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ation appears to be intolerable. *d) Global evaluation of human worth:* In this belief category, individuals as human beings are valued depending on their success and skills.

Two scales were developed to evaluate irrational parental beliefs in the literature. One inventory which is often used is the Parent Irrational Belief Scale (Ackerman, 1991), which investigates parental expectations of their children and themselves. Similarly, Cognition/Belief Subscale of the Parent Adolescent Relationship Questionnaire (Roehling & Robin, 1986) was developed to measure the relationship between adolescents and their parents assess irrational parenting beliefs. The Parent Adolescent Relationship Questionnaire was adapted to Turkish culture by Eryüksel (1996).

No scale has been described in the Turkish literature that could measure irrational beliefs of parents. The aim of this study is to develop a scale that does not measure specific irrational beliefs displayed by parents. Further, the study aims to investigate the psychometric characteristics of this scale. This study investigated the factor structure in the scale, test-retest correlation, item-total correlations, internal consistency, and criterion-based validity.

Method

The Development of the Parent Irrational Beliefs Scale (PIBS)

Stage I: In the first step, the classification of irrational parental beliefs which were put forward in Rational Emotional Behavior Therapy model (Ellis, 1979); as well as other irrational belief scales (Hauck, 1967; Joyce, 2006; Robin & Foster, 1989; Wilde, 1992) was investigated.

Stage II: In the second stage, a group of parents ($n = 59$) were asked to complete a sentence completion task about irrational beliefs. Another group of parents ($n = 62$) were asked about their reactions to situations which are thought to trigger irrational beliefs. Still the last group ($n = 71$) was asked to open-ended questions. Based on the feedback from these forms, the scales and the classifications of irrational parental beliefs reported in the literature, 97 irrational statements about parenting were developed.

Stage III: Four specialists who have been researching on Rational Emotional Behavior Therapy Model at theoretical and implicational levels evaluated the items in order to assess whether items include

irrational beliefs or not. When they thought that an item included an irrational belief about parenting, they described the appropriateness of items using a 3-point Likert-type scale with anchors 3= appropriate, 2= partially appropriate and 1= not appropriate. After evaluation, 70 items with an average rating above were included in the scale.

Stage IV: In this stage, three teachers of Turkish Language and Literature and five 4th grade Turkish Language and Literature Teaching major students were given the scale to evaluate the items in terms of punctuation, spelling and level of comprehension. Based on their feedback, the items were restated. The scale uses a 5-point Likert-type scale, ranging from 1= I strongly disagree to 5=I strongly agree. High scores represent a high level of irrational beliefs in parenting.

The Research Sample

The research sample was comprised of a total of 884 parents who have children attending primary schools.

The research sample 1: The preliminary form of the scale was delivered to 520 parents; 303 mothers (% 58.3), 217 fathers (% 41.7), later on the data was used for factor analysis.

The research sample 2: In order to evaluate the validity of the preliminary scale, it was distributed to participants along with the scale and the Dysfunctional Attitude Scale (DAS) ($n=84$), the Irrational Belief Scale-Short Form (IBS-S) ($n=95$), and the Beck Depression Inventory (BDI) ($n=79$). Correlations between the preliminary scale and these various scales were conducted to reveal the validity of the scale. In order to determine the distinguishing power of the scale, it was distributed to two groups of parents. One group consisted of parents ($n=20$) whose children were diagnosed with a psychological disorder and having treatment; the other group consisted of parents ($n=20$) whose children were never referred to a psychological clinic. To estimate test-retest reliability, Irrational Parental Belief Scale was distributed to the same group of parents twice with a 15-day interval between measures ($n=66$).

Measures

The Dysfunctional Attitude Scale (DAS): The scale was developed by Weisman (1979) in order to evaluate dysfunctional attitudes of parents under

the frame of irrational beliefs. Later, it was adapted to Turkish by Şahin and Şahin (1991). The scale consisted of 40 7-point Likert type items. The minimum score of the scale is 40; and the maximum is 280. Higher total scores from the scale refer to higher dysfunctional attitudes of individuals.

Beck Depression Inventory (BDI): The scale, developed to determine depression symptoms, was adapted to Turkish by Hisli (1989 cited in Savaşır & Şahin, 1997). The scale is a self-report scale consisting of 21 questions, each answer being scored on a scale value of 0 to 3. The results from the inventory are categorized as 0–9 no depression; 10–16 mild depression; 17–24 moderate depression; and 25+ severe depression. The highest score from the inventory is 63.

Irrational Belief Scale-Short Form (IBS-S): Irrational Belief Scale-Short Form (IBS-S), which was developed by Türküm (2003) was used in the study to investigate irrational beliefs. It consists of 15 items, each rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree); the higher the score, the greater the tendency towards holding irrational beliefs. The maximum score from the scale is 75, while the minimum is 15.

Data Analysis

SPSS 17 for Windows statistical analysis packet was used to in the analyses of the Parent Irrational Belief Scale development process.

Results

Factor Analysis of the Scale

Principal components analysis (PCA) was conducted to determine the factor structure in the scale. This is a statistical technique for a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another (Tabachnick & Fidell, 2001). In this analysis, factor loadings which are greater than .60 are generally considered high, and moderately high if they are above .3 (Kline, 2000). However, in attempting to create simple structures that can be defined by factor analysis, it is necessary to isolate items with high loadings on one factor only (Tabachnick & Fidell, 2001). Therefore, items which had high loadings on more than one factor were not included in the scale. Consequently, in choos-

ing items, the difference between the loading values of the items in the factors and other factor loading values was limited to a maximum of .20. As a result of this, items with a minimum difference of .20 between factor loadings were kept in the scale and the ones with multiple high factor loadings with difference lower than .20 were removed from the scale. Another important condition in item selection is that communalities of a factor should be over .66 and close to 1.00 (Büyüköztürk, 2009). Finally, items with higher factor variance were kept in the scale, however the ones with lower loadings were removed from the scale.

The final analysis was conducted based on Eigen graph (Cattell, 1966) and concluded that it would be meaningful to determine two major factors. In order to observe the factor structure of the scale more clearly and decrease the correlation between the factors, Principal Component Analysis was conducted using varimax rotation. Principal components analysis revealed that there were 17 factors whose eigenvalues were > 1 , explaining 58 % of the variance. In order to observe the factor structure of the scale more clearly and decrease the correlation between the factors, Principal Component Analysis was conducted again using varimax rotation. After this analysis, the items that had lower loading values than .45 on single factor or items with lower difference ($< .20$ factor loading) between factor loadings for the two factors were removed from the scale. At the conclusion of analysis, after 34 items were removed from the scale, the scale was made up of 29 items in two factors.

The two factors of the scale were named in accordance regarding parental expectations from children and parent-children relationship; therefore, it was named as *Expectations* with the content of the items in the factors; the first factor explaining 29.1 % of the variance with 17 items. The second factor explaining 17.42% of the variance and containing 12 items which hold parents' perfectionist views about child-rearing, so this sub-scale were named as *Perfectionism*.

Item Analysis

The correlation values between each item's factor and other factors were measured between .27 and .62. In the correlation analysis, the item-total correlations of 17 items in *Expectations* subscale varied from .44 to .63; and those of 12 items in *Per-*

fectionism subscale varied from .41 and .68. All the items in the scale had significant correlations with both the overall scale and their subscale ($p < .01$). When the item-total correlations were analyzed, it was observed that item 45 had relatively lower correlation value than other items ($r = .27, p < .01$). This item was considered to be removed from the scale; however, as its factor loading was high (.53) and it differentiated the upper-lower 27% groups ($t = 6.17, p < .01$), it was decided to keep the item in the scale. The means of 520 parents who answered Expectations subscale was 41.07, standard deviation was 10.94. Their means for Perfectionism subscale was 47.68, and standard deviation was 7.32.

Validity of the Scale

To examine the validity of the scale, the correlations between the scores on the Expectations subscale and the Dysfunctional Attitude Scale (DAS) (.14), the Irrational Belief Scale-Short Form (IBS-S) (.52), and the Beck Depression Inventory (BDI) (.30) were assessed. The perfectionism subscale was correlated with DAS (.27), IBS-S (.54), BDI (.19). The mean difference between the groups of parents whose children have had psychological diagnosis and are having treatment ($\bar{x} = 57.9, SS = 14$) and the group of parents whose children never diagnosed with a psychological disorder ($\bar{x} = 43.6, SS = 10.4$) was statistically significant ($t = 3.7, p < .05$). In the Perfectionism sub-scale of PIBS, the mean difference between the groups of parents whose children have had psychological diagnosis and are having treatment ($\bar{x} = .50, SS = 7.4$) and the group of parents whose children never diagnosed with a psychological disorder ($\bar{x} = 49.3, SS = 5.5$) was not statistically significant ($t = .29, p > .05$).

Reliability of the Scale

The reliability of the scale was measured through internal consistency and the test-retest method. The correlation coefficients, measured for total scale and each dimension and test-retest coefficients over a 15-day interval were calculated. Internal consistency studies revealed that the Cronbach-Alpha for the Expectations subscale was .89 and it was .86 for Perfectionism subscale. Test-retest correlation values were .84 for Expectations and .80 for Perfectionism subscales ($p < .01$).

Discussion

The aim of current study was to develop a scale to assess irrational beliefs and its psychometric properties. The factor analysis showed that the Parent Irrational Beliefs Scale could be defined by a two-factor structure labeled *Expectations* and *Perfectionism*. The variances explained by the two factors of the scale were 38 % and the variance not explained 63%. This result is considered as a limitation of the scale.

The results for other items were relatively higher, indicating a normal structure of items in the scale. The item-total analysis results suggested that the scale had structure validity. Furthermore, high and medium level meaningful correlations of each item with the ones in their sub-scale could be another result to prove the homogeneity of item placement in sub-categories as well as the item consistency with the scale and sub-scale structure.

In order to explore the discriminative validity of the Parent Irrational Beliefs Scale, upper 27% and lower 27% groups' means were compared. The results showed that the scores of parents in the upper 27% group were meaningfully different from the ones in lower 27% group. This shows that the scale can discriminate between parents with low irrational parenting beliefs from those with high irrational parenting beliefs.

The results of analysis to calculate the discriminative power of the PIBS revealed that the instrument significantly discriminated between Expectations sub-scale points from the PIBS of parents whose children were diagnosed with a psychological disorder and are having treatment. It seems that this result is consistent with the literature (Barkley, Anastopoulos, Guevremont, & Fletcher, 1992).

For the reliability of the scale, the Pearson Product Moment Correlation was used between Parental Irrational Belief Scale and Dysfunctional Attitude Scale (DAS), the Irrational Belief Scale-Short Form (IBS-S), and the Beck Depression Inventory (BDI) (Öncü, 1995). The analyses in the current study concluded that Expectations sub-scale of the PIBS and BDI have a medium level significant relationship. These findings are in line with various studies which also reported correlations between irrational beliefs and depression (Nieuwenhuijsen, Verbeek, Boer, Blonk, & Dijk, 2007; Thyer, Papsdorf, & Kramer, 1983). Although there was a meaningful correlation between Expectations sub-scale and BDI, there was no statistically significant correlation between Perfectionism sub-scale and BDI.

This lack of relation could be explained by the fact that there are many factors affecting depression along with irrational beliefs. In the current study, it was found a low level correlation between the Expectation and Perfectionism sub-scales of the scale and the DAS. The reason why there were no significant relations between sub-scales and DAS could be that the DAS is a kind of instrument which has items to measure individual's dysfunctional attitudes about themselves.

Finally, PIBS's test-retest reliability was calculated. The results of this analysis revealed that test-retest reliability values of the scale were between .80 and .84. This analysis could refer to the fact that the scale is stable over time.

This study demonstrates that the Parent Irrational Beliefs Scale is a valid and reliable for assessing irrational parents' beliefs. The limitation of this study was that the scale was developed on parents whose children were attending primary schools. The results must not be generalized to all individuals with all parents. It will require further validation of the measure on different groups.

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