Published in final edited form as:
Psychol Assess. 2009 September ; 21(3): 450. doi:10.1037/a0016564.

Factor Structure of the Children's Perception of Interparental Conflict Scale for Studies of Youths With Externalizing Behavior Problems

Joel T. Nigg, **Molly Nikolas**, **Torri Miller**, **S. Alexandra Burt**, **Kelly L. Klump**, and **Alexander von Eye**
Department of Psychology, Michigan State University.

Abstract

The assessment of children's perception of marital conflict is an important area of research related to family relations, children's cognitions about self, and the development of psychopathology. The leading instrument in this domain is the Children's Perception of Interparental Conflict Scale (CPIC; J. H. Grych, M. Seid, & F. D. Fincham, 1992). It has 48 items organized into 9 conceptual designed subscales, with reports of 3-factor higher order structure to the 9 subscales. However, the 3-factor solution does not capture all 9 subscales well. Further, items have never been subjected to factor analysis to evaluate the best fitting factor structure at the item level. Doing so is particularly important when bringing the scale into new populations such as children with attention-deficit/hyperactivity disorder (ADHD) or disruptive behavior disorders. In the present study, 2 samples of children (total $N = 1,190$; ages 6–18 years) completed the CPIC. An exploratory factor analysis in Sample 1 (from a clinical study of ADHD and non-ADHD youths) yielded 4 interpretable factors. A confirmatory factor analysis in Sample 2 (a population sample of twins) confirmed the generalizability of the solution with an acceptable fit, although 1 item was dropped. The final solution used 38 of the 48 items. The 4-factor solution captured a Conflict Properties factor, two appraisal factors labeled Threat to Self and Self-Blame, and a Triangulation/Stability factor that included elements of appraisal and content. The authors concluded that the item-based 4-factor solution to the CPIC is preferable to the 9-factor or 3-factor formulation.

Keywords

marital conflict; child perception; ADHD; factor analysis; disruptive behavior

Interparental conflict is correlated with child maladjustment, internalizing and externalizing problems, decreased social functioning, reduced cognitive competence, and physiological reactivity (Buehler et al., 1997). As a result, it became important to clarify the mechanisms by which discord between parental figures might influence the development of child behavior problems. Youth reports of interparental conflict are a key information source to be assessed. Parent reports likely underestimate children's awareness of interparental conflict, and some aspects of such conflict may be particularly salient to children (Grych, Seid, & Fincham, 1992). The cognitive–contextual framework (Grych & Fincham, 1990) proposes that children's

Correspondence concerning this article should be addressed to Joel T. Nigg, Department of Psychiatry, Oregon Health & Science University, Portland, OR 97239-3098. niggj@ohsu.edu.
Joel T. Nigg is now at the Department of Psychiatry, Oregon Health & Science University. Torri Miller is now at Texas Children's Hospital of Orange County, Houston, Texas.

appraisals of conflict, which can be distinguished from their reports of the conflict properties, play a central role in determining the influence of conflict on their adjustment.

Assessment of children's perceptions and appraisals lacked an adequate measurement instrument until the early 1990s. The Children's Perception of Interparental Conflict Scale (CPIC; Grych et al., 1992) was developed to fill this need. It has become the most widely used and recognized measure in the elementary school and adolescent age ranges. The original CPIC was developed for children in middle childhood; it was validated in children down to age 8 years. Subsequently, a modified version with fewer items was developed for 6- to 9-year-old children, and it revealed validation properties similar to those for the scale developed for older children (McDonald & Grych, 2006). The current report focuses on the original CPIC. Item-level data on this instrument in a wide age range, including young children, has not been available in large samples. We therefore included a wide age range, including somewhat younger children than usually studied with this instrument, so that the degree of generalizability —using the same instrument, advantageous for research purposes—could be evaluated. The possibility that item–factor loadings would differ in younger children was addressed analytically.

The 48-item CPIC was developed by rational means. Nine theoretically derived subscales were intended to reflect aspects of two broad constructs: conflict properties and conflict appraisal. Table 1 lists the nine subscales and indicates their initial conceptual grouping into (a) properties or (b) appraisal. The nine rationally constructed subscales were correlated. When the nine subscales were themselves factor-analyzed, they seemed to consolidate into three higher order empirical factors, as indicated in the final column of Table 1 (Grych et al., 1992). It was unclear from those results, however, whether a three- or a four-factor solution might exist at the item level, because results were inconsistent regarding the Stability and Triangulation subscales. Those two subscales were not included in the final three-factor solution obtained by Grych et al. (1992) as shown in the table; however, Bickham and Fiese (1997) found that those two subscales loaded with a Conflict Properties factor. Grych et al. suggested that factor analysis of the 48 items would be valuable.

The need for such an analysis has become more pressing as the study of child perceptions has accelerated and the need to extend this work into clinical populations has increased. Children with externalizing disorders are one such crucial clinical population. Marital discord is hypothesized to be important in the development and maintenance of oppositional, conduct, and attention/hyperactivity problems (Wymbs, Pelham, Molina, & Gnagy, 2008). Meantime, the extensive literature on the CPIC includes work regarding a range of child problems and risk factors, mechanisms by which youth appraisals of discord influence interchanges and outcomes, academic outcomes, and the development of externalizing psychopathology (Buehler, Lange, & Franck, 2007; Counts, Nigg, Stawicki, Rappley, & von Eye, 2005; Davies & Lindsay, 2004; El-Sheikh & Harger, 2001; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Harold, & Miles, 2003; Harold, Aitken, & Shelton, 2007; Skopp, McDonald, Manke, & Jouriles, 2005). Thus, the measure is a widely used research tool. All of this work, however, assumed that the items on the CPIC were formed into a valid factor structure. Clarifying that matter is thus quite timely.

The present study considered three hypotheses regarding likely structure of the CPIC: (a) a three-factor structure, as in Grych et al. (1992) and McDonald and Grych (2006); (b) a four-factor structure, with items from Triangulation and Stability anchoring a fourth factor; and (c) a nine-factor structure.

Method

Participants

Participants were 1,190 children ages 6–18 years ($M = 11.7$) from 872 families. They completed the CPIC as part of two larger studies. The first sample was from an ongoing study of attention-deficit/hyperactivity disorder (ADHD). That sample had 783 children (58% male), including 384 non-ADHD control youths and 399 youths with ADHD of any subtype (they could have comorbid conditions—about 40% had a disruptive behavior disorder). Children were recruited regionally via widespread public advertising. ADHD diagnosis was evaluated by structured clinical interview of the parent and by parent, teacher, and youth standardized rating scales. Youths with mental retardation, neurological disorder, bipolar disorder, psychotic disorder, serious substance use disorder, or physical handicap were excluded. More details on that sample are available in Counts et al. (2005) and Martel, Nikolas, and Nigg (2007). The second sample was from an ongoing population-based study of behavior in 407 twins (52% male; see Klump & Burt, 2006). Youths were recruited statewide from birth records. In the twin sample, no formal evaluation of ADHD was conducted. However, parents completed the Child Behavior Checklist (CBCL; Achenbach, 1991). With a cutoff of T > 65 on the CBCL's Attention Problems scale, 32 youths (7.9%) in that sample had clinically significant attention problems.

The two samples were similar in ethnic variation, with 75% and 85% Caucasian, respectively. Family income ranged widely from poverty level (about 15%) to upper middle class, with incomes overall slightly above the national average. Overall, the samples represented a broad cross-section of the regional population. In the clinical research sample, 70% lived with both parents, and 27% lived with one parent. In that sample, 24.6% had experienced a parental divorce; 37% of those, or 8.9% of the entire sample, had experienced a remarriage of a parent. In the twin sample, 79% reported living with both parents, and 20% with one parent (with another caregiver or partner who could be rated in all but about 1% of cases).

Children complete the CPIC in relation to the most familiar current relationship between parents in their primary home. Thus, if the parents were remarried and the child was now living primarily with mother and stepfather, the CPIC was completed in relation to the mother–stepfather relationship. If parents were separated but still in regular contact, the CPIC was completed in regard to that relationship. If the child lived with one parent who had a partner functioning in a role the child considered parental, then that relationship was rated. If the child was living with a single parent with no interaction between parents or parental dating partners in a potential parentlike role, then the CPIC was not completed.

Youths completed the CPIC with a staff person while the parent was absent. Parents and children agreed in the consent process that parents would not learn children's answers on the CPIC. Although the CPIC has been shown to be reliable and valid in children as young as 8 years of age (Grych et al., 1992), the items are complex and their readability for young children is doubtful (McDonald & Grych, 2006). Therefore, the items were read aloud to children while they looked on unless the children asked to read it to themselves. Although this in itself may alter responses, it was viewed as most likely to provide valid data.

Analytic Strategy

A cross-replication strategy was employed. This entailed using the regionally based clinical research sample (ADHD and controls) for an exploratory factor analysis (EFA), because the primary concern was to evaluate item–factor relations in that type of sample. That was followed by a confirmatory factor analysis (CFA) in the statewide-based population (twin) sample to evaluate generalizability. All analyses were conducted in Mplus 5.1 (Muthén & Muthén, 1998–

2008). Nonindependence of sibling/twin data was handled in the EFA and CFA analyses by designating a clustering variable (family) and setting the analysis command to Type = Complex. The few missing data points (less than 1%) were handled with the default missing data algorithm in Mplus, which utilizes all available data for each comparison. Items that had reverse wording were reverse-scored prior to analysis.

The EFA generally followed the procedures recommended by Fabrigar, Wegener, MacCallum, and Strahan (1999). Sample size, number of indicators, communalities, and item distributional properties were well within the recommended parameters. With regard to how many factors to extract, Fabrigar et al. suggested the use of sample size–sensitive fit indexes, combined with overextraction of factors to ensure that all meaningful factors are identified. The interpretation was simplified by reverse-coding relevant items so that all items had the same valence. Because the item responses were not multinormal (Mardia skewness [Mardia, 1970] and kurtosis $p < .01$), they were coded as ordinal (ordered categorical) items in Mplus. Two through nine factors were extracted by weighted least squares (WLS). Nonorthogonal oblique rotation was utilized and implemented via the GeoMax rotation in Mplus 5.1. The root mean square error of approximation (RMSEA) and chi-square served as fit indexes. After the WLS best solution was identified, it was evaluated with a maximum likelihood (ML) extraction (see additional notes below). Because data were not multinormal, the use of both ML and WLS models was seen as providing some protection against EFA results' being dependent on a particular extraction method.

To limit the number of items loading on a particular factor and to ensure adequate stability of factors identified, it was decided a priori that items would load on a factor only if they had a factor loading that was ≥.50 on one factor only. Items with a substantial cross-loading >.50 on two or more factors would be omitted (this was rare, as shown in the Results section). To be considered viable, a factor must have at least three items loading ≥.50 or at least one item loading ≥.60.

The CFA was conducted with the population (twin) sample. Fit was evaluated with several fit indexes recommended by Fabrigar et al. (1999); they provided discussion of the cutoffs used here. The fit indexes were the Tucker–Lewis fit index (TLI; >.90 = acceptable, >.95 = excellent), comparative fit index (CFI; >.90 = adequate), and RMSEA (<.05 = good, .05–.08 = adequate, .08 –.10 = marginal, >.10 = poor). Chi-square and chi-square to degrees of freedom ratio were also examined. The fit indexes were evaluated in aggregate to draw conclusions about adequacy of fit. To test age invariance, a two-group invariance analysis was conducted, as detailed further in the Results section.

Results

Exploratory Factor Analysis

EFA results are summarized in Table 2. Six factors had eigen-values greater than 1.0. As the table shows, each model produced a lower $\Delta\chi^2$ to degree of freedom ratio than did the prior model, with no obvious plateau and no "nonsignificant change" point. Examination of each solution revealed that no solution yielded more than four coherent factors. (In the five-factor solution, the fifth factor had one item loading at .52, one at .50, and all the rest below .50; in the six-factor solution, the fifth factor had only one item above .50. The subsequent solutions were likewise.) Therefore, the four-factor solution was chosen and was compared with the three-factor solution, due to the literature suggesting a three-factor structure for this instrument. Then, a three- and a four-factor extraction were conducted with ML extraction in order to compare the WLS results with the ML solution.

Table 3 lists the 48 items organized according to the four factors suggested in the EFA and indicates the ML loadings. It also indicates, via subheadings, which items were excluded from all factors for failing to meet a priori criteria for adequate loading. In parentheses, after each item, is the abbreviation indicating the original scale to which it was conceptually related by Grych et al. (1992). The ML and WLS solutions were similar, so the WLS solution is not shown. The main differences were (a) the order of factors and (b) the placement of Item 40, which migrated to a different factor in the WLS solution. The ML solution appeared to provide a slightly cleaner solution in that there were fewer items with meaningful cross-loadings. Therefore, it was chosen as the best basis for the CFA.

The three-factor solution (not shown) yielded (a) a large factor that combined Self-Blame and the items from the Triangulation/Stability factor, (b) a Conflict Properties factor (similar to Factor 2), and (c) the Threat factor (same as in Table 3). As shown in the table, 39 of the items loaded sufficiently well to meet our criteria for inclusion in the CFA. For comparison to be meaningful, the same number of items was used for the three- and four-factor CFA models. Therefore, the best loading 39 items were selected for the three-factor solution and were fit in a competing CFA.

Confirmatory Factor Analysis

In the community sample, a CFA was conducted for cross-validation purposes on the basis of the ML result shown in Table 3. That four-factor model achieved an acceptable fit to the data. The model achieved an acceptable-to-excellent fit on all indexes except the CFI, with CFI = .85, TLI = .94, RMSEA = .053, $\chi^2(84) = 368.9$ ($\chi^2/df = 4.39$). One path loading was nonsignificant (Item 22). It was dropped, and the model was refit with the remaining 38 items. The final model achieved CFI = .86, TLI = .95, RMSEA = .05, with $\chi^2(83) = 334.0$, indicating generally good overall fit. It is displayed in Figure 1 with standardized path loadings and factor correlations. Note that relations among the four factors were moderate to strong, with some sharing about half their variance.

The three-factor solution was next fit with the best loading 39 items. It yielded an acceptable fit on all indexes other than the CFI, although the fit was weaker than in the four-factor model, with CFI = .78, TLI = .92, and RMSEA < .07, $\chi^2(79) = 493.8$ ($\chi^2/df = 6.25$). Factor correlations were .76, .73, and .66. Item 22 again failed to load significantly on its factor; the model was refit with it omitted, yielding CFI = .80, TLI = .927, RMSEA = .065, $\chi^2(77) = 463.5$, with factor correlations of .74, .73, and .63. Overall, on conceptual and empirical grounds, the four-factor model appeared preferable to the three-factor solution.

To evaluate whether the four-factor solution held in the younger children as well as the older children, we conducted a multiple group analysis. On the basis of discussion by McDonald and Grych (2006), we pooled the children from both samples and restratified them by age into two groups: (a) ages 6–9 years ($n = 344$) and (b) ages 10 years and older ($n = 791$). Using categorical indicators (derived from Mplus Delta parameterization), we fixed the item thresholds, factor loadings, and latent factor intercorrelations as equal across groups. Scale factors (latent factor means and variances) were fixed in the first group and free to vary in the second group (Muthén & Muthén, 1998–2008; p. 399). That invariance model yielded an acceptable fit on the basis of the RMSEA, though the fit was marginal on the basis of the CFI and TLI, with CFI = .86, TLI = .86, RMSEA < .08, $\chi^2(1352) = 6{,}176.78$. This suggested that the results were reasonably generalizable across the age range studied but that further investigation of age effects might be warranted.

Discussion

This report provides the first item-level factor analysis of the widely used Children's Perception of Interparental Conflict Scale. It supports many aspects of the prior conceptual and subscale-level factor analyses of this scale but also suggests some revisions. At the item level, four factors were identified, resolving earlier uncertainty about placement of items from two of the subscales. First, clearly supported was a factor that reflected conflict properties, derived from items on original Subscales 1 and 2. Second, two higher order appraisal factors were identified that were conceptually similar to those described in the literature previously. A Self-Blame factor drew items from Subscales 4 (content about child) and 7 (child is to blame). The linkage of these items makes conceptual sense. However, this factor is more robust than the initial Subscales 4 and 7, which were not distinguishable in the children's reports. A Threat factor emerged as a composite of items from Subscales 5 (threat to self) and 6 (coping efficacy). Again, it is conceptually consistent with the conclusion drawn from earlier analysis at the subscale level but with greater psychometric strength as specified here.

To that point, although the results did not reproduce the nine-subscale structure, they conceptually supported the prior higher order structure when the nine subscales were factor-analyzed. These results converge on the conclusion that children meaningfully discriminate properties of interparental conflict from their own appraisal of being involved or at fault and from their appraisal of being threatened or unable to cope.

However, the present result then differentiated from using factor analyses of the nine subscales. An additional factor emerged that was not present in factor analyses of the nine subscales—a factor that we termed *Triangulation/Stability*. It featured items from the initial Subscale 9 (stability of the conflict), Subscale 8 (triangulation), and original Subscales 2 (intensity) and 3 (resolution). It thus included items initially intended as descriptive of the conflict and items intended as appraisals. It seems to suggest conflict that has become entrenched, has triangulated the child, and at times escalates to physical aggression. Yet the three-factor solution placed these items with Self-Blame. This could suggest that it primarily reflects appraisal rather than properties elements. In either event, the differentiation of this factor from the Self-Blame factor gives the four-factor solution a more satisfying conceptual picture than does the three-factor solution. It accounts for the difficulty reported by Grych et al. (1992), who found that the Stability and Triangulation subscales did not load or else cross-loaded in the three-factor solution at the subscale level. The four-factor solution was also modestly superior statistically to the three-factor solution. Therefore, the clarification of this fourth factor appears to provide an important insight from the use of an item-level factor analysis, beyond what was learned previously about this scale with subscale-level factor analyses.

The solution presented herein used 38 of the 48 items on the CPIC. The excluded items did not appear to belong to any one conceptual subscale, with the possible exception of Subscale 6 (coping efficacy). There was no evidence of more than four factors being reliably identified. This suggests that analysis of the instrument at the level of nine conceptual subscales is not well grounded empirically. Instead, it appears most appropriate to analyze this instrument at the level of four superordinate factors, at least in samples like those studied here. The factors identified here are likely psychometrically stronger than the three factors identified by combinations of the initial nine subscales. They demonstrate some reassignment of the items on those subscales and capture the triangulation/stability element that was lost in three-factor solutions of the subscales.

The more differentiated nine subscales proposed by Grych et al. (1992) may be important both conceptually and clinically. However, these data suggest that additional items may need to be added in order to capture those distinctions in children's ratings. In all, given the conceptual

basis of the subscales and the general strength of the findings here, a four-factor solution appears appropriate for use with the CPIC in the population studied.

These four factors survived a rather difficult proof test in the current report. They were factor-analyzed in one sample and fit to a CFA in a rather different kind of sample. The resulting generalizability of the solution was relatively reassuring in that most (though not all) fit indexes were strongly supportive on cross-validation. Further work on the generalizability of the item-level factor structure is warranted.

Particularly warranted may be further work on the age generalizability of the results. The present report examined, to our knowledge, the largest sample of young children to be studied with the CPIC and included an age range beyond that initially intended by the CPIC developers. The CPIC had been validated only down to age 8 years, and our sample reached all the way down to age 6 years. Yet results provided some support for generalizability across the age range of 6–18 years. However, the fit in the age-invariance model, although good on the RMSEA, was only marginal on the CFI and TLI. This suggests that the model may require better specification to capture age variation or that item complexity may be inappropriate for the youngest children. Further, items read aloud to some children could alter responses, a point we did not investigate. In general, these results may be held to confirm the general conclusion of McDonald and Grych (2006) that younger as well as older children can reliably distinguish conflict properties from appraisals—even using the more difficult original CPIC instead of the more readable Children's Perception of Interparental Conflict for Young Children (McDonald & Grych, 2006). Nonetheless, further consideration of the structure of appraisal in younger versus older children will remain of interest.

Also warranted is further consideration of generalizability across types of samples. The present model appeared to generalize from an externalizing sample to a community sample. This may have been aided by relatively strong identification of factors in the clinical sample. Factor analyses in community samples or internalizing samples might yield different results or might not generalize to externalizing samples. This remains to be further investigated.

In conclusion, a four-factor model was validated in the present study. It supports, although in simpler and more reproducible form, the ideas of a general content domain for conflict properties and composite appraisal subscales for perceived threat and for self-blame. In addition, it preserves a distinction in child reports between appraisals of self-blame and perceptions of triangulation or triangulation/stability. This result provides new support for that construct as initially proposed by Grych et al. (1992). This four-factor solution is recommended when using the CPIC for studies of child perception of interparental conflict in relation to developmental psychopathology with samples enriched for disruptive behavior disorders or ADHD.

Acknowledgments

Work on this study was supported by National Institutes of Health Grant R01-MH59105 to Joel T. Nigg and Michigan State University Office of the Vice President for Research Grant IRGP-04-232 to S. Alexandra Burt. The authors thank John Grych for comments on a draft of the article.

References

Achenbach, TM. Manual for the Child Behavior Checklist. Burlington: University of Vermont, Department of Psychiatry; 1991.

Bickham NL, Fiese BH. Extension of the Children's Perceptions of Interparental Conflict Scale for use with late adolescents. Journal of Family Psychology 1997;11:246–250.

Buehler C, Anthony C, Krishnakumar A, Stone G, Gerard J, Pemberton S. Interparental conflict and youth problem behaviors: A meta-analysis. Journal of Child and Family Studies 1997;6:233–247.

Buehler C, Lange G, Franck KL. Adolescents' cognitive and emotional responses to marital hostility. Child Development 2007;78:775–789. [PubMed: 17517004]

Counts CA, Nigg JT, Stawicki JA, Rappley MD, von Eye A. Family adversity in *DSM–IV* ADHD combined and inattentive subtypes and associated disruptive behavior problems. Journal of the American Academy of Child and Adolescent Psychiatry 2005;44:690–698. [PubMed: 15968238]

Davies PT, Lindsay LL. Interparental conflict and adolescent adjustment: Why does gender moderate adolescent vulnerability? Journal of Family Psychology 2004;18:160–170. [PubMed: 14992618]

El-Sheikh M, Harger J. Appraisals of marital conflict and children's adjustment, health, and physiological reactivity. Developmental Psychology 2001;37:875–885. [PubMed: 11699760]

Fabrigar LR, Wegener DT, MacCallum RC, Strahan EJ. Evaluating the use of exploratory factor analysis in psychological research. Psychological Methods 1999;4:272–299.

Gerard JM, Buehler C, Franck K, Anderson O. In the eyes of the beholder: Cognitive appraisals as mediators of the association between interparental conflict and youth maladjustment. Journal of Family Psychology 2005;19:376–384. [PubMed: 16221018]

Grych JH, Fincham FD. Marital conflict and children's adjustment: A cognitive-contextual framework. Psychological Bulletin 1990;108:267–290. [PubMed: 2236384]

Grych JH, Harold GT, Miles CJ. A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. Child Development 2003;74:1176–1193. [PubMed: 12938712]

Grych JH, Seid M, Fincham FD. Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. Child Development 1992;63:558–572. [PubMed: 1600822]

Harold GT, Aitken JJ, Shelton KH. Inter-parental conflict and children's academic attainment: A longitudinal analysis. Journal of Child Psychology and Psychiatry 2007;48:1223–1232. [PubMed: 18093028]

Klump KL, Burt SA. The Michigan State University Twin Registry (MSUTR): Genetic, environmental, and neurobiological influences on behavior across development. Twin Research and Human Genetics 2006;9:971–977. [PubMed: 17254439]

Mardia KV. Measures of multivariate skewness and kurtosis with applications. Biometrika 1970;57:519–530.

Martel MM, Nikolas M, Nigg JT. Executive functions in adolescents with ADHD. Journal of the American Academy of Child and Adolescent Psychiatry 2007;46:1434–1444.

McDonald R, Grych JH. Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. Journal of Family Psychology 2006;20:88–99. [PubMed: 16569093]

Muthén, LK.; Muthén, BO. Mplus user's guide. 5th ed.. Los Angeles: Muthén & Muthén; 1998–2008.

Skopp NA, McDonald R, Manke B, Jouriles EN. Siblings in domestically violent families: Experiences of interparent conflict and adjustment problems. Journal of Family Psychology 2005;19:324–333. [PubMed: 15982110]

Wymbs BT, Pelham WE, Molina BSG, Gnagy EM. Mother and adolescent reports of interparental discord among parents of adolescents with and without attention-deficit/hyperactivity disorder. Journal of Emotional and Behavioral Disorders 2008;16:29–41. [PubMed: 20016758]

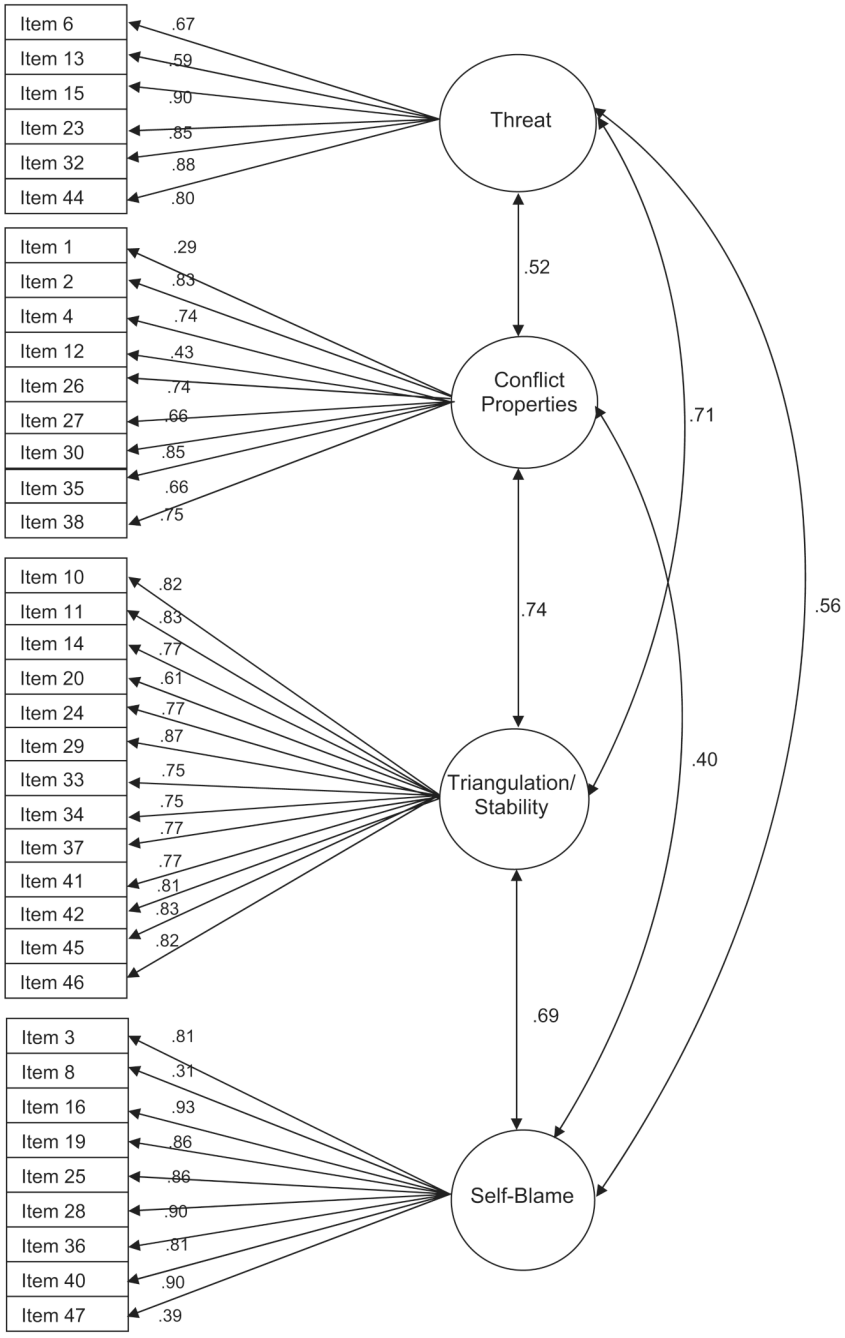

Figure 1.
Four-factor confirmatory factor model in a cross-validation sample (standardized path estimates and factor correlations; indicator errors not shown for simplicity).

Table 1

Original Conceptual Subscales and Structure of the CPIC

Broad content area and subscale	Higher order factor[a]
Conflict properties	
1. Frequency	Conflict Properties
2. Intensity	Conflict Properties
3. Resolution	Conflict Properties
4. Content (child-related)	Self-Blame
Conflict appraisal	
5. Threat to Self	Threat
6. Ability to Cope	Threat
7. Self-Blame	Self-Blame
8. Triangulation	—
9. Stability	—

Note. Dashes indicate that these subscales did not load on any of the factors in the final factor solution arrived at by Grych, Seid, and Fincham (1992). CPIC = Children's Perception of Interparental Conflict Scale.

[a]On the basis of results from Grych et al. (1992).

Table 2

Summary of Fit Indexes for EFA Models for Extraction of Two Through Nine Factors, Conducted With 48 CPIC Items in Sample of ADHD and non-ADHD Youths (n = 783)

								95% CI RMSEA	
Factor	***df***	**χ^2**	**Δdf**	**$\Delta\chi^2$**	**χ^2/df**	**Δp**	**RMSEA**	**Low**	**High**
2	1,033	4,403					.075	0.073	0.077
3	987	3,215	46	1,188	25.83	.0001	.062	0.06	0.065
4	942	2,494	45	721	16.02	.0001	.053	0.051	0.056
5	898	2,110	44	384	8.73	.0001	.048	0.045	0.051
6	855	1,806	43	304	7.07	.0001	.044	0.041	0.046
7	813	1,602	42	204	4.86	.0001	.041	0.038	0.044
8	772	1,416	41	186	4.54	.0001	.038	0.035	0.041
9	732	1,261	40	155	3.88	.0001	.035	0.032	0.038

Note. EFA = exploratory factor analysis; CPIC = Children's Perception of Interparental Conflict Scale; ADHD = attention-deficit/hyperactivity disorder; RMSEA = root mean square error of approximation; CI = confidence interval.

Table 3

Summary of Four-Factor Solution (Oblique Rotated Factor Loadings) by Maximum Likelihood Extraction

	Factor loading			
Item number and label	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**
				1. Threat to Self (6 items)
Items included				
23. When my parents argue I'm afraid … something bad will happen. (S5)	.93	.03	.01	.03
15. When my parents argue I worry about what will happen to me. (S5)	.78	−.06	.10	.12
06. I get scared when my parents argue. (S5)	.77	−.02	−.03	.10
44. When my parents argue I worry that they might get divorced. (S5)	.60	.00	.27	.00
32. When my parents argue I worry that one of them will get hurt. (S5)	.57	.01	.35	.05
13. I don't know what to do when my parents have arguments. (S6)	.57	.07	.01	.08
Items not included[a]				
39. When my parents argue I'm afraid that they will yell at me too. (S5)	.49	.11	−.04	.37
43. When my parents argue there is nothing I can do … to feel better. (S6)	.41	.00	.24	.24
				2. Conflict Properties (11 items)
Items included				
35. My parents hardly ever yell when they have a disagreement.[b] (S2)	.06	.85	−.15	−.02
12. When my parents have a disagreement they discuss it quietly.[b] (S2)	−.01	.81	−.19	.04
27. When my parents argue they usually make up right away.[b] (S3)	−.01	.81	.00	.00
26. My parents hardly ever argue.[b] (S1)	−.04	.76	.02	.04
38. After my parents stop arguing, they are friendly … each other.[b] (S3)	−.19	.74	.11	−.02
18. When my parents disagree … they usually come up with a solution.[b] (S3)	−.15	.72	.04	.08
02. When my parents have an argument they usually work it out.[b] (S3)	−.10	.59	.12	.17
30. When my parents have an argument they yell a lot. (S2)	.35	.58	.17	−.17
04. My parents get really mad when they argue. (S2)	.35	.56	.04	−.14
01. I never see my parents arguing or disagreeing.[b] (S1)	.08	.54	−.10	.03

	Factor loading			
Item number and label	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**
22. When my parents argue or disagree I can usually help ….[b](S6)	−.02	.51	−.18	.06
Items not included[a]				
21. When my parents argue … they say mean things to each other. (S2)	.25	.44	.42	−.10
31. When my parents argue … there is nothing I can do to stop them. (S6)	.21	.33	.10	−.07
48. When my parents argue … they don't listen to anything I say. (S6)	.22	.38	.21	.06
			3. Triangulation/Stability (13 items)	
Items included				
29. My parents argue because they don't really love each other. (S9)	−.15	.16	.87	.03
46. My parents < argue > because they don't know how to get along. (S9)	−.06	.16	.87	−.04
24. My mom wants me to be on her side when she … dad argue. (S8)	.02	−.03	.78	.05
11. My parents < argue > because they are not happy together. (S9)	−.08	.16	.78	.04
41. My dad wants me to be on his side when he and … mom argue. (S8)	.03	−.06	.75	.15
42. My parents have pushed or shoved each other … (S2)	.12	.02	.75	.02
20. The reasons my parents argue never change. (S9)	−.09	.02	.68	.13
14. My parents are often mean to each other even when I'm around. (S1)	.07	.22	.68	.03
33. I feel like I have to take sides when my parents argue … (S8)	.15	−.03	.61	.17
34. My parents often … complain about each other … (S1)	.01	.24	.59	.04
10. Even after my parents stop arguing they stay mad … each other. (S3)	.04	.39	.55	−.01
45. My parents still act mean after they have had an argument. (S3)	.06	.36	.54	.05
37. My parents have broken or thrown things during an argument. (S2)	.15	.19	.52	.14
Items not included[a]				
17. I often see my parents arguing. (S1)	.08	.32	.43	.07
09. They may not think I know it but my parents argue or disagree a lot. (S1)	.09	.36	.38	.09
			4. Self-Blame (9 items)	
Items included				
19. My parents' arguments are usually about something I did. (S4)	−.03	−.03	.10	.89

	Factor loading			
Item number and label	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**
28. My parents usually argue … because of things that I do. (S4)	.01	−.04	.09	.88
16. It's usually my fault when my parents argue. (S7)	.03	.00	.12	.84
36. My parents … get into arguments when I do something wrong. (S4)	−.01	.05	.10	.81
25. Even if they don't say it, I know I'm to blame … (S7)	.09	−.07	.21	.74
47. Usually it's not my fault when my parents have arguments. (S7)	−.05	.25	−.47	.68
40. My parents blame me when they have arguments. (S7)	.10	−.03	.32	.63
03. My parents … get into arguments about things I do at school. (S4)	.08	.02	.13	.63
08. I'm not to blame when my parents have arguments.[b](S7)	.06	.11	−.26	.57
Items not included[a]				
07. I feel caught in the middle when my parents argue. (S8)	.33	.08	.04	.42
05. When my parents argue I can … do something to … feel better. (S6)	.03	.26	−.18	.30

Note. Ellipses indicate that wording was shortened to fit the table; items were not altered when administered. <> indicates language was paraphrased only to fit the table. The S number in parentheses indicates the original conceptual scale assignment by Grych, Seid, and Fincham (1992).

[a]Items loaded too low to be included in the confirmatory factor analysis.

[b]The item is reverse-worded and has been reverse-scored