

## Attributional Style as a Mediator Between Parental Abuse Risk and Child Internalizing Symptomatology

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### **Abstract:**

This study examined a model wherein children's attributional style mediates the relationship between parental physical child-abuse risk and children's internalizing problems. Using structural equation modeling, three indices of abuse risk were selected (child abuse potential, physical discipline use, and dysfunctional parenting style) and two indices of children's internalizing problems (depression and anxiety). The sample included 75 parent-child dyads, in which parents reported on their abuse risk and children independently completed measures of depressive and anxious symptomatology and a measure on their attributional style. Findings supported the model that children's attributional style for positive events (but not negative events) partially mediated the relationship between abuse risk and internalizing symptoms, with significant direct and indirect effects of abuse risk on internalizing symptomatology. Future directions to continue evaluating additional mediators and other possible contextual variables are discussed.

**Keywords:** child anxiety; child attributional style; child depression; dysfunctional disciplinary style; physical child abuse potential

### **Article:**

Physical discipline toward children is virtually universal in this country (Straus & Stewart, 1999), and estimates of child physical abuse remain relatively high (U.S. Department of Health & Human Services, 2004). Physical aggression toward children has been linked to negative behaviors in the recipients, whether the aggression is expressed as physical child abuse (e.g., Edwards, Holden, Felitti, & Anda, 2003; Runyon, Deblinger, Ryan, & Thakkar-Kolar, 2004) or corporal punishment (e.g., Gershoff, 2002). Corporal punishment is considered an adverse risk for children, even if the physical discipline is not severe enough to warrant the label of *abuse* (Straus & Kantor, 1994). Such parallels in findings across abuse and discipline possibly reflect that child physical maltreatment often occurs when parents inadvertently intensify their application of physical discipline toward their children (Herrenkohl, Herrenkohl, & Egolf, 1983; Whipple & Richey, 1997). Thus, some researchers strongly advocate that all forms of aggression toward children be conceptualized on a physical discipline-abuse continuum (Graziano, 1994; Straus, 2001a, 2001b; Whipple & Richey, 1997), wherein abuse occurs at some point along this continuum. This conceptualization will be adopted for this article.

In an effort to prevent the occurrence or recurrence of child abuse, researchers have attempted to pinpoint those beliefs and behaviors predictive of a parent's risk to physically maltreat a child (Milner, 1994). Collectively termed *child abuse potential*, an assessment of such parental characteristics estimates the likelihood that a parent will approach or cross the line into the maltreatment end of such a continuum. Child abuse potential incorporates interpersonal and intrapersonal difficulties and inflexible attitudes regarding children observed in those parents who physically maltreat their children (Milner, 1986). The potential to physically abuse children has correlated with dysfunctional disciplinary parenting style (Haskett, Scott, & Fann, 1995; Margolin, Gordis, Medina, & Oliver, 2003) and with greater support for the use of corporal punishment (Crouch & Behl, 2001). Some of the problematic behaviors tied to corporal punishment have been theorized to arise from the broader negative parenting style (Gershoff, 2002). Thus, harsh parenting style and child abuse potential would represent

a parent's risk to engage in physically aggressive responses during discipline situations that approach the abusive side of the discipline-abuse continuum.

These physically aggressive responses in child maltreatment and harsh discipline have been linked to various short- and long-term effects. Yet many of the studies have concentrated on externalizing issues, suggesting that physical discipline and abuse lead to aggressive, antisocial behavior (see Gershoff, 2002, for review; Malinowsky-Rummell & Hansen, 1993; Straus, 2001b). Severity of discipline has been positively correlated with externalizing, aggressive behavior problems (Weiss, Dodge, Bates, & Pettit, 1992). Similarly, harsh discipline is a significant predictor of childhood behavior problems (Brenner & Fox, 1998). Dysfunctional parenting style in discipline situations has also been tied to behavior problems in children (Arnold, O'Leary, Wolff, & Acker, 1993; Dadds, Maujean, & Fraser, 2003).

Largely this connection has been proposed based on theories of social learning, whereby parents model aggression and harsh discipline to their children. Although externalizing problems can have long-term effects, by far the greatest proportion of mental health problems in adulthood reflects internalizing problems (Hartung & Widiger, 1998). Consequently, greater attention to the internal, emotional experience during childhood would likely affect the eventual mental health of adults. Indeed, depressive symptoms in childhood predict difficulties with depression and anxiety in young adulthood (Aronen & Soininen, 2000).

Much of what is considered to be a long-term consequence of child maltreatment involves internalizing problems, such as depression or anxiety (Braver, Bumberry, Green, & Rawson, 1992; Gross & Keller, 1992; R. M. Johnson et al., 2002). Victims of child abuse evidenced greater depressive symptomatology, hopelessness, and poorer self-esteem than children in a comparison group (Allen & Tarnowski, 1989; Kazdin, Moser, Colbus, & Bell, 1985). Anxious and depressed symptomatology in children was found in children of parents with harsher discipline practices (Dingwall, 1997; Rodriguez, 2003) and greater child-abuse potential (Rodriguez, 2003). Therefore, children who are physically abused, or whose parents have greater abuse risk, appear likely to display internalizing symptoms.

Although parental child-abuse risk appears related to children's internalizing psychopathology, what are less clear are the mechanisms for how abuse and harsh discipline may lead to emotional difficulties for children. Given the research hinting at cognitive-style differences among children who are maltreated, abusive attitudes and discipline style theoretically may act to modify children's attributions that affect them emotionally. The maladaptive attributional style proposed by Abramson and colleagues has been linked to the development of internalizing symptoms of depression (Abramson, Metalsky, & Alloy, 1989; Abramson, Seligman, & Teasdale, 1978; Gladstone & Kaslow, 1996) and anxiety (Kagan, MacLeod, & Pote, 2004; Luten, Ralph, & Mineka, 1997). According to attributional style theory (Abramson et al., 1989), a maladaptive style is manifest when positive events are explained in external, specific, unstable attributions and negative events with internal, global, and stable explanations.

Beyond this connection between internalizing difficulties and attributional style, a growing body of literature has surfaced about problematic attributions among victims of child abuse (e.g., see Kolko & Feiring, 2002). A review of several studies supported the idea that child maltreatment cultivates the emergence of maladaptive cognitive attributional styles because the child seeks to explain his or her experience of helplessness in abuse, concluding that the emotional maltreatment components of child abuse were most likely to encourage this negative cognitive style (Gibb, 2002). A number of studies have connected components of maladaptive explanatory style with children who are abused or who are at risk for abuse (Allen & Tarnowski, 1989; Cerezo & Frias, 1994; Kress & Vandenberg, 1998; Rodriguez, 2003; Runyon & Kenny, 2002). A more dysfunctional, depressive attributional style was found in children who were abused (Cerezo & Frias, 1994). Moreover, a more externalizing attributional style was found in children with abuse histories (Allen & Tarnowski, 1989) and among children who were nonabused of parents with higher child-abuse potential (Rodriguez, 2003). Thus, based on the connection between attributional style and abuse history and internalizing symptoms in children, maladaptive attributions may be one of the pathways that accounts for why abuse leads to internalizing

symptoms.

However, much of this literature on the purported effects of child maltreatment, physical discipline, or parental disciplinary style suffers from similar methodological limitations. A considerable percentage of the research involves asking adults to recall their experiences during childhood, engendering a retrospective recall bias (Widom, 1989; Widom, Raphael, & DuMont, 2004). Consequently, studies often rely on adults to recall information that may not accurately reflect the true nature of their discipline experiences, which can be colored by adults' memory capabilities, their perceptions, their interpretations or judgments of severity of their discipline or abuse, or their current level of psychological functioning (Widom et al., 2004). Moreover, many studies rely on a single informant for assessments regarding the occurrence and presumed effects of maltreatment or discipline, generating source bias. When a single individual reports, her or his judgment of any effects is likely swayed by many of the same limitations inherent in retrospective recall.

Last, studies often allude to directionality, suggesting that because maltreatment or harsh parenting style occurred during childhood, negative behaviors emerging in childhood, adolescence, or adulthood are a result of the parents' behavior. However, correlational designs dominate the literature in child maltreatment and physical discipline and, in the absence of a clear timeline, cannot address causality (Benjet & Kazdin, 2003; Gershoff, 2002; Kazdin & Benjet, 2003). Theoretically, a third, undetermined factor could account for the presumed "effects" and the maltreatment or harsh discipline, or the "effects" could actually elicit the maltreatment. Although the proposition that a child's behavior could prompt abusive discipline choices from their parents is controversial, this methodological argument may more plausibly apply to aggressive, externalizing problems. For instance, some would posit that children who display aggressive, externalizing symptoms theoretically may induce harsher parenting decisions during discipline (Gershoff, 2002). This same methodological concern, however, appears less applicable to internalizing problems. Given their internal, covert nature, such symptoms seem less likely to trigger harsh or abusive parental responses, although internalizing problems remain susceptible to the undetected, third variable phenomenon.

Addressing some of these methodological issues, the current study applied structural equation modeling (SEM) to evaluate a proposed conceptual model, testing the possible mediation of child attributional style between child abuse risk (abuse potential, physical discipline frequency, and dysfunctional parenting style) and internalizing psychopathological symptoms in children. The model employed three indices of parental abuse risk and two measures of child internalizing problems to approximate their respective latent variables. Because prior research has connected attributional style with depression (Gladstone & Kaslow, 1996) and anxiety (Luten et al., 1997), and because abuse risk has been associated with depressive and anxious symptomatology (e.g., R. M. Johnson et al., 2002), this model was intended to examine whether children's attributional style serves as one possible pathway between the latent constructs. Given that other factors likely contribute to this link, such as negative life events (e.g., Nolen-Hoeksema, Girgus, & Seligman, 1992) or sociocultural factors in the family environment (e.g., Belsky, 1993; Gershoff, 2002), a partial mediation model was proposed rather than full mediation. The strength of the association between attributional style and internalizing symptoms suggests a likely cognitive variable that may be affected by parental abuse risk and lead to internalizing psychopathology in children. Families without a substantiated history of abuse were targeted, concentrating on the subabusive area of the discipline-abuse continuum that has greater probable value for prevention efforts (Graziano, 1994). To circumvent the retrospective bias issue, internalizing symptoms were assessed in childhood, using child-report of symptoms to obtain a separate source of information from the parents' report of their abuse risk.

## **METHOD**

### *Participants*

Seventy-five parent-child dyads were recruited from randomly selected classes in three public elementary schools in a moderately large, urban metropolitan city in the Mountain West. Parents in the current study were participants in a larger study on parenting with children ages 5 to 12 years, with no child protective services involvement; to be eligible to participate in this portion of the study, a child between the ages of 8 and 12 years had to be home during data collection of the larger study to participate. Sample demographics appear in Table 1,

with the sample involving predominantly mothers of White children in two-parent homes. The sample was approximately evenly distributed between male and female children, whose mean age was just more than age 10 years. Median annual family income was somewhat above the national reported median income across family size (U.S. \$42,200) but lower than the state average for four-person families (\$59,864; U.S. Census Bureau, 2004).

**TABLE 1: Demographic Characteristics of the Sample (N = 75)**

<i>Characteristic</i>	<i>% or M</i>	<i>n or SD</i>
Parent gender:		
Mothers	69.3%	52
Fathers	30.7%	23
Parent age (years)	39.57	6.8
Parent relationship to child:		
Biological	90.7%	68
Stepchild	6.7%	5
Adopted	2.7%	2
Child gender:		
Girls	53.4%	39
Boys	46.6%	34
Child age	10 years, 3 ½ months	1 year, 9 months
Ethnicity:		
White	85.3%	64
American Indian and/or Alaskan Native	5.3%	4
Hispanic	4.0%	3
Other	5.4%	4
Single Parent:		
Yes	12.0%	8
No	88.0%	66
# children in home	3.47	1.29
Median annual family income	\$50,000	\$29,810

#### *Parent Abuse-Risk Measures*

The Child Abuse Potential Inventory (CAPI; Milner, 1986) is a 160-item, self-report instrument asking respondents to agree or disagree with items measuring attitudes and beliefs believed to predict risk to physically abuse children. Widely recognized as a leading assessment tool to screen for physical abuse, the CAPI taps a collection of parental characteristics identified in parents who are physically abusive, including intrapersonal and interpersonal problems and rigidity. Only 77 items contribute to the Abuse Scale score and its six factors, with the remainder serving as either distractors and/or fillers or detection of distortion biases. The Faking Good Index measures lying and social desirability responding, which is particularly problematic if the artificially lowered score is below the 166 cut-off score. The Faking Bad Index assesses whether participants are trying to present themselves poorly. The Random Response Index indicates if participants are responding randomly and not attending to the items. Faking Bad and Random responder profiles should be discarded completely; however, none of the parents in the current study obtained elevated scores on either of these indices. However, 29 parents obtained elevated Faking Good indices, although all of these were above the cut-off score so their retention was favored because their scores would actually be conservative estimates of their abuse potential.

With regard to internal consistency, the CAPI manual reports split-half reliability ranging from .96 to .98 and Kuder-Richardson-20 reliability coefficients ranging from .92 to .95 (Milner, 1986). Retest reliabilities range from .91 after one day to .75 after three months (Milner, 1986). In terms of predictive validity, studies have indicated a correct classification rate of 81.4% of confirmed child abusers and 99% of comparison parents, with

an overall pattern that the lower cut-off score of 166 leads to classification rates in the low 90s% range and greater false-negatives of child abusers with the higher 215 cut-off score (Milner, 1994). Increased child-abuse potential has also been associated with observed harsher, maladaptive parenting style (Haskett et al., 1995; Milner, 1994).

The Parent-Child Conflict Tactics Scale (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) is a revision of the original epidemiological survey of family violence, the Conflict Tactics Scale (Straus, 1979). The CTSPC contains 27 items in which the parents report on the frequency with which they have engaged in a series of behaviors arising from parent-child conflicts in the past year. Thirteen of these items directly address varying levels of physical aggression toward children, making up the Physical Assault subscale, which was used in the current study (with subcategories of corporal punishment, severe assault and/or physical maltreatment, and very severe assault and/or severe physical maltreatment). Straus et al. (1998) reported moderate internal consistency at .58, which likely reflects that range of physical behavior presented, from *pinching* or *spanking* to *burning* or *threatening with a weapon*. The authors (Straus et al., 1998) provided supportive evidence of construct and discriminant validity.

The Parenting Scale (Arnold et al., 1993) was administered to identify dysfunctional disciplinary style. Each of the 30 items presents parents with a parent-child conflict situation and asks them to indicate their response to the situation along a 7-point scale, with two opposing reactions at endpoints of each scale. The Parenting Scale yields a Total score that indicates overall dysfunctional disciplinary style. Internal consistency for the Total score is moderately high at .84, with test-retest reliability of the Total score at .84 (Arnold et al., 1993). The Parenting Scale differentiates between a clinical sample of externalizing behavior children and a comparison control sample, and scores were significantly related to observations of parent-child behavior (Arnold et al., 1993).

#### *Child-Report Measures*

The Children's Attributional Style Questionnaire (CASQ; Kaslow, Tanenbaum, & Seligman, 1978; Seligman et al., 1984) is a 48-item instrument intended to measure attributional style in children ages 8 to 18 years. Hypothetical situations are presented that vary along the three attributional dimensions of internality, stability, and globality (16 items in each dimension), with one half of the items involving negative outcomes and one half positive outcomes. Children identify one of two choices that best explains why they think the hypothetical situation in each item happened. The CASQ yields a score across all positive events for a Positive Total and a score across all negative events for a Negative Total, indicating attributions depending on the valence of the situation. The CASQ also provides a Total Composite score, calculated by subtracting the Negative Total score from the Positive Total score. Lower Positive Total and Total Composite scores and higher Negative Total scores correspond to more maladaptive attributional styles.

Psychometrically, the CASQ evidences moderate internal consistency for the Total Composite, Positive Total, and Negative Total scores (.73, .71, and .66, respectively; Seligman et al., 1984). Temporal stability across 6 months ranges from .71 for the Positive Total and .80 for the Negative Total (Seligman et al., 1984). The Total Composite, Positive Total, and Negative Total have been correlated with indices of depression (e.g., Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998), consistent with the learned helplessness model.

The Children's Depression Inventory (CDI; Kovacs, 1983, 1985) is the most well known instrument used to assess childhood depressive symptoms. Suitable for children ages 8 to 17 years, this 27-item self-report measure presents three statements for each item representing degrees of depressive severity, valued from 0 to 2. Higher CDI Total scores are indicative of more severe depressive symptomatology. Kazdin (1990) reported that the CDI has moderate test-retest stability, high internal consistency, and concurrent validity with other depression measures. High coefficient alphas have been cited, ranging from .83 to .94 (Saylor, Finch, Spirito, & Bennett, 1984; Smucker, Craighead, Craighead, & Green, 1986).

The Children's Manifest Anxiety Scale-Revised (CMAS-R; Reynolds & Richmond, 1978, 1985) is a 37-item

self-report measure of anxiety symptoms in children ages 6 to 19 years, with each item presented in a yes or no format. Nine items contribute to the Lie scale, designed to detect social desirability responding. The CMAS-R Total score is converted to a standardized T-score that adjusts for age and gender effects, with higher scores indicative of greater anxious symptomatology. The CMAS-R Total score correlates more highly with internalizing than externalizing behaviors, and its internal consistency is reported at .82 (Reynolds, 1982; Reynolds & Richmond, 1985).

### Procedure

Consent forms for the larger parenting study were sent home with children from their school. On return of the consent form, a convenient time for a data collection session in the child's home was arranged by telephone, with arrangements made for appropriately aged children to participate in the current study at that time. One parent per family volunteered to participate, and parents received instructions and individual items for the CAPI, CTSPC, and Parenting Scale measures via computer administration on a laptop computer provided by the researchers. Parents entered all of their responses to questions anonymously, and their responses did not appear on the computer screen as they entered them to further ensure privacy. The computerized administration was adopted to increase participants' candor in reporting to decrease their likelihood of responding in a socially desirable manner. While parents completed responses on their portion of the study, children were assessed in a quiet area in their home. The three child-report measures were administered in a counterbalanced order. Items were read aloud to the child respondents as they read along silently and wrote their answers privately on a separate form. After completing the forms, the children were given an envelope to privately submit their responses. At the conclusion of the study, children received a small toy gift as a token of appreciation for their participation, and parents were paid \$10 for participating in the larger parenting study.

### Analyses

Basic analyses were conducted using the SPSS 11.5 for Windows (SPSS, 2002) statistical package. Latent-variable SEM was conducted via maximum likelihood estimates of model coefficients using AMOS 4.0 (Arbuckle, 1999). SEM can evaluate mediation models, permit simultaneous estimation of direct and indirect paths, and provide fit indices to determine the strength of the proposed model. Fit of the model was evaluated using chi-square, Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Root Mean Square Error of Approximation (RMSEA; Byrne, 2001; Tabachnick & Fidell, 1996). The chi-square should ideally be nonsignificant, whereas the chi-square for the independence model, which tests the absence of relationship among the variables, should be significant (Tabachnick & Fidell, 1996). With respect to the fit indices, GFI, AGFI, and NFI values greater than .90 are ideal, with CFI values at or above .95 preferred; RMSEA values are ideally .05 or below (Byrne, 2001; Tabachnick & Fidell, 1996). Typically, better fitting models produce consistent results across several different indices (Tabachnick & Fidell, 1996). For the SEM analysis, the latent variable *abuse risk* included the CAPI Abuse Scale, the CTSPC Physical Assault subscale, and Parenting Scale Total scores, and the latent variable *Child Internalizing* was assessed with the CDI Total and CMAS-R Total *T*-scores.

TABLE 2: Means, Standard Deviations, and Correlations for Abuse Risk and Child Report Measures

	M	(SD)	Range	2	3	4	5	6	7	8
1. CDI Total	7.40	(5.69)	1 - 27	.35**	-.42***	.18	-.30***	.33**	.42***	.28**
2. CMAS-R Total T-score	49.25	(8.12)	30 - 68		-.39***	.13	-.34**	.27*	.20	.18
3. CASQ Positive Total	13.79	(3.14)	7 - 20			-.18	.79***	-.35**	-.24*	-.18
4. CASQ Negative Total	7.91	(2.91)	2 - 14				-.75***	-.04	.14	.17
5. CASQ Total Composite	5.88	(4.66)	-4 - +16					-.21	-.25*	-.18
6. CAPI Abuse Scale	101.79	(92.7)	11 - 340						.58***	.52***
7. Parenting Scale Total	3.06	(.59)	1.9 - 4.23							.46**
8. CTSPC Physical Assault	8.80	(12.64)	0 - 69							

NOTE: CDI = Children's Depression Inventory; CMAS-R = Children's Manifest Anxiety Scale-Revised, CASQ = Children's Attributional Style Questionnaire; CAPI = Child Abuse Potential Inventory; CTSPC = Parent-Child Conflict Tactics Scale.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## RESULTS

Means and standard deviations were calculated for the total scores of the parent report measures (CAPI, CTSPC, and Parenting Scale) as well as the child questionnaires (CDI, CMAS-R, CASQ). As would be expected from a community sample, all obtained mean scores on these measures were within normal limits (see Table 2). However, on the CAPI Abuse Scale, 20% of participants obtained scores above the 166 total clinical cut-off score, with 16% above the more conservative cut-off score of 215. On the CTSPC, 25.3% of the sample reported at least one instance of a behavior that would be categorized as *severe assault* and/or *physical maltreatment* in the past year, with 9.3% reporting two or more behaviors in this category; only two parents reported behaviors in the *very severe assault* and/or *severe physical maltreatment* category (categories as described by Straus et al., 1998). Together, scores on these two clinical measures suggest that a considerable percentage of parents were likely engaging in relatively high abuse-risk behaviors. In terms of children's internalizing symptomatology, 6% of children obtained *T*-scores above 60 on the CMAS-R, and 9% obtained clinically elevated scores on the CDI, indicating that a small percentage of children were evidencing significant internalizing symptoms.

An examination of any demographic differences on the child report measures detected no significant gender differences on any of the three questionnaires (all  $p > .05$ ). Similarly, no significant associations were identified between any of the three child report measures and child age or family income (all  $r > .05$ ). Insufficient variability by ethnicity did not allow analyses for this variable on any of the measures. Parental gender differences also did not emerge on either the CTSPC Physical Assault scale, Parenting Scale, or the CAPI Abuse Scale (all  $ps > .05$ ). Age of parent was significantly related to the Parenting Scale ( $r = -.23, p < .05$ ) and CTSPC Physical Assault subscale ( $r = -.35, p < .01$ ), suggesting that younger parents reported more physical discipline and dysfunctional parenting style. Annual family income was significantly correlated with the scores on the CAPI Abuse Scale scores ( $r = -.29, p < .05$ ) and Parenting Scale ( $r = -.29, p < .05$ ), suggesting parents with low income are more likely to evidence greater abuse risk. Number of children was unrelated to abuse risk measures.

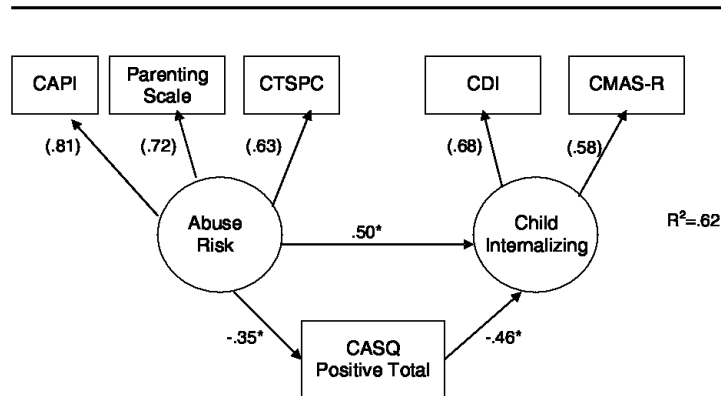
Preliminary correlational analyses among the abuse risk and child-report measures indicated several significant relationships (see Table 2). The pattern of findings suggests that the measures of internalizing symptoms were correlated with the CASQ Total Composite score, but largely because of the influence of responses in the CASQ Positive Total component. Similarly, the parental abuse-risk measures were largely correlated with the CASQ Positive Total. Therefore, subsequent SEM was performed utilizing the CASQ Positive Total rather than the CASQ Total Composite.

As displayed in Figure 1, the proposed partial mediation model was a good fit to the data, yielding an  $R^2$  of .62 for child internalizing symptoms. In terms of fit indices, as would be hoped, the default chi-square was nonsignificant ( $\chi^2 = 7.61, df = 7, p = .368$ ) whereas the independence chi-square, which should confirm that there is some significant relationship detected in the model, was indeed significant ( $\chi^2 = 115.36, df = 15, p < .001$ ). Most of the fit indices were in the acceptable range, with the GFI calculated at .967 and the AGFI (which adjusts for the number of parameters) at .902. The model also yielded an NFI of .934, which is actually sensitive to small sample sizes, and a CFI at .994. The obtained RMSEA (susceptible to small sample sizes) was .034. To confirm these findings using a different approach, using composite scores for internalizing symptoms and abuse risk, a simpler multiple regression, with child internalizing as the dependent variable, retained abuse risk and CASQ Positive Total scores when entered simultaneously. Alternatively, an SEM analysis with attributional style as a full mediator did not yield an adequate fit to the data, with all but one (GFI = .93) of the fit indices outside acceptable levels.

In the SEM paths, abuse risk was significantly positively related to children's emotional symptomatology (beta = .50,  $p < .01$ ) and significantly negatively related to CASQ Positive Total scores (beta = -.35,  $p < .01$ ). Attributional style scores were also significantly related to children's internalizing symptoms (beta = -.46,  $p < .01$ ). Using Sobel's test of significance of indirect effects (Sobel, 1982), abuse risk was significantly indirectly related (.164) to child internalizing symptoms ( $z = 2.04, p < .05$ ).

## DISCUSSION

The current investigation evaluated whether attributional style mediated the relationship between parental abuse risk and internalizing symptoms in children. The study targeted a nonclinical sample to involve parents not identified as abusive but who would likely represent a group spanning from parents who are subabusive to parents who are possibly abusive, covering a range that would be meaningful for prevention efforts. The sample of 75 parent-child dyads were assessed in their homes, with parents responding to the CAPI, the CTSPC (for physical discipline frequency), and the Parenting Scale (for dysfunctional disciplinary style), and their children reporting on symptoms of depression, anxiety, and attributional style. The obtained results support the proposed conceptual model wherein greater abuse risk was directly and indirectly related to child internalizing symptomatology, with attributional style for positive events partially mediating this relationship.



**FIGURE 1: Structural Equation Model Results with Standardized Estimates (N = 75)**

NOTE: CAPI = Child Abuse Potential Inventory; CTSPC = Parent-Child Conflict Tactics Scale; CDI = Children's Depression Inventory; CMAS-R = Children's Manifest Anxiety Scale-Revised; CASQ = Children's Attributional Style Questionnaire.

\* $p < .01$ .

Consistent with previous findings, abuse risk was associated with internalizing symptomatology (e.g., Dingwall, 1997; Rodriguez, 2003) and with features of the child's attributional style (Kress & Vandenberg, 1998; Runyon & Kenny, 2002). Although the model had expected to include the overall maladaptive attributional style of children, preliminary correlational analyses revealed that the component most relevant to the parental abuse risk and child internalizing difficulties was the attributional approach they adopted to positive events rather than negative events. The significance of a maladaptive attributional style for positive events in particular has been suggested previously (e.g., Friedlander, Traylor, & Weiss, 1986). Such a maladaptive attributional style suggests that when a positive event occurs in their life, attributions are generated that the event is explained with external, specific, and unstable reasons. The pattern of findings suggests that parental abuse risk is associated with children's problematic explanatory style for positive events that, in turn, is associated with their internalizing symptoms, although abuse risk retains a strong direct effect on child internalizing difficulties. In other words, behaviors consistent with increased abuse risk may interfere with a child's ability to internalize positive experiences in her or his life. Child maltreatment or harsh discipline, perceived by the child as uncontrollable, may prompt a sense of hopelessness or powerlessness; however, that sense may be limited to the negative event of discipline rather than generalized to other negative events. However, the child may adopt a pessimistic perspective about good events occurring, with a resigned expectation regarding positive events. Research has underscored the importance of an enhancing attributional style to reduce hopelessness and recover from depression, which involves the need to regain hopefulness when positive events occur (J. G. Johnson, Han, Douglas, Johannet, & Russell, 1998; Voelz, Haeffel, Joiner, & Wagner, 2003). Further inquiry is needed into the cognitive processes that underlie precisely how children who are maltreated account for either positive or negative events, and whether they directly connect their discipline to such events, to unravel potential



differences in socioemotional functioning.

The current study was limited by the methodological limitations regarding causality discussed earlier. Structural equation modeling maintains correlational underpinnings, and thus unidentified variables may influence the emergence of internalizing issues for children and the likelihood of abusive attitudes and behaviors in parents. Some of these unidentified variables, for example, may arise from the exosystem, contextual level (e.g., Belsky, 1993). Alternatively, the unidentified variables may stem from internalizing, negative affect in parents that increases their abuse risk (e.g., Milner, 1994) and increases the likelihood that their children share such affective symptoms (Goodman & Gotlib, 1999; Kaslow, Deering, & Racusin, 1994). The additional issue arising from limitations regarding causality involves the directionality question. Although internalizing symptoms may be less likely to elicit a physically abusive or harsh discipline response, some could argue that parents of children with internalizing symptoms may be distressed and internalize a sense of failure when their children show such symptoms, which could in turn increase parents' abuse risk. Furthermore, because the current study supported partial, not full, mediation, additional variables likely contribute to the complex connection between abuse risk and internalizing symptomatology in children. Consequently, several intriguing lines of future inquiry into such alternative models could clarify this multifaceted process further, ideally utilizing similar analytic models to capture these alternative pathways.

Future studies should attend to the sample limitations of the current study, which include participant numbers and sample characteristics. Ideally, 10 respondents per estimated parameter are preferred; however, smaller samples can be tested if the effect is sufficiently strong (Tabachnick & Fidell, 1996), and the recommended minimum ratio is 5:1 (Bentler, 1993). Nevertheless, based on the results of the current study, preliminary indications suggest that a replication using a more-elaborate model incorporating additional factors with a larger sample would prove enlightening. Although the current study involved mothers and fathers representative of families of lower-to-middle socioeconomic status, the current sample was somewhat limited in terms of its ethnic variability (about 85% White), and thus inclusion of a more-diverse sample is also recommended in the future. The current sample purposely included those with no social services involvement and, as the potential mediators and moderators of the abuse risk–internalizing issues relationship are discovered, application of a model to a sample of children with substantiated maltreatment would begin to establish whether similar patterns surface for those whose parents have definitively crossed into the maltreatment end of the discipline-abuse continuum. Notably, however, a considerable minority of even this nonclinical community sample self-reported a substantial number of relatively abusive parenting behaviors and elevated child-abuse potential, suggesting that participants represented a wide array of parents in the discipline-abuse continuum, possibly even those who actually do engage in behaviors on the abusive end.

In sum, these findings imply that a child's explanatory style for positive events is one potential pathway for how abuse risk may exacerbate the development of internalizing symptomatology in children. As such, the results continue the line of research implying that harsh discipline and abusive attitudes begin to affect children before they experience abusive discipline. Continuing study into the possible mechanisms of adverse effect on children is as important as ascertaining what broader contextual factors may aggravate the situation as a whole, factors that may fuel a parent's likelihood of abusively disciplining a child. A more complicated, but likely relevant, avenue to pursue would address the reciprocal nature of family interactions, whereby child and parent mutually influence each other. Yet the implications of the current study suggest that parents should be advised regarding how their children may respond to their discipline, regardless of what role children play in parent-child conflict situations.

Moreover, given the growing body of research highlighting the role of attributions, cognitive therapy interventions for children who are maltreated appear warranted, emphasizing attributional retraining and facilitating children's adaptive cognitive processes. Schools with primary prevention efforts (e.g., self-esteem or social skills groups) could also encourage children who are likely to be recipients of physical discipline to reframe positive events to potentially minimize tendencies toward maladaptive attributions.

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