

The Factor Analytic Structure of the Interactions Questionnaire

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Abstract

Several studies suggest that parental attributions may be associated with parenting behavior and child treatment outcomes. In the current study, maternal attributions for compliance and noncompliance were examined in a sample of 92 non-referred children using the Interactions Questionnaire (INTX). Exploratory factor analyses supported a four-factor solution in which INTX Compliance and Noncompliance subscales each loaded onto two factors: (1) an "Unstable Attributions" factor, including child mood, parent mood, child effort, and parent effort; and (2) a "Stable Attributions" factor, including child ability, parent ability, child qualities, and parent qualities. This factor structure simplifies the interpretation of this promising measure of parental cognitions.

Introduction

- There has been a great deal of research supporting the link between parents' cognitions regarding their children and their parenting behavior (Bugental & Johnston, 2000; Miller, 1995). These studies suggest that when parents view their children as responsible for their misbehavior, they are more likely to respond negatively to such behavior (Dix & Grusec, 1985; Slep & O'Leary, 1998).

- Compared to parents of control children, parents of children with ADHD tend to make more negative attributions for their children's misbehavior, particularly oppositional and aggressive behaviors, and such attributions may contribute to more negative parenting behavior (Johnston & Freeman, 1997). Parent cognitions may also be related to other forms of psychopathology commonly present in parents of children with ADHD, such as depression (e.g., Rogers & Forehand, 1983).

- Parental attributions may have particular relevance to treatment response. For example, findings from the Multimodal Treatment Study of Children With ADHD (MTA) suggested that parental cognitions about themselves, their ADHD children, and their parenting were significant predictors of child treatment outcome, beyond the effects of treatment group (Hoza et al., 2000). Specifically, low self-esteem in mothers, low parenting efficacy in fathers, and fathers' attributions for child noncompliance were associated with poorer response to treatments for ADHD.

- The Interactions Questionnaire (INTX; Hoza, Pelham, & Milich, 1991) assesses parents' explanations and attributions for successful and unsuccessful attempts to obtain compliance from their children. On the INTX, parents are presented with vignettes in which children either comply or fail to comply with parental directives. Eight attributions are scored for each compliance and noncompliance scenario: parent effort, parent mood, child ability, parent qualities, child qualities, child mood, parent ability, and child effort. This measure has been used with increasing frequency to study attributions of parents who have children with ADHD. One weakness of this measure, however, is that its factor structure has never been examined using a nondeviant sample of children and their parents. Further, the current scoring scheme results in 16 subscales, which can be cumbersome to interpret. The current analyses attempt to simplify the factor structure of the INTX subscales to ease interpretation of the measure, using a nondeviant sample.

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Method

- Participants included 92 4-7 year old boys recruited as non-ADHD comparison children during the first two years of a longitudinal study of young children with ADHD (Lahey et al., 1998).
- As part of the initial assessment procedures, mothers of these children completed the INTX. Sample items are presented in Table 1.
- Two exploratory factor analyses were conducted on this sample, one for the eight INTX compliance subscales and the other for the eight INTX noncompliance subscales. The data were examined using principal components analysis with varimax rotation (SPSS 11.5).
- The sample size of 92 exceeds the required number of subjects necessary to factor analyze eight subscales, using Nunnally's (1978) minimum recommended 10:1 subjects to variables ratio.

Results

Results of factor analyses produced four factors with eigenvalues greater than 1. Likewise, the scree test supported a four-factor solution. The four-factor solution accounted for approximately 63.6% of the variance in INTX scores. The results of the factor analysis revealed that the INTX Compliance Subscales and Noncompliance Subscales each loaded onto two factors: (1) an "Unstable Attributions" factor, including child mood, parent mood, child effort, and parent effort (Compliance: eigenvalue = 2.92, 36.46% of variance; Noncompliance: eigenvalue = 2.65, 33.12% of variance); and (2) a "Stable Attributions" factor, including child ability, parent ability, child qualities, and parent qualities (Compliance: eigenvalue = 2.52, 31.54% of variance; Noncompliance: eigenvalue = 2.67, 33.32% of variance). All of the 16 INTX subscales loaded in excess of .69 on the designated factor, while loadings on the opposing factor did not exceed .27. These factors and loadings are presented in Table 2.

Discussion

- The INTX appears to have a factor structure consisting of 2 primary factors: (1) an Unstable Attributions factor, in which success and failure are attributed to parent or child mood/effort; and (2) a Stable Attributions factor, in which success and failure are attributed to parent or child ability/qualities.
- The distinction between stable attributions for success and failure in parenting scenarios appears to be an important one, perhaps because internal, stable attributions for success have been found to be associated with positive psychological functioning, while internal, stable attributions for failure are associated with depression (Abramson, Metalsky, & Alloy, 1989; Abramson, Seligman, & Teasdale, 1978).
- In light of the literature suggesting that parental cognitions are associated with parenting behavior and outcomes following ADHD treatment, the INTX may be a useful clinical tool for assessing parental attributions.

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Table 1. INTX Sample Items

Child Attributions

- Mood:** "s/he...because s/he was in a good/bad mood that day"
Ability: "s/he...because s/he is good/not good at..."
Effort: "s/he...because s/he made an extra effort/did not make an effort to...that day"
Qualities: "s/he...because s/he is basically a good/difficult child"

Parent Attributions

- Mood:** "s/he...because I was in a good/bad mood that day"
Ability: "s/he...because I am good/not good at getting a child to follow directions"
Effort: "s/he...because I made an extra effort/did not make an effort to..."
Qualities: "s/he...because I am basically a good/bad parent"

Note: These attributions were assessed for scenarios in which child was both compliant and noncompliant. Higher scores on each subscale indicate a greater tendency to make the measured attributions for child compliance or noncompliance.

Table 2. Factor Loadings for Rotated 4-Factor Solution

Interactions Questionnaire (INTX) Subscale	Factor 1		Factor 2	
	Compliance: Unstable Attributions	Compliance: Stable Attributions	Noncompliance: Unstable Attributions	Noncompliance: Stable Attributions
Child Mood	.88	-.01	.84	-.24
Child Effort	.85	.08	.84	-.18
Child Ability	-.20	.76	.26	.78
Child Qualities	-.02	.75	.27	.74
Parent Mood	.81	.15	.69	-.21
Parent Effort	.83	-.21	.73	-.27
Parent Ability	.10	.82	.27	.82
Parent Qualities	.14	.81	.13	.79