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The Dissertation Committee for James Phillip Olsen certifies that this is the final approved version of the following electronic dissertation: "The Differential Impact of Physical Abuse, Witnessing Violence, and Psychological Abuse on Children's Internalizing, Externalizing, and Posttraumatic Stress Symptoms."

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THE DIFFERENTIAL IMPACT OF PHYSICAL ABUSE, WITNESSING VIOLENCE,  
AND PSYCHOLOGICAL ABUSE ON CHILDREN'S INTERNALIZING,  
EXTERNALIZING, AND POSTTRAUMATIC STRESS SYMPTOMS

by

James Phillip Olsen

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

Major: Psychology

The University of Memphis

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## Dedication

This Dissertation is dedicated to my wife, Shira Olsen, who has supported me with patience and understanding throughout my academic pursuits. Without her love and encouragement, this accomplishment would not have been possible.

## Acknowledgments

First, I would like to thank my committee members Dr. Robert Cohen, Dr. David Houston, and Dr. Ronald Landis for taking the time to work with me during this endeavor. Their evaluation and feedback of the project has served to make the end product one which is better than that which I originally set out to complete. Their influence on this project has made a notable impact on my development as a researcher.

I would also like to thank the many students, both graduate and undergraduate, who spent countless hours working on this project. Their constant dedication and hard work made this project into a reality. I am indebted to each of them.

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## Abstract

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Children commonly witness violence in their family, fall victim to violent acts by caregivers, or suffer from psychological abuse from caregivers. Independent examinations of these experiences have suggested that each can act as a precursor to internalizing problems, externalizing problems, and posttraumatic stress symptoms later in life. There is growing recognition that these forms of maltreatment are highly correlated, and some research has already shown that accounting for multiple forms of maltreatment can alter associations with psychological difficulties. This research sought to simultaneously explore the unique relations of psychological abuse, physical abuse, and witnessing familial violence to internalizing problems, externalizing problems, and posttraumatic stress symptoms. The study also probed the possibility that each of the three forms of maltreatment might impact the relation between the other types of maltreatment and the psychological adjustment outcomes. Further, the project sought to explore the specificity of the results by evaluating the possibility that associations between each of the psychological adjustment outcomes could alter the findings of the first three goals. Results identified several unique associations for the maltreatment variables that varied by outcome and suggested that several important interactions may exist. Further, accounting for correlated outcome variables in the analyses resulted in some deviations in these results, suggesting that specificity is a concern for research of this type. Overall, the study suggested that psychological abuse may be a particularly

robust predictor of each of the three outcome variables, and that violence-related maltreatment may have a closer nexus with posttraumatic stress symptoms.

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## Introduction

It is an unfortunate truth that children commonly witness familial violence, are victims of physical abuse from caregivers, or suffer from the psychological abuse of caregivers (Osofsky, 2003; Straus & Field, 2003). Worse, evidence suggests that each of these experiences is associated with internalizing problems, externalizing problems, and posttraumatic stress symptoms later in life (Higgins & McCabe, 2003; Kitzmann, Gaylord, Holt, & Kenny, 2003). Although significant advances have been made, important questions regarding the relation between child maltreatment and the psychological adjustment of youth remain. One question concerns the unique impact of co-occurring forms of maltreatment on the emotional and behavioral functioning of youth. The majority of research in this area has been conducted with no more than two forms of child maltreatment, and there has been little examination concerned with how various types of maltreatment uniquely relate to youth outcomes (Herrenkohl & Herrenkohl, 2009).

This is a critical limitation due to the body of research that has consistently shown that the various forms of maltreatment often co-occur, or are correlated with one another (Herrenkohl & Herrenkohl, 2009; Slep & O'Leary, 2005). For example, one large nationally representative study showed that among children who reported any form of maltreatment, 64% reported two or more forms of maltreatment (Finkelhor, Ormrod, & Turner, 2007), and some studies have estimated this rate to be even higher (e.g., Chicchetti & Ragoosh, 1993). Examination of different forms of maltreatment in isolation from one another thus has the potential to overestimate the relation between a particular type of maltreatment and psychological adjustment outcomes (Finkelhor et al., 2007).

Accordingly, it is critical to jointly assess for multiple forms of maltreatment when considering the relations of any one of them to other constructs of interest (Richmond, Elliot, Pierce, Aspelmeier, & Alexander, 2009). The work that has been done to address this concern suggests that properly co-examining correlated forms of maltreatment can alter relations to outcomes, and that accounting for the relation between psychological abuse and other forms of maltreatment may be an especially important consideration (Higgins & McCabe, 2003; McGee, Wolfe, & Wilson, 1997). Moreover, there has been little thorough inquiry into either the complex interactions of maltreatment types as they relate to psychological adjustment outcomes, or the specificity of the relations between maltreatment types and those outcomes.

The purpose of this study was to simultaneously investigate the relations of physical abuse, witnessing familial violence, and psychological abuse to children's internalizing problems, externalizing problems, and posttraumatic stress symptoms. Further, this study sought to explore the possibility that each of these three forms of maltreatment might impact the relation between the other forms of maltreatment and emotional and behavioral functioning (i.e., interaction effects). Finally, this study probed the specificity of the findings with regard to outcome. The focus of this study was on maltreatment within the family of origin. This was a product of the notion that abuse in the family context uniquely involves a child's most intimate relationships. Accordingly, this broad class of maltreatment may lead to different developmental trajectories than other abusive contexts (e.g., school bullying, community violence). For the remainder of this section, literature related to child witnessing of familial violence is reviewed, followed by literature related to child physical abuse from adult caregivers and the effects

of exposure to both types of violence. For each of these topics, attention is given to epidemiology, as well as to the effects on internalizing problems, externalizing problems, and posttraumatic stress symptoms. Research relating to psychological abuse of children is then reviewed and the importance of simultaneously evaluating multiple forms of maltreatment is highlighted.

### **Child Witnessing of Familial Violence**

The majority of the research on children witnessing violence concerning family members has focused on violence between or involving parents. Estimation of the rates of interparental violence is difficult (Olsen, Parra, & Bennett, 2010). Yet, there is agreement that physical aggression is a relatively common occurrence in these relationships (Archer, 2000; Linder & Collins, 2005; Sugarman & Hotaling, 1989; White & Koss, 1991). Unfortunately, many episodes of violence occur in the presence of child witnesses. Estimates for children witnessing violence are varied (Osofsky, 2003), with studies indicating that from 3 million to over 17 million children witness domestic violence in their families every year within the United States alone (Carlson, 1984; Holden, 1998; Straus, 1992; Straus & Gelles, 1990). Perhaps more telling are findings from retrospective studies that between 20% and 35% of adults recall being exposed to domestic violence before adulthood (Henning, Leitenberg, Coffey, Turner, & Bennett, 1996; Maker, Kemmelmeier, & Peterson, 1998). Collectively, these estimates suggest that a large number of children in the United States are raised with a violent family context.

Children are sensitive to conflict and discord that occurs between their parents (Emery, 1982) and this problem is magnified when children are exposed to interparental

conflict that involves the use of physical violence (Jouriles, Murphy, & O'Leary, 1989). One domain of difficulty that has been found to be commonly experienced by child witnesses is internalizing problems (e.g., anxiety, depression, somatization). In recent years, several meta-analyses have concluded that children who are witnesses to interparental violence are at an increased risk for experiencing internalizing problems relative to children who do not witness such events (Evans, Davies, & DiLillo, 2008; Kitzmann et al., 2003; Sternberg, Baradaran, Abbott, Lamb, & Guterman, 2006). The medium effect size for this finding has been shown to be similar for boys and girls (Evans et al., 2008; Kitzmann et al., 2003; Sternberg et al., 2006). Furthermore, the effect size has been shown to remain stable across childhood (Evans et al., 2008; Kitzmann et al., 2003). Thus, there is considerable evidence that boys and girls of all childhood ages who witness interparental violence are at increased long-term risk for developing internalizing difficulties.

Another domain of difficulties that has been found to be commonly experienced by child witnesses is externalizing problems (e.g., aggressive and rule-breaking behaviors). Similar to internalizing problems, several recent meta-analyses have concluded that children who are witnesses to episodes of interparental violence are at an increased risk for experiencing externalizing problems relative to those children who do not witness such events (Evans et al., 2008; Kitzmann et al., 2003; Sternberg et al., 2006). Findings from one meta-analysis further indicated that the negative effect on externalizing symptoms from witnessing interparental physical violence is significantly worse than the effect of witnessing verbal aggression (Kitzmann et al., 2003). Though exposure to interparental violence was a significant predictor of externalizing problems

for both boys and girls, boys who witnessed such violence were found to exhibit significantly more externalizing problems than were girls (Evans et al., 2008). Other meta-analyses have failed to detect a sex difference for this relation (Kitzmann et al., 2003; Sternberg et al., 2006). Similar to results for internalizing problems, the medium effect size of this association has been found to remain generally stable across childhood (Evans et al., 2008; Kitzmann et al., 2003). Accordingly, the evidence suggests that boys and girls of all ages who witness interparental violence are at increased long-term risk for developing externalizing difficulties.

Child witnesses have also been found to commonly experience posttraumatic stress symptoms (e.g., intrusive reexperiencing of events, hyperarousal, avoidance and numbing). This area of psychological difficulty associated with child witnessing has not received nearly the level of attention that has been devoted to internalizing and externalizing problems. Nonetheless, meta-analytic findings suggest that children who are witnesses to episodes of familial violence are at an increased risk for experiencing posttraumatic stress symptoms relative to those children who do not witness such events (Chan & Yeung, 2009; Evans et al., 2008). Research further indicates that witnessing familial violence is equally related to posttraumatic stress symptoms for both boys and girls (Kilpatrick & Williams, 1998). Similar to results for internalizing and externalizing problems, this relation has been found to remain stable across childhood (Kilpatrick & Williams, 1998). Therefore, the evidence suggests that boys and girls of all ages who witness violence in their family are at increased long-term risk for experiencing posttraumatic stress symptoms.

## **Child Physical Abuse from Adult Caregivers**

Estimates for the rate of physical abuse of children in the United States consistently suggest that this problem is of epidemic proportion. Among all reported child maltreatment cases in the United States in 2009, over 123,000 cases (17.8% of all cases) were solely concerned with physical child abuse (U.S. DHHS, 2010). In a retrospective study of abuse, the National Violence Against Women Survey concluded that 43.4% of women and 54.3% of men indicated being physically assaulted by an adult as a child (including physical discipline by a caretaker; Tjaden & Thoennes, 2000). More conservative estimates from the National Survey of Children's Exposure to Violence indicated that 9.8% of males and 8.3% of females between the ages of 0 and 17 had been physically abused by a caregiver in their lifetime (specifically excluding spanking; Finkelhor, Turner, Ormrod, & Hamby, 2009). These estimates indicate that a profusion of children in the United States are recipients of physical abuse from adults.

Similar to child witnesses of interparental violence, child victims of adult caregiver violence have been found to commonly experience internalizing problems. Nonetheless, there is not uniform agreement on this finding. One *mega-analysis* (i.e., multiple independent datasets combined into a single larger dataset and re-analyzed) concluded that children who are victims of parental abuse may not be at a significantly increased risk for experiencing internalizing problems (Sternberg et al., 2006). Although these researchers did consistently find that victims of parental abuse scored higher on internalizing problems, these scores failed to significantly differ from children who experienced no violence for both boys and girls across ages of childhood (Sternberg et al., 2006). This suggests that, unlike children who witness interparental violence, children

who are direct victims of parental abuse may not be at a heightened risk for internalizing problems. However, findings from the meta-analysis conducted by Kitzmann and colleagues (2003) suggest that parental abuse of children and witnessing interparental violence do not significantly differ in their effect on internalizing problems. This suggests that children who are physically abused and children who are witnesses to interparental violence are at a comparably increased risk for developing internalizing problems.

Unlike their finding for internalizing problems, Sternberg and colleagues (2006) concluded that children who were victims of parental abuse may indeed be at a significantly increased risk for experiencing externalizing problems. Again, these findings were consistent for both boys and girls and were generally consistent across childhood ages (Sternberg et al., 2006). The collective findings from Sternberg and colleagues' (2006) mega-analysis suggest that, although children who witness interparental violence may be at risk for both internalizing and externalizing problems, children who are direct victims of parental abuse may primarily be at a heightened risk for externalizing problems. Though the meta-analysis conducted by Kitzmann and colleagues (2003) differs in regard to this larger conclusion, it supports Sternberg and colleagues' (2006) finding with regard to externalizing problems and suggests that parental abuse of children and witnessing interparental violence do not significantly differ in their effect on externalizing problems. Accordingly, there is considerable agreement that both physically abused children and child witnesses to interparental violence are at increased risk for developing externalizing problems.

Several studies suggest that children who experience physical abuse may also be at risk for developing posttraumatic stress symptoms (Famularo, Kinscherff, & Fenton,

1992; Kilpatrick, Saunders, & Smith, 2003; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997). Some research indicates that physical abuse may be more associated with posttraumatic stress symptoms for females than for males (Ackerman, Newton, McPherson, Jones & Dykman, 1998; Kilpatrick et al., 2003). Additionally, this relation may become increasingly prevalent with older children (Kilpatrick et al., 2003). Thus, the evidence suggests that males and females of all ages may be at risk for experiencing posttraumatic stress symptoms in the wake of experiencing physical child abuse, and that females and children of older ages may be at an especially increased risk for such problems.

### **Interaction of Violence-Related Maltreatment Types**

Estimation of rates for co-occurrence of witnessing interparental violence and experiencing physical abuse from a caregiver are widely varied, with some studies reporting nearly all children in maritally violent homes are victims of parental abuse and others reporting this rate of co-occurrence to be minimal (Appel & Holden, 1998; Osofsky, 2003). One factor that appears to be responsible for this variability is the wide range of criteria for defining physical abuse of children (e.g., does spanking qualify as abuse?; Appel & Holden, 1998). Using a conservative standard in which spanking and pushing were not characterized as abusive, lifetime co-occurrence of dual exposure drawn from a large college sample was approximated at 11% (Silvern et al., 1995). The National Family Violence Survey concluded that nearly 6% of American parents reported that their children had experienced dual exposure in the preceding year alone (Hotaling, Straus, & Lincoln, 1990). Further research has indicated that interparental violence is a risk factor for parental violence towards children (McCloskey, Figueredo, & Koss, 1995;

O'Keefe, 1994; Salzinger et al., 2002, Slep & O'Leary, 2005). Additionally, the violence of husbands towards wives has been found to correlate with both paternal and maternal violence towards sons (Jouriles & LeCompte, 1991). Moreover, there is some indication that a parent's likelihood of committing violent acts against a child is increased when his or her partner has engaged in violent actions towards that parent or towards the child, suggesting that violence may become generalized as it increases in the family (Slep & O'Leary, 2005). Overall, there are a great deal of empirical data suggesting that there is significant co-occurrence of witnessing interparental violence and experiencing physical abuse from a caregiver.

Researchers have held that children experience greater levels of developmental difficulties when they are subjected to increased stressors (Rutter, 1983). It is consistent with this notion to expect that children who concurrently witnessed interparental violence and experienced physical abuse from a caregiver would be likely to experience greater difficulties on average than those children who only experienced one such stressor. This rationale has been the basis for the "double-whammy" hypothesis, which holds that children who witness interparental violence and also experience physical abuse should tend to exhibit greater levels of maladjustment than children who experience only one of these stressors (Hughes, 1988; Hughes, Parkinson, & Vargo, 1989).

Some researchers have detected evidence of a double-whammy effect in their studies (Carlson, 1991; Hughes, 1988; O'Keefe, 1994), although others have found little or no evidence of this effect (Silverman & Gelles, 2001; Sternberg, Lamb, Guterman, & Abbott, 2006). Other research has tested a variety of outcomes and found evidence of a double-whammy effect for only depression and delinquency (Moylan et al., 2010). One

meta-analysis found support for witnessing familial violence and experiencing physical abuse each relating to increases in internalizing problems, externalizing problems, and posttraumatic stress symptoms, yet found no evidence of a double-whammy effect (Chan & Yeung, 2009). However, these findings are somewhat at odds with the Sternberg and colleagues (2006) mega-analysis, which concluded that children experiencing both forms of violence were generally at greater risk than children who experienced only one form. This double-whammy finding was particularly true for internalizing problems, though support was also found for externalizing problems with children under the age of 10 (Sternberg et al., 2006). Another meta-analysis was unable to locate a sufficient number of studies to conduct a statistical test of the overall findings across studies (Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). However, these researchers reviewed the independent results of available studies and concluded that for both internalizing and externalizing symptoms, “the experience of direct victimization may add a small effect size in addition to the medium effect already present with respect to exposure to domestic violence” (Wolfe et al., 2003, p. 183). The meta-analysis conducted by Kitzmann and colleagues (2003) was able to test for effect differences between children who were witnesses of domestic violence and children who were both physically abused and witnesses. This research concluded that there was a double-whammy effect for externalizing problems, but not for internalizing problems (Kitzmann et al., 2003). Overall, there appears to be some support for the notion that an increase in the number of stressors related to violence that a child experiences may result in greater long-term difficulties for that child. The notion that different forms of maltreatment often co-occur and have the potential to jointly influence outcomes is of great importance to the field of

developmental psychopathology. Despite growing recognition of this notion, the study of maltreatment interactions is still in its infancy.

### **Child Psychological Abuse from Adult Caregivers**

One area of child maltreatment that has not frequently been evaluated in conjunction with other forms of maltreatment is psychological abuse of children.

Psychological abuse (sometimes termed “psychological maltreatment”) has been defined by Hart, Brassard, and Karlson (1996) as “the repeated pattern of behavior that conveys to children that they are worthless, unloved, unwanted, only of value in meeting another’s needs, or seriously threatened with physical or psychological violence” (p. 73).

Psychological abuse is also recognized as including both acts of omission and commission (Brassard & Donovan, 2006). Among all reported child maltreatment cases in the United States in 2009, over 52,000 cases (7.6% of all cases) were solely concerned with psychological child abuse (U.S. DHHS, 2010). Because most child protection agencies are primarily concerned with the physical safety of children, these numbers are likely a significant underrepresentation of prevalence for psychological abuse (Kaplan, Pelcovitz, & Labruna, 1999). Data from a large Gallup Organization survey indicated that as many as 50% of teenagers each year are recipients of parental verbal acts intended to cause psychological pain or fear (e.g., called names, cursed at, threatened abandonment; Straus & Field, 2003). Overall, there is widespread agreement that psychological abuse of children is a common occurrence in American families.

Compared to some other areas of maltreatment, efforts to examine the consequences of psychological abuse are a relatively recent focus for developmental psychopathology researchers (Herrenkohl & Herrenkohl, 2009). Nonetheless, the

progress that has already been made suggests that this form of maltreatment is associated with notable developmental difficulties. Similar to violence-related forms of maltreatment, psychological abuse of children has been found to be predictive of children's later experiencing of both internalizing problems (Higgins & McCabe, 1998) and externalizing problems (Higgins & McCabe, 1998; Manly, Kim, Rogosch, & Cicchetti, 2001; Schneider, Ross, Graham, & Zielinski, 2005). These associations appear to exist for children of all ages (Brassard & Donovan, 2006). Additional research suggests that psychological abuse may uniquely relate to both internalizing and externalizing problems, even after accounting for physical child abuse and witnessing family violence (McGee et al., 1997). Furthermore, psychological abuse has also been found to be predictive of posttraumatic stress symptoms, even after accounting for other forms of maltreatment (Higgins & McCabe, 2003; Schneider et al., 2005). These findings provide evidence that psychological abuse may be an important unique predictor of psychological adjustment outcomes.

### **The Need for Concurrent Evaluation of Multiple Maltreatment Types**

Over the past two decades, a great deal of research has been conducted concerning child maltreatment in its various forms, as well as associated outcomes. As noted above, research in this area has overwhelmingly concluded that child witnessing of violence and child experiencing of physical abuse are both related to long-term internalizing, externalizing, and posttraumatic stress symptoms. Furthermore, a body of research has consistently shown that the various forms of maltreatment often co-occur, or are correlated with one another (Herrenkohl & Herrenkohl, 2009; Slep & O'Leary, 2005). For example, one large nationally representative study showed that among children who

reported any form of maltreatment, 64% reported two or more forms of maltreatment (Finkelhor et al., 2007). Another study put this estimate even higher at 73% (Chicchetti & Ragoosh, 1993). As a result of this co-occurrence, examining one form of maltreatment in isolation from other forms of maltreatment has the potential to result in an overestimation of the relation between that type of abuse and outcomes of interest (Finkelhor et al., 2007). To construct the most accurate models of developmental psychopathology possible, it is important to make concerted efforts to avoid relying upon incomplete or potentially misleading information. Accordingly, it is critical to jointly assess for multiple forms of maltreatment when considering the relations of any one of them to other constructs of interest (Richmond et al., 2009).

The vast majority of child maltreatment research has been conducted with no more than two forms of abuse, and there has been little examination concerned with how various types of maltreatment uniquely relate to outcomes (Herrenkohl & Herrenkohl, 2009). This is likely the result of researchers' tendency to specialize in only one form of child maltreatment, and to confine their inquiries to their area of specialty (Saunders, 2003). In the case of examinations concerned with the double-whammy effect, that body of research has been inclined to assess maltreatment categorically to ask if there is an added impact when maltreatment co-occurs. This is a substantially different research question from the one that asks how various forms of maltreatment are uniquely associated with assorted outcomes of interest. In general, the problem of correlations among different types of maltreatment influencing estimates of relations between individual forms of maltreatment and psychological adjustment has yet to be fully addressed.

This limitation exists despite there having already been some published research showing that correlations among maltreatment types can alter relations to psychological adjustment outcomes when these forms of abuse are properly co-examined. Indeed, research examining multiple forms of maltreatment showed that psychological abuse may account for the relation between physical abuse and children's internalizing problems (McGee et al., 1997). Moreover, when co-examining multiple forms of maltreatment, including physical abuse and witnessing family violence, only psychological child abuse was found to be uniquely predictive of posttraumatic stress symptoms (Higgins & McCabe, 2003). Somewhat similar findings have been found in the adult intimate partner violence literature. For example, when co-examining psychological abuse and physical abuse experienced by battered women, psychological abuse was shown to be the only unique predictor of posttraumatic stress symptoms (Arias & Pape, 1999). Overall, few researchers have proceeded further in examining the possibility that co-occurring psychological maltreatment may better account for outcome symptoms that are commonly associated with witnessing violence and physical maltreatment.

Despite the important initial work to begin sorting out the influences of various maltreatment types on key outcomes of interest, pivotal questions persist. First, it is not yet clear if previous findings showing psychological abuse as a robust and unique predictor of psychological adjustment outcomes can be replicated in a large national sample. Further, a comprehensive review of the literature was unable to locate any previous research that thoroughly examined the interactions of psychological abuse, physical abuse, and witnessing familial violence as they relate to psychological adjustment outcomes. Additionally, these types of analyses have not yet been conducted

in a way that allows for the examination of specificity with regard to closely related outcomes of interest (i.e., controlling for other psychological adjustment outcomes).

### **Present Study**

Consistent with the need for further co-evaluation of multiple forms of maltreatment, the present research had four key aims. The first aim was to confirm the findings of previous research showing that child physical abuse and child witnessing of violence are predictive of internalizing problems, externalizing problems, and posttraumatic stress symptoms. By confirming that the present sample yields results similar to those previously reported for these two constructs, the subsequent aims could be evaluated with knowledge that the sample is not an outlier with regards to these foundational findings. The second aim was to evaluate the ability of psychological abuse to uniquely relate to internalizing problems, externalizing problems, and posttraumatic stress symptoms after accounting for those constructs related to aim one (i.e., physical abuse and witnessing violence). Because psychological abuse has been found to relate highly with physical abuse and witnessing violence, it is important to examine how each of these constructs uniquely relate to psychological adjustment outcomes when they are examined concurrently. Consistent with this idea, the third aim was to explore the possibility that each of the three forms of maltreatment might impact the strength of relations between the other maltreatment types and the psychological adjustment outcomes. The first three aims were addressed by conducting a series of three hierarchical regression analyses (each assessing for one of the three outcomes of interest), each controlling for sex differences and baseline psychological problems for each child. The fourth aim was to evaluate the possibility that associations between each of the

psychological adjustment outcomes could influence the results of the analyses for aims 1 through 3. Because psychological difficulties often co-occur, the purpose of this aim was to isolate the aspects of the findings that are unique or specific to each examined outcome. Each of these aims was addressed through the use of a large national dataset comprised of children deemed to be at high-risk for experiencing maltreatment. The longitudinal nature of the data allowed the project to control for baseline psychological problems for each child, thus providing some accounting for the early psychosocial problems of each child. Additionally, the large sample size and high-risk population (see below for description) allowed for a substantial amount of recorded maltreatment to be evaluated.

## **Method**

### **Participants**

This project utilized data from the children ( $N = 1,443$ ) and their caregivers who are participants in the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN; Runyan et al., 1998). LONGSCAN is a consortium of five independent research programs and a coordinating center located at the University of North Carolina at Chapel Hill, all collaborating to collect data for a large prospective longitudinal investigation of the antecedents and consequences of child maltreatment. Each LONGSCAN site has unique sample characteristics, but all represent at-risk populations and share a common protocol for data collection, management, and entry procedures. The sample ( $N = 752$ ) used in this project was restricted to all LONGSCAN children who (a) completed ages 4 and 12 interviews, (b) had complete data relating to all independent variables of the

present analyses, and (c) had complete data for at least one of the dependent variables of the present analyses.

**Eastern site.** The Eastern (EA) site is located in urban Baltimore. This sample ( $n = 146$ ) was drawn from inner-city pediatric clinics serving low-income families. Participants were recruited independent of their involvement with Child Protective Services (CPS). This sample was comprised of three groups which include (a) children with inadequate growth in their first 2 years of life, (b) children with parents who were either infected with the human immunodeficiency virus (HIV) or were involved in drug use, and (c) children with no identified risk factors other than low socioeconomic status.

**Midwest site.** The Midwest (MW) site was located in urban Chicago. This sample ( $n = 113$ ) was comprised of three groups. These include (a) children who were reported to CPS and received 6 months of family therapy, (b) children who were reported to CPS and received standard CPS care, and (c) a neighborhood comparison group matched on child age, ethnicity, and socioeconomic status.

**Northwest site.** The Northwest (NW) site was located in Seattle and draws on both urban and rural populations. This sample ( $n = 153$ ) was comprised of children who were reported to CPS for maltreatment before age 5. Though not all cases of maltreatment were substantiated, all children in this sample were judged to be at moderate risk of future maltreatment based on a state risk assessment tool.

**Southern site.** The Southern (SO) site was located across urban, suburban, and rural areas of North Carolina. This sample ( $n = 146$ ) was drawn from a larger sample participating in an earlier study of children eligible at birth for the statewide High Priority Infant Program based on a variety of socio-demographic and medical determinants. A

random sub-sample of children in the original sample was enrolled in LONGSCAN. This included children who had been reported for maltreatment before 4 years of age, along with a 2:1 comparison group of unreported children matched on child age, sex, ethnicity, and socioeconomic status.

**Southwest site.** The Southwest (SW) site was located in urban San Diego. This sample ( $n = 194$ ) was comprised of children who were removed from their homes and placed into the foster care system before 3.5 years of age. Some children in this sample remained in the foster care system, whereas others were returned to their family of origin. These children were continuously followed as members of the LONGSCAN sample regardless of which trajectory they followed.

### **Procedure**

LONGSCAN procedures incorporated a longitudinal follow through design with children and their caregivers beginning prior to age 4. Brief assessments were made annually and more extensive evaluations were made at ages 4, 6, 8, and 12 (age 14, 16, 18, and 20 evaluations will be conducted in the future). At each major time point, the child's primary caregiver completed a 2-hour face-to-face interview, which involved mostly the administration of standardized self-report measures. Beginning at age 6, the caregiver and child conducted separate face-to-face interviews, and data were collected from the children's teachers. LONGSCAN trained staff conducted all face-to-face interviews. Data entry was conducted at each site using a system common to all sites and was then further processed and combined at the Collaborative Studies Coordinating Center at the University of North Carolina. The University of Memphis IRB approved

this study for exempt status (see Appendix G). Additionally, local Institutional Review Boards for each data collection site approved all research protocols.

## **Measures**

**Demographics.** All interviews with caregivers incorporated questions regarding family socioeconomic status, caregiver marital status, child sex, ethnicity of the child, and primary language of the child. Each of these variables was coded categorically.

**Child baseline problems at age 4.** The *Child Behavior Checklist* (CBCL; Achenbach, 1991a) was used to assess child baseline total problems at the age 4 visit. The parent-report CBCL is a commonly used, empirically-based measure of behavioral problems that children experience in a variety of domains. The CBCL is comprised of 113 items and its validity and reliability are well established (Achenbach, 1991a). For each item, the child's primary caregiver reports the frequency of that behavior "now or within the past 6 months" (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). The items of the CBCL are presented in Appendix A. The Total Problems scale can be derived from these questions. Higher scores on the CBCL indicate more severe behavior problems. The present study utilized the raw scores of the Total Problems scale of the CBCL.

**Child lifetime physical abuse.** All children were screened for self-report of physical abuse and assault from adults at the age 12 interview. This was accomplished via Audio-Computer Assisted Self Interview (A-CASI), which was utilized to increase the likelihood of children disclosing sensitive information. The adaptive interview was developed by LONGSCAN staff based on definitions of physical abuse used by Barnett, Manly, and Cicchetti (1993), and the American Professional Society on the Abuse of

Children (Hart et al., 1996). The interview is comprised of 15 stem questions regarding specific caregiver/perpetrator behaviors and injury experiences that trigger follow-up questions when endorsed. The questions are broken down into two domains, endangerment items and physical injury items (see Appendix B for a list of items). Follow-up questions establish the age of the child at the event, frequency of the event, and identity of the perpetrator. Although the LONGSCAN system for coding data did not allow for isolating the analysis to only those events involving caregiver perpetrators, the data do indicate that the identities of the perpetrators were almost exclusively adult caregivers. The present study utilized a sum of frequencies for all events. Thus, this measure represents an index of each child's total lifetime frequency of physical abuse from adults. To date, no validation or reliability studies have been published on this measure.

**Child lifetime witnessing of familial violence.** Children were also screened for self-report history of witnessing violence within their family at the age 12 interview. Similar to self-report of physical abuse, this assessment was accomplished via A-CASI. The adaptive interview was developed by LONGSCAN staff and was designed to capture a broad range of exposures to violence. The interview is comprised of 8 stem questions which ask the child if they have ever witnessed acts of violence in an order of increasingly serious violence. The items for self-report of witnessing violence are presented in Appendix C. Follow-up questions establish frequency of witnessing over the child's lifetime, frequency of witnessing in the last year, and perpetrator-victim relationship to the child. The LONGSCAN system for coding data allowed for the exclusion of events not involving family members. The present study utilized a sum of

frequencies for all events involving family members. Thus, this measure represents an index of each child's total lifetime witnessing of violence involving family members. To date, no validation or reliability studies have been published on this measure.

**Child lifetime psychological abuse.** All children were also screened for self-report of psychological abuse from caregivers at the age 12 interview. Similar to self-reports of physical abuse and witnessing violence, this assessment was accomplished via A-CASI. The adaptive interview was developed by LONGSCAN staff, and was designed to capture a broad range of psychologically abusive events based on definitions of psychological abuse used by Barnett and colleagues (1993) and the American Professional Society on the Abuse of Children (Hart et al., 1996). The interview is comprised of 26 stem questions regarding specific parental behaviors that trigger follow-up questions when endorsed. The items of psychological abuse self-report are presented in Appendix D. The present study utilized only the 18 questions that have been previously identified by LONGSCAN as best representing the construct of psychological abuse. Follow-up questions establish the frequency of each abusive event at different age intervals. The present study utilized a sum of frequencies for all events. Thus, this measure represents an index of each child's total lifetime psychological abuse from caregivers. To date, no validation or reliability studies have been published on this measure.

**Child internalizing and externalizing problems at age 12.** The *Youth Self-Report Form* (YSR; Achenbach, 1991b) was used to assess each child's internalizing and externalizing problems at the age 12 visit. The self-report YSR is a commonly used, empirically-based measure of behavioral problems that children (ages 11-18) experience

in a variety of domains. The YSR is comprised of 112 items and its validity and reliability are well established (Achenbach, 1991b). For each item, the child reports the frequency of that behavior on a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). The items of the YSR are presented in Appendix E. The Internalizing Problems and Externalizing Problems scales can be derived from these questions. Higher scores on the CBCL indicate more severe behavior problems. The present study utilized the raw scores of the Internalizing Problems and the Externalizing Problems scales of the YSR.

**Child posttraumatic stress symptoms at age 12.** The *Trauma Symptom Checklist for Children-Alternate Version* (TSCC-A; Briere, 1996) was used to measure children's trauma-related symptoms at the age 12 visit. The TSCC-A is a 54-item scale that was designed to assess children's trauma-related psychological functioning in the aftermath of traumatic events, including child maltreatment. Children self-report how often they have experienced each of the 54 symptoms on a 4-point scale (0 = never to 3 = almost all the time). The items of the TSCC-A are presented in Appendix F. The measure is written at a language level that is age appropriate for the reading capabilities of children 8–16 years of age. The TSCC-A produces six subscales: Anxiety, Depression, Anger, Posttraumatic Stress, Dissociation, and Sexual Concerns. In the present study, only the raw scores of the 10 items from the Posttraumatic Stress subscale were used. This measure has previously demonstrated excellent internal consistency, reliability and concurrent validity (Evans, Briere, Boggiano, & Barrett, 1994; Lanktree & Briere, 1990a, 1990b). In the LONGSCAN sample, TSCC-A subscales show Cronbach's alphas ranging from .76 to .85.

## **Analytic Strategy**

Prior to conducting analyses relating to the primary aims of the study, demographic information for each data collection site was evaluated. Additionally, correlations between all variables of interest were examined, along with descriptive statistics for these variables. After reporting preliminary statistics, the present research had four key aims. The first aim was to confirm the findings of previous research showing that child physical abuse and child witnessing of violence are predictive of internalizing problems, externalizing problems, and posttraumatic stress symptoms. This was conducted by way of a series of three hierarchical regression analyses (each assessing for one of the three outcome variables of interest) in which both physical abuse and witnessing violence were included on the first of four steps. This provided an initial evaluation of these independent variables before further aims were addressed in the subsequent steps of these regressions. Sex of the child and age 4 total problems were also included on the first step of each regression to control for sex differences and baseline psychological problems for each child. The second aim was to evaluate the ability of psychological abuse and those variables entered on the first step of the regression analyses to uniquely explain variance for internalizing problems, externalizing problems, and posttraumatic stress symptoms. To accomplish this, child psychological abuse was entered in step 2 of each hierarchical regression. The third aim was to explore the possibility that each of the key independent variables might impact the relation between the other independent variables and each of the outcome variables. This was accomplished by way of three two-way interactions entered on step 3, and a three-way interaction entered on step 4. The fourth aim was to probe the specificity of these

analyses by evaluating the possibility that associations between the three outcome variables could influence the results of the analyses for aims 1 through 3. This was addressed by conducting a second series of three hierarchical regressions that were identical to the first series, but with one exception. For each regression, the two outcome variables not being assessed for were entered at step 1.

## **Results**

### **Preliminary Analyses**

All analyses were conducted using SPSS Version 12.0. Data were thoroughly screened based on procedures recommended by Tabachnick and Fidell (2001). Participants with missing data for any of the independent variables were excluded from the analyses. Thus, the remaining sample ( $N = 752$ ) is comprised of those children who had complete data for all independent variables, and data for at least one of the dependent variables. Participants were only included in analyses where they had complete data for the dependent variable of that analysis and no substitution procedures were utilized at any point.

The sample evidenced a positively skewed and leptokurtic distribution for the witnessing violence and physical abuse variables, showing that participants very frequently endorsed lower levels of both witnessing violence and physical abuse. This type of distribution is to be expected for these variables, and suggests that the majority of children in the sample experience little or no maltreatment of these types. Statistical simulation research has demonstrated that the negative impact of non-normal distributions becomes trivial with sample sizes exceeding 200 (Waternaux, 1976). Due to the large size of the present sample ( $N = 752$ ), data transformations were deemed not

necessary for these variables. No outliers were identified within the dataset. Means, standard deviations, skewness, kurtosis, and zero-order correlations for all variables are presented in Table 1.

To detect any differences in the predictive and outcome variables across data collection sites, a one-way Multivariate Analysis of Variance (MANOVA) was conducted with each of the variables used in the present study serving as a dependent variable. Significant effects were followed using the Tukey post-hoc procedure. The results of these analyses, presented in Table 2, indicated significant differences across data collection sites for age 4 CBCL total problems,  $F(4, 710) = 5.55, p < .001$ . Tukey's procedure indicated that the Midwest site showed lower total problems than the Northwest site ( $p < .001$ ), the Southern site ( $p < .001$ ), and the Southwest site ( $p = .02$ ). The results further indicated significant differences across data collection sites for age 12 YSR externalizing problems,  $F(4, 710) = 2.71, p = .03$ . Tukey's procedure indicated that the Eastern site showed lower externalizing problems than the Northwest site ( $p = .03$ ). Despite these significant differences across data collection sites for two key variables, the overall trend of these analyses was overwhelmingly toward non-significant differences. Accordingly, the remaining data analyses were conducted without implementing a procedure to control for data collection site.

To supply demographic information for the present sample, Table 3 provides information on child sex, child ethnicity, child primary language, caregiver marital status at child age 12, and family income at child age 12. This information is shown for each data collection site and for the total sample. The data indicate that, for all data collection

Table 1  
*Zero-Order Correlations, Means, Standard Deviations, Skewness, and Kurtosis among the Variables*

	1	2	3	4	5	6	7	8
Predictor Variables:								
1. Sex <sup>a</sup>	---							
2. Age 4 Total Problems	.01	---						
3. Witnessed Violence	-.01	.03	---					
4. Physical Abuse	-.03	.04	.15*	---				
5. Psychological Abuse	.06	.09*	.25*	.53*	---			
Outcome Variables:								
6. Internalizing Problems	.15*	.13*	.14*	.18*	.35*	---		
7. Externalizing Problems	-.02	.17*	.16*	.21*	.34*	.61*	---	
8. Trauma Symptoms	.12*	.02	.21*	.23*	.29*	.51*	.37*	---
-----								
Mean	1.49 <sup>b</sup>	30.15	0.86 <sup>c</sup>	2.69 <sup>c</sup>	1.19 <sup>c</sup>	10.41	9.76	4.19
SD	0.50	19.87	2.01	5.86	2.14	7.36	6.66	4.63
Skew	0.02	1.33	4.92	4.36	2.54	1.19	0.94	2.04
Kurtosis	-2.01	3.06	47.34	29.55	7.64	1.89	0.90	5.82

*Note.* Maximum  $N = 752$ . Minimum  $N = 722$ . <sup>a</sup>Correlations presented for this variable are point-biserial. <sup>b</sup>Percent female = 49.5. <sup>c</sup>Non-centered descriptive statistics are reported for these variables, though they were centered for subsequent analyses. \*  $p < .05$ .

Table 2  
*MANOVA and Tukey HSD Post-Hoc Tests for Differences in Means of Key Variables by Data Collection Site*

	EA Site	MW Site	NW Site	SO Site	SW Site	<i>F</i>
Predictor Variables:						
Sex	1.45	1.49	1.46	1.56	1.54	1.51
Age 4 Total Problems	27.81	23.14 <sup>a,b,c</sup>	33.28 <sup>a</sup>	32.90 <sup>b</sup>	30.26 <sup>c</sup>	5.55**
Witnessed Violence	1.27	0.82	0.86	0.75	0.70	1.87
Physical Abuse	2.24	2.50	2.70	3.27	2.39	0.71
Psychological Abuse	0.96	0.93	0.99	1.42	1.44	2.15
Outcome Variables:						
Internalizing Problems	10.02	9.84	10.57	10.99	10.28	0.49
Externalizing Problems	8.22 <sup>d</sup>	9.41	10.47 <sup>d</sup>	10.12	10.16	2.71*
Trauma Symptoms	4.06	4.02	3.97	4.63	4.21	0.45

*Note.* ( $n = 722$ ). \*  $p \leq .05$ , \*\*  $p \leq .01$ . Eastern (EA), Midwest (MW), Northwest (NW), Southern (SO), Southwest (SW). <sup>a</sup> MW site differs from NW site on age 4 total problems ( $p < .00$ ). <sup>b</sup> MW site differs from SO site on age 4 total problems ( $p = .00$ ). <sup>c</sup> MW site differs from SW site on age 4 total problems ( $p = .02$ ). <sup>d</sup> EA site differs from NW site on externalizing problems ( $p = .03$ ).

Table 3  
*Demographic Statistics for the Current LONGSCAN Sample*

Variable Name	EA Site	MW Site	SO Site	SW Site	NW Site	ALL Sites
Child sex (% Female)	44.5%	48.7%	56.2%	52.1%	45.1%	49.5%
Child ethnicity						
African American	86.3%	63.7%	61.6%	36.3%	21.6%	51.3%
Asian	0.0%	0.0%	0.0%	1.0%	0.7%	0.4%
Latino/Hispanic	0.0%	13.3%	0.0%	16.5%	2.0%	6.6%
Mixed Race	2.1%	8.8%	0.0%	13.4%	23.5%	10.0%
Native American	0.0%	0.9%	0.0%	0.5%	2.6%	0.8%
White	4.1%	8.0%	31.5%	29.6%	43.1%	23.9%
Other	1.4%	0.0%	0.0%	0.0%	2.0%	0.7%
<i>Not Stated</i>	6.2%	5.3%	6.8%	7.7%	4.6%	6.3%
Child primary language						
English	93.8%	91.2%	93.2%	85.1%	94.8%	91.2%
Spanish	0.0%	3.5%	0.0%	7.2%	0.0%	2.4%
Other	0.0%	0.0%	0.0%	0.5%	0.7%	0.3%
<i>Not Stated</i>	6.2%	5.3%	06.8%	7.2%	4.6%	6.1%
Caregiver Marital Status						
Never Married	47.9%	58.2%	34.2%	13.9%	25.5%	33.2%
Married	23.3%	28.3%	44.4%	48.5%	38.6%	37.5%
Formerly Married	26.7%	12.4%	19.8%	34.5%	35.3%	27.7%
<i>Not Stated</i>	2.1%	2.7%	2.7%	3.1%	0.7	2.3%
Family Income (% less than \$25,000)	51.4%	64.5%	69.0%	32.3%	43.3%	50.3%
<i>Not Stated</i>	2.7%	2.7%	2.7%	4.1%	2.0%	2.9%

*Note:* Due to the fact that participant were not excluded based on demographic information (exception for sex), there was missing data for these variables. Child sex ( $n = 752$ ); child ethnicity ( $n = 705$ ); child primary language ( $n = 706$ ); caregiver marital status ( $n = 735$ ); family income ( $n = 730$ ).

sites, the sample was ethnically diverse and was comprised primarily of English speaking, single parent, and low socio-economic status participants. As mentioned in the Method section above, the LONGSCAN database was intentionally created with a high-risk sample. This was further confirmed by data presented in Table 3 showing that a large percentage of participants at all data collection sites live near or below the poverty line.

### **Hierarchical Regression Analyses**

As shown in Table 1, each of the three maltreatment variables showed a statistically significant correlation with the other maltreatment variables. Referencing Cohen's (1988) interpretation of effect size, witnessing familial violence showed a small correlation with physical abuse,  $r(750) = .15, p < .001$ , and a medium correlation with psychological abuse,  $r(750) = .25, p < .001$ . Physical abuse and psychological abuse demonstrated a large correlation,  $r(750) = .53, p < .001$ . Accordingly, these three maltreatment variables showed evidence of considerable covariation with one another.

A series of three hierarchical regression analyses were employed to explore the unique associations between witnessing violence, physical abuse, psychological abuse, and each of the three outcome variables (internalizing problems, externalizing problems, and posttraumatic stress symptoms). Each of these analyses was conducted in four steps. At step 1, sex and age 4 total problems were entered to control for their influence on the outcome variables. Witnessing violence and physical abuse were also entered at this step to test for confirmation of previous findings relating to relations between these variables and the outcome variables. At step 2, psychological abuse was entered to test the ability of this variable to uniquely predict the outcome variables after controlling for variables entered in step 1. At step 3, the three two-way interaction terms were entered. Finally, the

three-way interaction term was entered at step 4. For each step, the  $R^2$ , the  $R^2$  change, and  $F$  change statistics were reported.

**Predicting internalizing problems.** Table 4 presents the results of the hierarchical regression for internalizing problems. Step 1 explained a significant proportion of variance in internalizing problems,  $R^2 = .09$ ,  $F(4, 734) = 17.18$ ,  $p < .001$ . This step revealed that witnessing violence and physical abuse each explained unique variance for internalizing problems after controlling for sex and age 4 total problems. These results confirm the body of previous research suggesting that each of these variables predict internalizing problems. Step 2 showed a significant increase in variance explained for internalizing problems,  $R^2\Delta = .07$ ,  $F\Delta(1, 733) = 60.51$ ,  $p < .001$ . In this step, psychological abuse significantly predicted internalizing problems, and rendered both witnessing violence and physical abuse non-significant. This suggests that, physical abuse and witnessing violence do not share any unique variance with internalizing above and beyond what is common to psychological abuse. Step 3 did not significantly increase variance explained for internalizing problems and revealed no significant two-way interactions. Nonetheless, step 4 did reveal a significant increase in variance explained for internalizing problems,  $R^2\Delta = .01$ ,  $F\Delta(1, 729) = 8.95$ ,  $p < .01$ . In this step, the three-way interaction significantly predicted internalizing problems. Post-hoc testing for this interaction (see Figure 1) indicated that youth with high levels of psychological abuse tended to have the highest levels of internalizing problems. In addition, witnessing violence was associated with elevated levels of internalizing problems when both psychological and physical abuse were low ( $B = .97$ ,  $p < .001$ ). Further, physical abuse was associated with internalizing problems when both psychological and witnessing

Table 4  
*Hierarchical Multiple Regression Predicting Internalizing Problems*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.09	.09	17.18***	4, 734
Sex	.15***				
Age 4 Total Problems	.12***				
Witnessed Violence	.12***				
Physical Abuse	.17***				
Step 2:		.16	.07	60.51***	1, 733
Sex	.13***				
Age 4 Total Problems	.10**				
Witnessed Violence	.06 <sup>†</sup>				
Physical Abuse	.01				
Psychological Abuse	.32***				
Step 3:		.16	.00	0.77	3, 730
Sex	.13***				
Age 4 Total Problems	.10**				
Witnessed Violence	.08*				
Physical Abuse	.04				
Psychological Abuse	.35***				
Witness x Physical	.01				
Witness x Psychological	-.05				
Physical x Psychological	-.06				
Step 4:		.17	.01	8.95**	1, 729
Sex	.12***				
Age 4 Total Problems	.10**				
Witnessed Violence	.06				
Physical Abuse	.06				
Psychological Abuse	.35***				
Witness x Physical	-.11*				
Witness x Psychological	-.08 <sup>†</sup>				
Physical x Psychological	-.09				
Witness x Physical x Psychological	.18**				

Note. (n = 739). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001. <sup>†</sup> p ≤ .10.

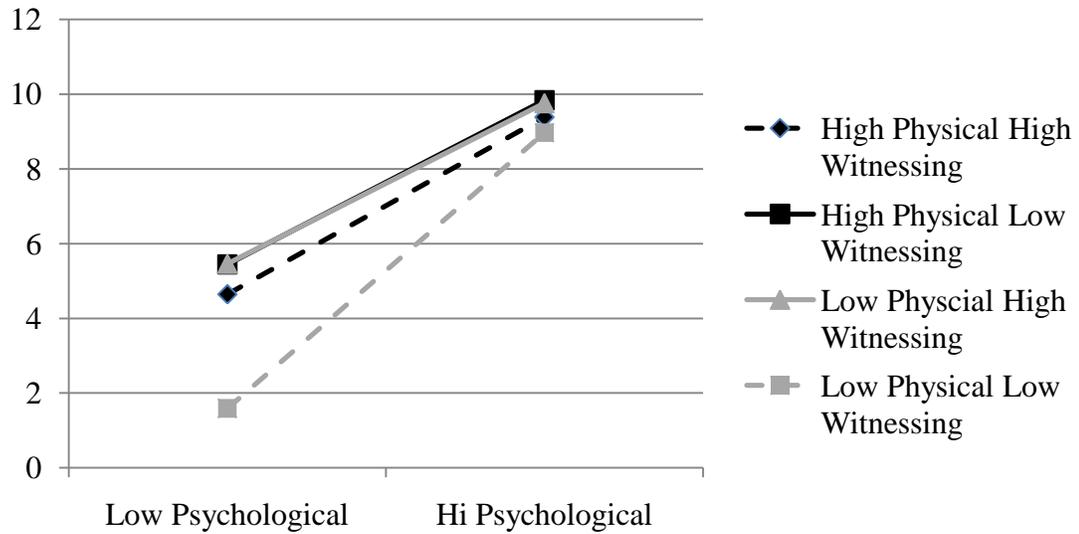


Figure 1. Witnessing violence X physical abuse X psychological abuse predicting internalizing symptoms.

violence were low ( $B = .33, p = .01$ ). Moreover, at reduced levels of psychological abuse, the significance of the other variables for internalizing problems was dependent upon whether one of them was also at a decreased level.

**Predicting externalizing problems.** Table 5 presents the results of the hierarchical regression for externalizing problems. Step 1 explained a significant proportion of variance in externalizing problems,  $R^2 = .09, F(4, 734) = 18.37, p < .001$ . This step revealed that witnessing violence, and physical abuse each explained unique variance for externalizing problems after controlling for sex and age 4 total problems. As with the previous hierarchical regression, these results confirm the body of previous research suggesting that each of these variables predict externalizing problems. Step 2 showed a significant increase in variance explained for externalizing problems,  $R^2\Delta = .02, F\Delta(1, 729) = 20.26, p < .001$ . In this step, psychological abuse significantly predicted

Table 5  
*Hierarchical Multiple Regression Predicting Externalizing Problems*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.09	.09	18.37***	4, 734
Sex	-.02				
Age 4 Total Problems	.16***				
Witnessed Violence	.13***				
Physical Abuse	.20***				
Step 2:		.15	.06	47.41***	1, 733
Sex	-.04				
Age 4 Total Problems	.15***				
Witnessed Violence	.09*				
Physical Abuse	.06				
Psychological Abuse	.28***				
Step 3:		.16	.01	2.76*	3, 730
Sex	-.04				
Age 4 Total Problems	.14***				
Witnessed Violence	.12**				
Physical Abuse	.07				
Psychological Abuse	.34***				
Witness x Physical	.03				
Witness x Psychological	-.12**				
Physical x Psychological	-.05				
Step 4:		.16	.00	2.59	1, 729
Sex	-.04				
Age 4 Total Problems	.14***				
Witnessed Violence	.11**				
Physical Abuse	.08				
Psychological Abuse	.34***				
Witness x Physical	-.03				
Witness x Psychological	-.13**				
Physical x Psychological	-.07				
Witness x Physical x Psychological	.10				

Note. (n = 739). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001.

externalizing problems, rendered physical abuse non-significant, and rendered witnessing violence only marginally significant. This suggests that physical abuse does not share any variance with internalizing above and beyond what is common to psychological abuse, and that witnessing violence shares little variance with internalizing beyond that which is common with psychological abuse. Step 3, also demonstrated a significant increase in variance explained for externalizing problems,  $R^2\Delta = .01$ ,  $F\Delta(3, 730) = 2.76$ ,  $p < .05$ . For this step, witnessing violence X psychological abuse was a significant two-way interaction. This interaction (see Figure 2) indicated that youth with the highest levels of

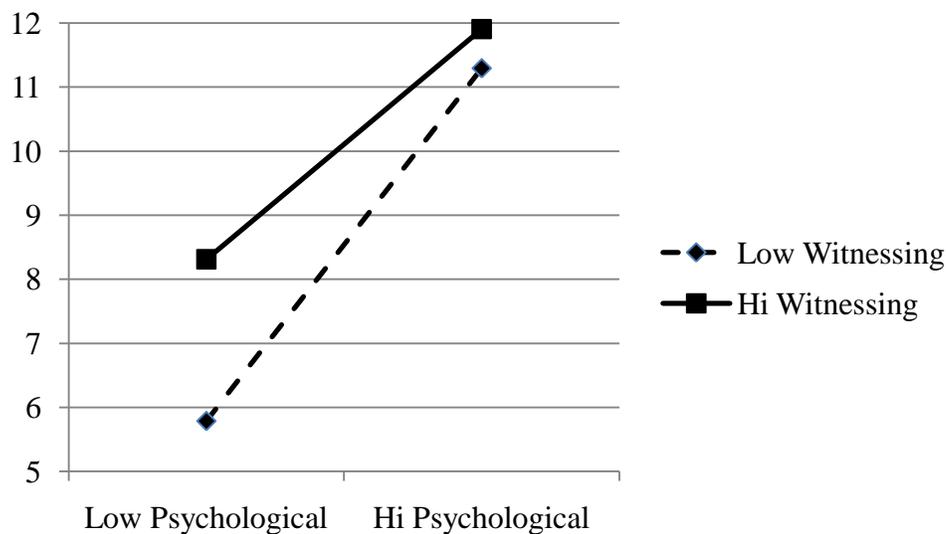


Figure 2. Psychological abuse X witnessing violence predicting externalizing symptoms.

psychological abuse tended to have the highest levels of externalizing problems. In addition, witnessing violence was associated with increased externalizing problems when levels of psychological abuse were low ( $B = .63$ ,  $p < .001$ ). In contrast, witnessing violence was not associated with increased externalizing problems when psychological

abuse was elevated ( $B = .15, p = .23$ ). Step 4 did not significantly increase variance explained for externalizing problems and did not reveal a significant three-way interaction.

**Predicting posttraumatic stress symptoms.** Table 6 presents the results of the hierarchical regression for posttraumatic stress symptoms. Step 1 explained a significant proportion of variance in posttraumatic stress symptoms,  $R^2 = .10, F(4, 730) = 20.11, p < .001$ . This step revealed that witnessing violence and physical abuse each explained unique variance for posttraumatic stress problems after controlling for sex and age 4 total problems. These results confirm the body of previous research suggesting that each of these variables predict posttraumatic stress symptoms. Step 2, showed a significant increase in variance explained for posttraumatic stress symptoms,  $R^2\Delta = .02, F\Delta(1, 729) = 20.26, p < .001$ . In this step, witnessing violence, physical abuse, and psychological abuse each significantly predicted posttraumatic stress symptoms. The results of this step differed notably from the previous hierarchical regressions and suggest that each of these key variables have the ability to uniquely predict posttraumatic stress symptoms. Step 3 also demonstrated a significant increase in variance explained for posttraumatic stress symptoms,  $R^2\Delta = .03, F\Delta(3, 726) = 7.25, p < .001$ . For this step, witnessing violence X psychological abuse and physical abuse X psychological abuse were each significant two-way interactions (see Figures 3 and 4). These interactions are not interpreted here due to the following higher-order interaction. Step 4 revealed that the three-way interaction significant added to the model,  $R^2\Delta = .00, F\Delta(1, 725) = 3.85, p < .05$ . Post-hoc testing for this interaction (see Figure 5) indicated that youth with high levels of overall maltreatment tended to have the highest levels of internalizing problems. In

Table 6  
*Hierarchical Multiple Regression Predicting Trauma Symptoms*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.10	.10	20.11***	4, 730
Sex	.13***				
Age 4 Total Problems	.01				
Witnessed Violence	.18***				
Physical Abuse	.20***				
Step 2:		.12	.02	20.26***	1, 729
Sex	.12***				
Age 4 Total Problems	-.00				
Witnessed Violence	.15***				
Physical Abuse	.11**				
Psychological Abuse	.19***				
Step 3:		.15	.03	7.25***	3, 726
Sex	.11***				
Age 4 Total Problems	-.01				
Witnessed Violence	.20***				
Physical Abuse	.17**				
Psychological Abuse	.28***				
Witness x Physical	.04				
Witness x Psychological	-.18***				
Physical x Psychological	-.12*				
Step 4:		.15	.00	3.85*	1, 725
Sex	.11**				
Age 4 Total Problems	-.01				
Witnessed Violence	.19***				
Physical Abuse	.19***				
Psychological Abuse	.29***				
Witness x Physical	-.07				
Witness x Psychological	-.20***				
Physical x Psychological	-.16*				
Witness x Physical x Psychological	.15*				

Note. (n = 735). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001.

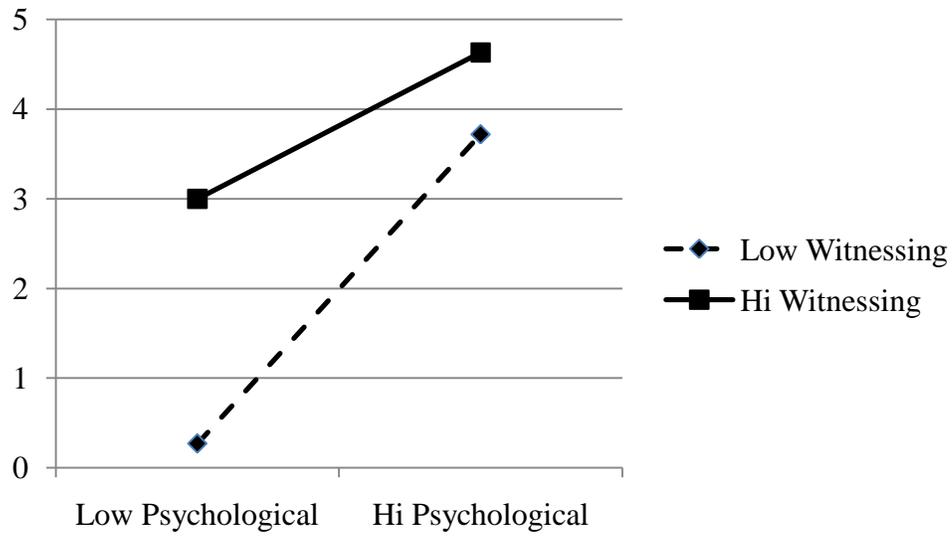


Figure 3. Psychological abuse X witnessing violence predicting trauma symptoms.

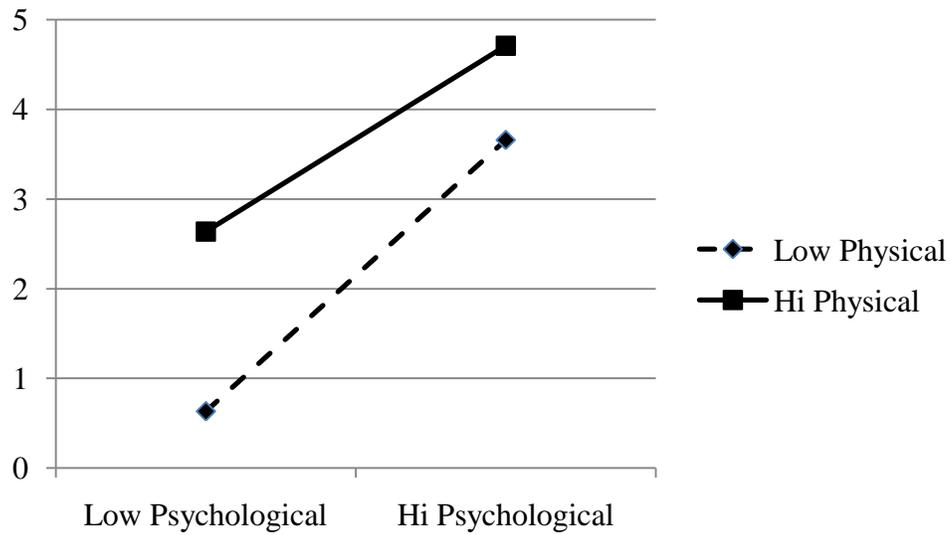


Figure 4. Psychological abuse X physical abuse predicting trauma symptoms.

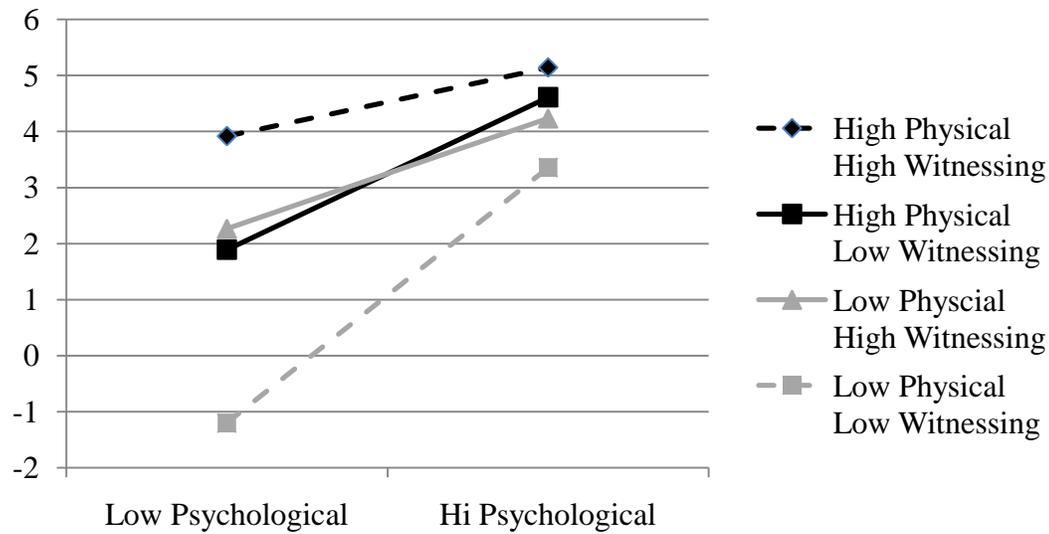


Figure 5. Witnessing violence X physical abuse X psychological abuse predicting trauma symptoms.

addition, witnessing violence was associated with posttraumatic stress symptoms when both psychological and physical abuse were low ( $B = .87, p < .001$ ). Further, witnessing violence was associated with posttraumatic stress symptoms when psychological abuse was low and physical abuse was high ( $B = .51, p = .01$ ). Thus, witnessing violence was associated with posttraumatic stress symptoms when psychological abuse was low, with concurrent physical abuse that was either low or high. Physical abuse was associated with posttraumatic stress symptoms when psychological abuse was high and witnessing violence was low ( $B = .11, p = .04$ ). Conversely, physical abuse was also associated with posttraumatic stress symptoms when psychological abuse was low and witnessing violence was high ( $B = .14, p = .05$ ). Finally, physical abuse was associated with posttraumatic stress symptoms when psychological was low and witnessing was low ( $B = .27, p < .01$ ). Thus, physical abuse was associated with posttraumatic stress symptoms when psychological abuse and witnessing violence were not concurrently high.

### **Alternate Hierarchical Regression Analyses**

To offer conservative alternative analyses designed to probe the specificity of these results, a second series of three hierarchical regressions were employed. All aspects of these analyses were identical to the above hierarchical regressions, but with one exception. At step 1, the two outcome variables not being assessed for were included as control variables. For example, when evaluating for internalizing problems, the regression controlled for both externalizing problems and posttraumatic stress symptoms. It is important to recognize that alternative outcomes that are correlated with an examined dependent variable have the ability to elicit questions regarding the specificity of analytic results. As shown in Table 1, each of the three outcome variables showed a statistically significant correlation with the other outcome variables. Referencing Cohen's (1988) interpretation of effect size, internalizing problems showed a large correlation with externalizing problems,  $r(737) = .61, p < .001$ , and a large correlation with posttraumatic stress symptoms,  $r(720) = .51, p < .001$ . Externalizing problems and posttraumatic stress symptoms demonstrated a medium correlation,  $r(720) = .37, p < .001$ . Accordingly, these three measures of psychosocial adjustment showed evidence of considerable covariation with one another. These alternative analyses were conducted with these relations in mind and allowed each regression to isolate the aspects of the findings that are unique or specific to each examined outcome.

**Predicting internalizing problems.** Table 7 presents the results of the alternative hierarchical regression for internalizing problems. Step 1 explained a significant proportion of variance for internalizing problems,  $R^2 = .48, F(6, 715) = 110.02, p < .001$ . This step revealed that neither witnessing violence or physical abuse were able to

Table 7  
*Alternate Hierarchical Multiple Regression Predicting Internalizing Problems*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.48	.48	110.02***	6, 715
Sex	.12***				
Age 4 Total Problems	.03				
Age 12 Externalizing Problems	.49***				
Age 12 Trauma Symptoms	.32***				
Witnessed Violence	-.00				
Physical Abuse	-.00				
Step 2:		.49	.01	17.08***	1, 714
Sex	.11***				
Age 4 Total Problems	.02				
Age 12 Externalizing Problems	.46***				
Age 12 Trauma Symptoms	.31***				
Witnessed Violence	-.02				
Physical Abuse	-.06*				
Psychological Abuse	.14***				
Step 3:		.49	.00	0.82	3, 711
Sex	.11***				
Age 4 Total Problems	.02				
Age 12 Externalizing Problems	.47***				
Age 12 Trauma Symptoms	.31***				
Witnessed Violence	-.04				
Physical Abuse	-.06				
Psychological Abuse	.11**				
Witness x Physical	-.01				
Witness x Psychological	.06				
Physical x Psychological	.01				
Step 4:		.50	.00	3.07 <sup>†</sup>	1, 710
Sex	.11***				
Age 4 Total Problems	.03				
Age 12 Externalizing Problems	.47***				
Age 12 Trauma Symptoms	.31***				
Witnessed Violence	-.04				
Physical Abuse	-.05				
Psychological Abuse	.11***				
Witness x Physical	-.06				
Witness x Psychological	.04				
Physical x Psychological	-.00				
Witness x Physical x Psychological	.08 <sup>†</sup>				

Note. (n = 722). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001. <sup>†</sup> p ≤ .10.

significantly predict internalizing problems after controlling for sex, age 4 total problems, externalizing problems, and posttraumatic stress symptoms. These results stand in stark contrast to the body of previous research, as well as the above findings, which has suggested that each of these variables predict internalizing problems. Step 2 showed a significant increase in variance explained for internalizing problems,  $R^2\Delta = .01$ ,  $F\Delta(1, 714) = 17.08$ ,  $p < .001$ . In this step, psychological abuse significantly predicted internalizing problems. Physical abuse was also a significant predictor; though this finding should be interpreted with caution due to an increased association from step 1 (i.e., this finding may be spurious). Overall, this step suggests that, even after accounting for the variance of the alternate outcome variables, psychological abuse uniquely predicts internalizing problems, whereas witnessing violence and physical abuse do not. Step 3 did not significantly increase variance explained for internalizing problems and revealed no significant two-way interactions. Likewise, step 4 did not significantly increase variance explained for internalizing problems and did not reveal a significant three-way interaction.

When evaluated in concert with the above analyses, this hierarchical regression suggests that many of the findings from the first regression predicting internalizing problems may be associated with overlap in domains of psychological difficulty. This suggests that, although witnessing violence and physical abuse may have relations to a broad range of problems, these variables may not be uniquely associated with those aspects of internalizing problems that are unique from the other examined outcomes. However, this analysis provides strong evidence that psychological abuse is uniquely associated with such aspects of internalizing problems.

**Predicting externalizing problems.** Table 8 presents the results of the alternative hierarchical regression for externalizing problems. Step 1 explained a significant proportion of variance for externalizing problems,  $R^2 = .41$ ,  $F(6, 715) = 82.17$ ,  $p < .001$ . This step revealed that both witnessing violence and physical abuse were able to uniquely explain variance for externalizing problems after controlling for sex, age 4 total problems, internalizing problems, and posttraumatic stress symptoms. These results are generally concurrent with previous research, as well as the above findings. Step 2 showed a significant increase in variance explained for externalizing problems,  $R^2\Delta = .01$ ,  $F\Delta(1, 714) = 7.69$ ,  $p < .01$ . In this step, psychological abuse significantly predicted externalizing problems and rendered both witnessing violence and physical abuse non-significant. Overall, this step suggested that, even after accounting for the variance of the alternate outcome variables, psychological abuse uniquely predicts externalizing problems, whereas witnessing violence and physical abuse do not. Step 3 did not significantly increase variance explained for externalizing problems and revealed no significant two-way interactions. Likewise, step 4 did not significantly increase variance explained for externalizing problems and did not reveal a significant three-way interaction.

When examined jointly with the first series of regressions, this hierarchical regression suggests that some aspects of the findings from the first regression predicting externalizing problems may be associated with overlap in domains of psychological difficulty. The former regression for externalizing problems found that witnessing violence was predictive in step 2, whereas the current regression did not. Further, this

Table 8  
*Alternate Hierarchical Multiple Regression Predicting Externalizing Problems*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.41	.41	82.17***	6, 715
Sex	-.11***				
Age 4 Total Problems	.10***				
Age 12 Internalizing Problems	.56***				
Age 12 Trauma Symptoms	.06 <sup>†</sup>				
Witnessed Violence	.06*				
Physical Abuse	.09**				
Step 2:		.41	.01	7.69**	1, 714
Sex	-.11***				
Age 4 Total Problems	.10***				
Age 12 Internalizing Problems	.54***				
Age 12 Trauma Symptoms	.06				
Witnessed Violence	.05				
Physical Abuse	.05				
Psychological Abuse	.10**				
Step 3:		.42	.00	1.77	3, 711
Sex	-.11***				
Age 4 Total Problems	.09**				
Age 12 Internalizing Problems	.54***				
Age 12 Trauma Symptoms	.05				
Witnessed Violence	.07*				
Physical Abuse	.05				
Psychological Abuse	.14***				
Witness x Physical	.02				
Witness x Psychological	-.08**				
Physical x Psychological	-.02				
Step 4:		.42	.00	0.00	1, 710
Sex	-.11***				
Age 4 Total Problems	.09**				
Age 12 Internalizing Problems	.54***				
Age 12 Trauma Symptoms	.05				
Witnessed Violence	.07*				
Physical Abuse	.05				
Psychological Abuse	.14***				
Witness x Physical	.02				
Witness x Psychological	-.08*				
Physical x Psychological	-.02				
Witness x Physical x Psychological	.00				

Note. (n = 722). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001. <sup>†</sup> p ≤ .10.

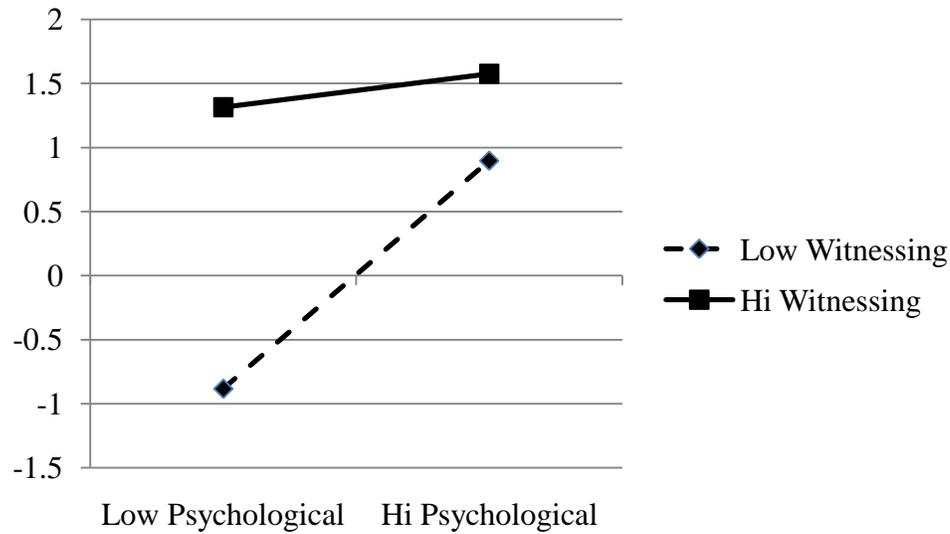
analysis provides strong evidence that psychological abuse is a unique and robust predictor of externalizing problems.

**Predicting posttraumatic stress symptoms.** Table 9 presents the results of the alternative hierarchical regression for posttraumatic stress symptoms. Step 1 explained a significant proportion of variance for posttraumatic stress symptoms,  $R^2 = .30$ ,  $F(6, 715) = 52.09$ ,  $p < .001$ . This step revealed that both witnessing violence and physical abuse were able to uniquely explain posttraumatic stress symptoms after controlling for sex, age 4 total problems, internalizing problems, and externalizing problems. These results are generally concurrent with previous research, as well as the above findings. Step 2 failed to show a significant increase in variance explained for posttraumatic stress symptoms. This was a notable departure from the previous regression for posttraumatic stress symptoms, in that psychological abuse was not found to explain additional variance. Overall, this step suggested that, even after accounting for the variance of the alternate outcome variables, witnessing violence and physical abuse uniquely predict externalizing problems, whereas psychological abuse does not. Step 3, did demonstrate a significant increase in variance explained for posttraumatic stress symptoms,  $R^2\Delta = .03$ ,  $F\Delta(3, 711) = 5.11$ ,  $p < .01$ . For this step, witnessing violence X psychological abuse was a significant two-way interaction. This interaction (see Figure 6) suggests that psychological abuse is associated with increased posttraumatic stress symptoms when levels of witnessing violence were low ( $B = .42$ ,  $p < .001$ ), but not when witnessing violence was elevated ( $B = .06$ ,  $p = .49$ ). Step 4 did not significantly increase variance explained for externalizing problems and did not reveal a significant three-way interaction.

Table 9  
*Alternate Hierarchical Multiple Regression Predicting Trauma Symptoms*

Variable	Beta	R <sup>2</sup>	R <sup>2</sup> Δ	F	df
Step 1:		.30	.30	52.09***	6, 715
Sex	.07*				
Age 4 Total Problems	-.04				
Age 12 Internalizing Problems	.42***				
Age 12 Externalizing Problems	.07 <sup>†</sup>				
Witnessed Violence	.12***				
Physical Abuse	.13***				
Step 2:		.31	.00	0.73	1, 714
Sex	.07**				
Age 4 Total Problems	-.04				
Age 12 Internalizing Problems	.42***				
Age 12 Externalizing Problems	.07				
Witnessed Violence	.12***				
Physical Abuse	.11**				
Psychological Abuse	.03				
Step 3:		.32	.02	5.11**	3, 711
Sex	.06*				
Age 4 Total Problems	-.05 <sup>†</sup>				
Age 12 Internalizing Problems	.42***				
Age 12 Externalizing Problems	.05				
Witnessed Violence	.16***				
Physical Abuse	.15**				
Psychological Abuse	.11*				
Witness x Physical	.02				
Witness x Psychological	-.14***				
Physical x Psychological	-.08 <sup>†</sup>				
Step 4:		.32	.00	1.71	1, 710
Sex	.06 <sup>†</sup>				
Age 4 Total Problems	-.05				
Age 12 Internalizing Problems	.41***				
Age 12 Externalizing Problems	.05				
Witnessed Violence	.15***				
Physical Abuse	.16**				
Psychological Abuse	.11**				
Witness x Physical	-.02				
Witness x Psychological	-.15***				
Physical x Psychological	-.10*				
Witness x Physical x Psychological	.07				

Note. (n = 722). \* p ≤ .05. \*\* p ≤ .01. \*\*\* p ≤ .001. <sup>†</sup> p ≤ .10.



*Figure 6.* Psychological abuse X witnessing violence predicting trauma symptoms.

When these analyses are compared with the former analyses, it appears that many of the findings from the previous regression predicting posttraumatic stress symptoms may be associated with overlap in domains of psychological difficulty. In the conservative analyses just described, psychological abuse was not able to uniquely predict posttraumatic stress symptoms after controlling for the variables entered on step 1, whereas this variable was able to do so under the criteria of the previous analyses. Further, it is likely that psychological abuse may only uniquely associate with posttraumatic stress symptoms when witnessing violence is at a reduced level.

### **Discussion**

The present research provides a novel inquiry into the unique associations of three forms of child maltreatment to internalizing problems, externalizing problems, and posttraumatic stress symptoms later in life. Findings replicated prior research by showing associations between each form of maltreatment and each of the examined outcomes

when each maltreatment type was considered independently. Results build upon earlier work by showing that, when these forms of maltreatment are concurrently considered, psychological abuse may have a unique relation to each of the three examined outcomes. In contrast, the violence-related forms of maltreatment (i.e., witnessing familial violence and physical abuse) may uniquely relate to symptoms of posttraumatic stress, and may have little to no unique relation to internalizing and externalizing problems. Several complex associations among maltreatment variables emerged, generally suggesting that psychological abuse may be an important contextual factor for other forms of maltreatment. The present research also highlighted the notion that relations or commonalities among psychological adjustment outcomes may account for some of these results. A notable strength of the study was the use of a large longitudinal national dataset that allowed the analyses to control for each child's early life psychological problems.

### **Differential Impact of Maltreatment Types**

In many ways, this research highlighted psychological abuse as an important unique predictor of psychological difficulties that is deserving of increased attention from researchers and clinicians. Indeed, the results of the initial series of regressions suggested that psychological abuse was the only form of maltreatment that was a unique predictor for all three examined psychological adjustment outcomes. A potential explanation for this is that violence-related forms of maltreatment may not communicate messages that relate to relevant cognitive and emotional processes that are distinct from those of psychological abuse. It is quite possible, perhaps even likely, that all forms of maltreatment do communicate important messages to the child recipients. As mentioned below, some researchers have posited that all forms of abuse may contain a fundamental

element of psychological abuse resulting from the messages that the child intuitively receives from the abusive actions (Hart et al., 1996). Thus, violence-related maltreatment may still contribute to internalizing and externalizing problems through the communication of salient emotional and cognitive mechanisms that are common to all forms of maltreatment. In contrast, psychological abuse seems to have a unique association with these outcomes. Psychological abuse involves the direct verbal communication of emotionally salient messages, whereas violence-based forms of abuse indirectly communicate those messages through actions. It may be that this explicit transmission of negative content is what distinguishes psychological abuse as a unique predictor of internalizing and externalizing problems. Such messages may, in turn, foster the development of psychological characteristics in youth that pose a broad liability for adjustment, such as negative self-concept (Shavelson, Hubner, & Stanton, 1976), poor emotion regulation (Gross, 1998), or insecure attachment style (Bowlby, 1969). The present analyses do not offer answers to these hypotheses, but suggest that additional inquiry is warranted to probe these questions.

As an alternative explanation for this pattern of findings, psychological abuse may simply serve as an especially good indicator of other co-occurring experiences, which in turn foster characteristics that pose a broad developmental liability. For example, psychological abuse from parents may co-occur with deficits in parenting quality such as lack of parental monitoring, failing to provide a secure environment, or emotional unavailability. The possibility cannot be ruled out that associated experiences such as these are the causal agents relating to each of the outcomes examined in this study, and

their potential co-occurrence with psychological abuse may be responsible for many of the associations in the present findings.

Although physical abuse was correlated with each of the outcome measures and may relate to these outcomes in some way that is common to maltreatment in general, this particular form of abuse was shown to be a unique predictor for posttraumatic stress symptoms only. This relation to posttraumatic stress symptoms is not surprising, given that one would certainly expect the direct experience of violence in the form of physical abuse to foster the development of posttrauma symptoms, such as feelings of fear, helplessness, or horror (Criterion A2 for a traumatic event; APA, 2000). Such a relation is consistent with theoretical models of posttraumatic stress symptom development (e.g., Ehlers & Clark, 2000). Moreover, betrayal trauma theory (Freyd, 1996) suggests that traumatic experiences stemming from vital relationships (e.g., parent figures) may in fact lead to distinct posttraumatic stress characteristics. Results for witnessing familial violence revealed that this form of maltreatment was a unique predictor for posttraumatic stress symptoms and externalizing problems, but not for internalizing problems. Regarding the relation with posttraumatic stress symptoms, the above explanation for physical abuse is equally viable for witnessing violence. The posttrauma literature has consistently shown that witnessing traumatic events has similar potential for fostering the development of posttraumatic stress symptoms (Chan & Yeung, 2009; Evans et al., 2008). Moreover, the DSM-IV-TR has integrated witnessed traumatic events into the diagnostic criteria for Posttraumatic Stress Disorder (APA, 2000). With regard to externalizing problems, social learning theory (Bandura, 1973, 1977) suggests that witnessing violence may serve as a modeling experience for socially undesirable

behaviors. Thus, the observation of familial violence, and associated socially deviant behavior, may provide a child with a model for how to act in similar situations (e.g., how to handle conflict). Consistent with social learning theory, researchers have previously hypothesized that the effect of witnessing violence on a child's later behaviors may be dependent upon the nature of the outcomes that the child witnesses (Olsen et al., 2010). In other words, the child witness may be more likely to adopt the observed behavior in the future if he or she perceived a beneficial outcome to result from that behavior. This project did not assess for this type of differential outcome, and this remains an important gap in the literature (Olsen et al., 2010).

It appears that complex associations among maltreatment variables may exist for some outcomes. Consistent with main effects findings previously discussed, psychological abuse emerged as a clear risk factor when evaluated contextually with other forms of maltreatment. For example, the three-way interaction between each form of maltreatment for internalizing problems suggested that there may be a critical relation between psychological abuse and internalizing problems, and that the other forms of maltreatment have a unique impact on internalizing problems when there is reduced psychological abuse. This may make some intuitive sense. If the child's caregiver is verbally communicating to the child that he or she is of little value, then that child will likely be at increased risk for internalizing problems regardless of the indirect action-based communication of that message. Therefore, when the verbal messages are absent, the addition of an indirect communication of the child's value may have an effect. Further, multiple indirect communications of this nature may not have an additive effect. Of course, this line of thinking assumes the developmental mechanism between child

maltreatment and internalizing problems is the child's self-perception. Future inquiry will be required to establish if this is generally true and if different mechanisms might exist for different maltreatment types. The other significant three-way interaction among the initial regressions suggested that psychological abuse may play a role in the development of posttraumatic stress symptoms only when witnessing familial violence is at a reduced level. Further, when witnessing familial violence and psychological abuse are simultaneously elevated, physical abuse may have little effect. As noted above, one would certainly expect physical abuse to play a more prominent role in the development of fear, helplessness, or horror (Criterion A2 for a traumatic event; APA, 2000). Accordingly, these findings are not expected. Overall, these interactions of the initial regressions should be interpreted with caution due to important deviations in findings with the alternative analyses.

Researchers have already begun to recognize the need to simultaneously evaluate multiple forms of maltreatment due to confound concerns (Finkelhor et al., 2007; Richmond et al., 2009). However, the present research was unable to locate a single study that controlled for alternate outcomes to examine the specificity of associations between child maltreatment and psychological adjustment outcomes. As an initial effort to address this limitation, the present research highlights the notion that related outcomes do have the ability to modify associations concerning child maltreatment. The alternative regression analyses in the present study notably altered several of the initial results. For example, the regression for posttraumatic stress symptoms initially supported psychological abuse as a unique predictor, but that association was not sustained when internalizing problems were added to the regression. This suggests that psychological

abuse may relate to those aspects of posttraumatic stress symptoms that are shared with the umbrella of internalizing symptoms. In contrast, violence-related forms of maltreatment may relate to aspects of posttraumatic stress symptoms that are distinct from internalizing and externalizing problems. Another variation in results was that each of the interactions that were found in the initial analyses were not replicated in the alternate analyses. Accordingly, these interactions may also be a product of shared characteristics between outcomes. These findings highlight the need for researchers in this area to be cognizant of specificity of relations between child maltreatment and psychological adjustment outcomes. Establishing greater specificity for those aspects of outcomes to which various forms of maltreatment relate will greatly aid researchers in their efforts to isolate and identify the mechanisms by which these relations operate. Such knowledge will be of significant benefit to those concerned with targeting such mechanisms for the sake of psychopathology treatment efforts.

### **Clinical Implications**

The results of the present study suggest that mental health practitioners should not view psychological abuse as a problem that is secondary to other forms of maltreatment. Though the findings were inconsistent between the two hierarchical regressions for posttraumatic stress symptoms with regard to the predictive ability of psychological abuse, this form of maltreatment was perhaps the most robust predictor in the analyses for both internalizing and externalizing symptoms. Accordingly, clinicians should view psychological abuse as a chief concern for maltreated children. This is equally true for prospective prevention efforts and for retrospective understanding of psychopathology genesis.

The present study also confirmed previous findings that psychological abuse and physical abuse often co-occur with one another. Accordingly, clinicians with clients who present as having suffered physical abuse or witnessed familial violence as children should assess for co-occurring psychological abuse. This study lends some support for the notion that a child's experiences with different maltreatment types interact in their relation with mental health outcomes. It may prove useful for clinicians to recognize these interactions and to evaluate the total maltreatment context for recipients of abuse.

### **Disentangling Physical Abuse and Psychological Abuse**

Perhaps the greatest challenge associated with any study co-examining physical abuse and psychological abuse is drawing distinct lines between these constructs. Some have argued that psychological abuse may be a core component of all forms of maltreatment (Hart et al., 1996). According to this view, physical abuse not only results in physical pain, but also the communication of inherent messages that are essentially identical to those of overt psychological abuse (e.g., that the child is not valuable). Thus, one can logically argue that acts of physical abuse have a secondary core element of psychological abuse. Though there is likely great value in this line of thinking, it is a different conceptual exercise from the process of distinguishing acts of physical abuse from discrete acts of psychological abuse.

It is difficult to imagine episodes of physical abuse that do not have co-occurring verbal hostility that would independently qualify as psychological abuse. Certainly psychological abuse can exist in the absence of physical abuse. Is it possible for the reverse to occur? In other words, does the existence of physical abuse serve as a per se

indicator of psychological abuse? Furthermore, is it possible to separate these constructs in a statistical analysis?

Though it may be difficult to imagine physical abuse without any concurrent verbal acts that constitute psychological abuse, one would certainly expect to find a wide range of magnitudes for concurrent psychological abuse among those who are recipients of physical abuse. Thus, by measuring these constructs continuously, a great deal of variance will exist independent of the inevitable overlap. For this reason, it may sometimes be necessary to examine these constructs continuously to probe their independent effects. Because a categorical analysis could have the potential for the category of psychological abuse to consume the entire category of physical abuse (i.e., all physically abused children qualify as psychologically abused), researchers should be cautious when evaluating these types of maltreatment categorically.

### **Limitations and Future Directions**

A principle limitation of this study was that it did not assess for additional forms of maltreatment (e.g., sexual abuse, neglect). One key premise for the analytic design of the present study was that correlated maltreatment variables should be co-examined to prevent misleading results. In this regard, the present study is not without additional concerns. Just as the addition of psychological abuse altered the results for other forms of maltreatment, further types of maltreatment could alter these results as well. Future inquiry will need to examine all possible forms of maltreatment to assure that these findings are not misleading in this regard.

The present study's emphasis on internalizing and externalizing problems represented broad indicators of psychological difficulties. These domains are easily

subdivided into several subcategories (e.g., depression, anxiety) that could be further subdivided into specific DSM-IV-TR diagnoses (e.g., Major Depressive Disorder, Dysthymic Disorder, Generalized Anxiety Disorder). Given that the present study highlighted the need for increased evaluation of specificity for outcomes associated with child maltreatment, it is important to examine the possibility that broad indicators of psychological adjustment are an inadequate proxy for their subparts. Indeed, it is quite likely that the results indicated in these analyses do not hold up for each of the subcategories associated with these broad indicators. Accordingly, generalization of these results to more specific classifications should be done with great caution. Future inquiry could address this limitation by conducting similar analyses evaluating for a variety of more specific subcategories of psychological difficulty. Such inquiry would provide more detailed information for specificity of outcomes than currently offered.

Another generalization concern with the present study centers on the utilization of multiple high-risk samples (i.e., each data collection site was a high-risk sample). This type of sample is typically created to examine persons with a high probability of exhibiting low base rate problems of concern. Indeed, the LONGSCAN sample was selected specifically to collect data from participants who were likely to experience some form of maltreatment. Although this technique is certainly an acceptable practice, it is not a substitute for a random community sample. Because of this limitation, care should be made when generalizing these results to the general community. Ideally, future inquiry will examine the present research questions with a census-normed or random community sample. However, due to the low base-rate of severe maltreatment, such a sample would need to be exceedingly large to permit proper analyses of maltreatment effects.

Limitations also exist with the form operational definitions of the maltreatment constructs in the present study. As previously noted, the LONGSCAN measure for physical abuse did not allow for the exclusion of physical abuse events from non-caregivers. Although the children in the sample indicated that the identities of the physical abuse perpetrators were overwhelmingly caregivers, the possibility that different results would be reached with a pure measure of caregiver physical abuse cannot be dismissed. Furthermore, this study utilized frequency as the metric for each maltreatment type. Though this is certainly an acceptable practice, analyses utilizing measures of the severity of maltreatment acts (e.g., pushing is less severe than stabbing for physical abuse) may reach different conclusions than were obtained in these results. Future projects should seek to evaluate these research questions with a variety of operational definitions for maltreatment in an effort to detect any differences that may exist.

A final limitation of these analyses worthy of mention is the method of accounting for biological sex. The regressions employed each controlled for sex at step 1. Despite the fact that this technique allowed the analyses to detect and control for the unique effect of sex for the outcomes, it did not allow for the evaluation of how each of these maltreatment types might relate to the outcomes in a different way for boys and girls. To accomplish this, separate analyses for each sex could have been employed. Because previous research in this area tended to detect little or no difference between boys and girls, the present study opted away from such a methodology to avoid increasing the complexity of data analysis and interpretation. Still, future inquiry will need to evaluate if key difference exist between boys and girls with respect to these new findings.

## **Conclusion**

This project was an inquiry into the unique developmental liabilities and interactions of three important forms of child maltreatment. The results suggest that associations between child maltreatment types and psychological difficulties are susceptible to confounds from other forms of abuse, as well as from other outcomes. Thus, drawing inferences from studies of developmental psychopathology relating to child maltreatment must be done cautiously and with appreciation for contextual interactions. Overall, it is quite possible that this study generated more questions than it did answers. Nonetheless, it appears that psychological abuse may be a particularly important form of maltreatment for the development of internalizing problems, externalizing problems, and perhaps posttraumatic stress symptoms. In contrast, violence-related maltreatment may play a more crucial role in symptoms of posttraumatic stress. Though the specific mechanisms for these relations were not revealed by the present study, these results provide some guidance for future research to probe the cognitive, emotional, and behavioral trajectories that link these maltreatment experiences with later psychological difficulties.

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## APPENDIX A

### *Child Behavior Checklist Age 4-18 Questions*

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0 = Not true, 1 = Somewhat or sometimes true, 2 = Very true or often true

1. Acts too young for his/her age. *(Total Problems)*
2. Allergy. *(Total Problems)*
3. Argues a lot. *(Total Problems)*
4. Asthma. *(Total Problems)*
5. Behaves like opposite sex. *(Total Problems)*
6. Bowel movements outside toilet. *(Total Problems)*
7. Brags. *(Total Problems)*
8. Has trouble paying attention. *(Total Problems)*
9. Can't get his/her mind off certain things. *(Total Problems)*
10. Can't sit still, restless, or hyperactive. *(Total Problems)*
11. Clings to adults or too dependent. *(Total Problems)*
12. Complains of loneliness. *(Total Problems)*
13. Confused or seems to be in a fog. *(Total Problems)*
14. Cries a lot. *(Total Problems)*
15. Cruel to animals. *(Total Problems)*
16. Cruelty, bullying, or meanness to others. *(Total Problems)*
17. Daydreams or gets lost in his/her thoughts. *(Total Problems)*
18. Deliberately harms self or attempts suicide. *(Total Problems)*
19. Demands a lot of attention. *(Total Problems)*
20. Destroys his/her own things. *(Total Problems)*
21. Destroys things belonging to his/her family or others. *(Total Problems)*
22. Disobedient at home. *(Total Problems)*
23. Disobedient at school. *(Total Problems)*
24. Doesn't eat well. *(Total Problems)*
25. Doesn't get along with other kids. *(Total Problems)*
26. Not seem to feel guilt after misbehaving. *(Total Problems)*

27. Easily jealous. *(Total Problems)*
28. Eats-drinks not food – don't include sweets. *(Total Problems)*
29. Fears certain animal, situations, or places other than school. *(Total Problems)*
30. Fears going to school. *(Total Problems)*
31. Fears he/she might think or do something bad. *(Total Problems)*
32. Fears he or she has to be perfect. *(Total Problems)*
33. Feels or complains that no one loves him/her. *(Total Problems)*
34. Feels others out to get him/her. *(Total Problems)*
35. Feels worthless or inferior. *(Total Problems)*
36. Gets hurt a lot, accident-prone. *(Total Problems)*
37. Gets in many fights. *(Total Problems)*
38. Gets teased a lot. *(Total Problems)*
39. Hangs around with others who get in trouble. *(Total Problems)*
40. Hears sounds or voices that aren't there. *(Total Problems)*
41. Impulsive or acts without thinking. *(Total Problems)*
42. Would rather be alone than with. *(Total Problems)*
43. Lying or cheating. *(Total Problems)*
44. Bites fingernails. *(Total Problems)*
45. Nervous, high-strung, or tense. *(Total Problems)*
46. Nervous movements or twitching. *(Total Problems)*
47. Nightmares. *(Total Problems)*
48. Not liked by other kids. *(Total Problems)*
49. Constipated, doesn't move bowels. *(Total Problems)*
50. Too fearful or anxious. *(Total Problems)*
51. Feels dizzy. *(Total Problems)*
52. Feels too guilty. *(Total Problems)*
53. Overeating. *(Total Problems)*
54. Overtired. *(Total Problems)*
55. Overweight. *(Total Problems)*
56. Physical problems without known medical cause *(Total Problems)*
- a. Aches and pains. *(Total Problems)*

- b. Headaches. *(Total Problems)*
  - c. Nausea, feel sick. *(Total Problems)*
  - d. Problems with eyes. *(Total Problems)*
  - e. Rashes or other skin problems. *(Total Problems)*
  - f. Stomachaches or cramps. *(Total Problems)*
  - g. Vomiting, throwing up. *(Total Problems)*
  - h. Other problem. *(Total Problems)*
57. Physically attacks people. *(Total Problems)*
58. Picks nose, skin, or other parts of body. *(Total Problems)*
59. Plays with sex parts in public. *(Total Problems)*
60. Plays with sex parts too much. *(Total Problems)*
61. Poor school work. *(Total Problems)*
62. Poorly coordinated or clumsy. *(Total Problems)*
63. Prefers older kids. *(Total Problems)*
64. Prefers younger kids. *(Total Problems)*
65. Refuses to talk. *(Total Problems)*
66. Repeats certain acts over and over; compulsions. *(Total Problems)*
67. Runs away from home. *(Total Problems)*
68. Screams a lot. *(Total Problems)*
69. Secretive, keeps things to self. *(Total Problems)*
70. Sees things that aren't there. *(Total Problems)*
71. Self-conscious or easily embarrassed. *(Total Problems)*
72. Sets fires. *(Total Problems)*
73. Sexual problems. *(Total Problems)*
74. Showing off or clowning. *(Total Problems)*
75. Shy or timid. *(Total Problems)*
76. Sleeps less than most kids. *(Total Problems)*
77. Sleeps more than most kids during day and/or night. *(Total Problems)*
78. Smears or plays with bowel movement. *(Total Problems)*
79. Speech problem. *(Total Problems)*
80. Stares blankly. *(Total Problems)*

81. Steals at home. *(Total Problems)*
82. Steals outside home. *(Total Problems)*
83. Stores up things he/she doesn't need. *(Total Problems)*
84. Strange behavior. *(Total Problems)*
85. Strange ideas. *(Total Problems)*
86. Stubborn, sullen, irritable. *(Total Problems)*
87. Sudden changes in mood or feelings. *(Total Problems)*
88. Sulks a lot. *(Total Problems)*
89. Suspicious. *(Total Problems)*
90. Swearing or obscene language. *(Total Problems)*
91. Talks about killing self. *(Total Problems)*
92. Talks or walks in sleep. *(Total Problems)*
93. Talks too much. *(Total Problems)*
94. Teases a lot. *(Total Problems)*
95. Temper tantrums or hot temper. *(Total Problems)*
96. Thinks about sex too much. *(Total Problems)*
97. Threatens people. *(Total Problems)*
98. Thumb-sucking. *(Total Problems)*
99. Too concerned with neatness or cleanliness. *(Total Problems)*
100. Trouble sleeping. *(Total Problems)*
101. Truancy skips school. *(Total Problems)*
102. Underactive, slow moving, or lacks energy. *(Total Problems)*
103. Unhappy, sad, or depressed. *(Total Problems)*
104. Unusually loud. *(Total Problems)*
105. Alcohol or drugs for nonmedical purposes. *(Total Problems)*
106. Vandalism. *(Total Problems)*
107. Wets self during day. *(Total Problems)*
108. Wets the bed. *(Total Problems)*
109. Whining. *(Total Problems)*
110. Wishes to be of opposite sex. *(Total Problems)*
111. Withdrawn, doesn't get involved with others. *(Total Problems)*

112. Worries.

*(Total Problems)*

113. Other problems.

*(Total Problems)*

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## APPENDIX B

### *Stem Questions for Self-Report of Physical Abuse and Assault at Age 12*

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#### *Endangerment Items:*

1. Has any adult ever hit you with something really dangerous, like a baseball bat or a shovel?
2. Has any adult ever kicked or punched you?
3. Has any adult ever bitten you?
4. Has any adult ever pushed or thrown you around, like against a wall or down stairs?
5. Has any adult ever tried to choke, drown or smother you?
6. Has any adult ever shot at you with a gun, but didn't hit you?

#### *Physical Injury Items:*

1. Has any adult ever burned or scalded you on purpose?
2. Has any adult ever cut or stabbed you with a knife, razor, fork or something sharp like that?
3. Has any adult ever done something else that badly physically hurt you or put you in danger of being hurt?
4. Has any adult ever bruised you, or given you a black eye?
5. Has any adult ever broken one of your bones?
6. Has any adult ever cut you in a way that caused you to bleed or need stitches?
7. Has any adult ever knocked you out, or made you unconscious?
8. Has any adult ever caused an injury to your eyes, ears, nose or teeth?
9. Has any adult ever wounded you by shooting you with a gun?

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*Note.* Items developed by LONGSCAN staff.

## APPENDIX C

### *Stem Questions for Self-Report of Witnessing Violence at Age 12*

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1. Have you ever seen someone arrested?
2. Have you ever seen someone being slapped, kicked, hit with something, or beaten up?
3. Have you ever seen someone pull a gun on another person?
4. Have you ever seen someone pull a knife (or something like a knife) or razor on anyone?
5. Have you ever seen someone get stabbed or cut with some type of weapon?
6. Have you ever seen someone get shot?
7. Have you ever seen someone killed by another person?
8. Have you ever seen someone getting sexually assaulted, molested or raped?

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*Note.* Items developed by LONGSCAN staff.

## APPENDIX D

### *Stem Questions for Self-Report of Psychological Abuse at Age 12*

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1. Have any of your parents ever blamed you for their own problems?
2. Have any of your parents ever called you names or teased you in a way that made you feel bad about yourself?
3. Have any of your parents ever punished you by not allowing you to sleep, or eat, or drink, like for a whole day? (*excluded item*)
4. Have any of your parents ever left you for most of a day or night without telling you where they were, or who was going to take care of you? (*excluded item*)
5. Have any of your parents ever made you feel that you couldn't do anything right, no matter how hard you tried?
6. Have any of your parents ever punished you in an unusual way – like tying you up, or locking you in a closet?
7. Have any of your parents ever made you feel like they didn't care whether you were safe or healthy?
8. Have any of your parents ever threatened to hurt you badly?
9. Have any of your parents ever threatened to kill you?
10. Have any of your parents ever threatened to abandon or to leave you forever?
11. Have any of your parents ever threatened to kick you out of your home, or to have you taken away?
12. Have any of your parents ever tried to kill himself/herself, or another person, in front of you?
13. Have any of your parents ever made you feel like they really didn't love you?
14. Have any of your parents ever tried to stop you from having or making friends outside the family?
15. Have any of your parents seemed crazy, like heard voices or seen things that weren't there, in a way that really scared you?
16. Have any of your parents ever had you take care of yourself or other people in ways that you didn't feel old enough to do? (*excluded item*)

17. Have any of your parents ever made you do something like steal, have sex for money, or carry drugs? (*excluded item*)
18. Have any of your parents ever been so drunk or high that they behaved in ways that really scared you?
19. Have any of your parents ever threatened to hurt someone very important to you?
20. Have any of your parents ever threatened to hurt or destroy something important to you, like a pet or a favorite thing of yours?
21. Have any of your parents ever kept you home from school when you weren't sick, so you could help them out? (*excluded item*)
22. Have any of your parents ever refused to allow you to get help you needed from a doctor? (*excluded item*)
23. Have any of your parents ever refused to allow you to get the help you needed from someone like a counselor? (*excluded item*)
24. Have any of your parents ever blamed you for other people's problems when they were not your fault?
25. Have any of your parents ever locked you out of the house on purpose, without arranging for a place for you to go? (*excluded item*)
26. Have any of your parents ever humiliated you or embarrassed you very badly by putting you down a lot in front of other people?

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*Note.* Items developed by LONGSCAN staff.

## APPENDIX E

### *Youth Self-Report Questions*

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0 = Not true, 1 = Somewhat or sometimes true, 2 = Very true or often true

1. I act too young for my age.
2. I have an allergy.
3. I argue a lot. *(Externalizing Scale)*
4. I have asthma.
5. I act like the opposite sex.
6. I like animals.
7. I brag. *(Externalizing Scale)*
8. I have trouble concentrating or paying attention.
9. I can't get my mind off certain thoughts.
10. I have trouble sitting still.
11. I'm too dependent on adults.
12. I feel lonely. *(Internalizing Scale)*
13. I feel confused or in a fog.
14. I cry a lot. *(Internalizing Scale)*
15. I am pretty honest.
16. I am mean to others. *(Externalizing Scale)*
17. I daydream a lot.
18. I deliberately try to hurt or kill myself. *(Internalizing Scale)*
19. I try to get a lot of attention. *(Externalizing Scale)*
20. I destroy my own things. *(Externalizing Scale)*
21. I destroy things belonging to others. *(Externalizing Scale)*
22. I disobey my parents.
23. I disobey at school. *(Externalizing Scale)*
24. I don't eat as well as I should.
25. I don't get along with other kids.
26. I don't feel guilty after doing something I shouldn't do. *(Externalizing Scale)*

27. I am jealous of others. *(Externalizing Scale)*
28. I am willing to help others when they need me.
29. I am afraid of certain animals, situations, or places, other than school.
30. I am afraid of going to school.
31. I am afraid I might think or do something bad. *(Internalizing Scale)*
32. I feel that I have to be perfect. *(Internalizing Scale)*
33. I feel that no one loves me. *(Internalizing Scale)*
34. I feel that others are out to get me. *(Internalizing Scale)*
35. I feel worthless or inferior. *(Internalizing Scale)*
36. I accidentally get hurt a lot.
37. I get in many fights. *(Externalizing Scale)*
38. I get teased a lot.
39. I have around kids who get in trouble. *(Externalizing Scale)*
40. I hear sounds or voices that other people think aren't there.
41. I act without stopping to think.
42. I would rather be alone than with others. *(Internalizing Scale)*
43. I like or cheat. *(Externalizing Scale)*
44. I bite my fingernails.
45. I am nervous or tense. *(Internalizing Scale)*
46. Parts of my body twitch or make nervous movements.
47. I have nightmares.
48. I am not liked by other kids.
49. I can do certain things better than most kids.
50. I am too fearful or anxious. *(Internalizing Scale)*
51. I feel dizzy. *(Internalizing Scale)*
52. I feel too guilty. *(Internalizing Scale)*
53. I eat too much.
54. I feel overtired. *(Internalizing Scale)*
55. I am overweight.
56. Physical problems without a known medical cause.
- a. Aches and pains. *(Internalizing Scale)*

- b. Headaches. *(Internalizing Scale)*
  - c. Nausea, feel sick. *(Internalizing Scale)*
  - d. Problems with eyes. *(Internalizing Scale)*
  - e. Rashes or other skin problems. *(Internalizing Scale)*
  - f. Stomachaches or cramps. *(Internalizing Scale)*
  - g. Vomiting, throwing up. *(Internalizing Scale)*
  - h. Other.
57. I physically attack people. *(Externalizing Scale)*
58. I pick my skin or other parts of my body.
59. I can be pretty friendly.
60. I like to try new things.
61. My schoolwork is poor.
62. I am poorly coordinated or clumsy.
63. I would rather be with older kids than with kids my own age. *(Externalizing Scale)*
64. I would rather be with younger kids than with kids my own age.
65. I refuse to talk. *(Internalizing Scale)*
66. I repeat certain acts over and over.
67. I run away from home. *(Externalizing Scale)*
68. I scream a lot. *(Externalizing Scale)*
69. I am secretive or keep things to myself. *(Internalizing Scale)*
70. I see things that other people think aren't there.
71. I am self conscious or easily embarrassed. *(Internalizing Scale)*
72. I set fires. *(Externalizing Scale)*
73. I can work will with my hands.
74. I show off or clown. *(Externalizing Scale)*
75. I am shy. *(Internalizing Scale)*
76. I sleep less than most kids.
77. I sleep more than most kids during day and/or night.
78. I have a good imagination.
79. I have a speech problem.

80. I stand up for my rights.
81. I steal at home. *(Externalizing Scale)*
82. I steal from places other than my home. *(Externalizing Scale)*
83. I store things I don't need.
84. I do things other people think are strange.
85. I have thoughts that other people would think are strange.
86. I am stubborn. *(Externalizing Scale)*
87. My moods or feelings change suddenly. *(Externalizing Scale)*
88. I enjoy being with other people.
89. I am suspicious. *(Internalizing Scale)*
90. I swear or use dirty language. *(Externalizing Scale)*
91. I think about killing myself. *(Internalizing Scale)*
92. I like to make other laugh.
93. I talk too much. *(Externalizing Scale)*
94. I tease others a lot. *(Externalizing Scale)*
95. I have a hot temper. *(Externalizing Scale)*
96. I think about sex too much.
97. I threaten to hurt people. *(Externalizing Scale)*
98. I like to help others.
99. I am concerned about being neat or clean.
100. I have trouble sleeping.
101. I cut classes or skip school. *(Externalizing Scale)*
102. I don't have much energy. *(Internalizing Scale)*
103. I am unhappy, sad, or depressed. *(Internalizing Scale)*
104. I am louder than most kids. *(Externalizing Scale)*
105. I use alcohol or drugs for nonmedical purposes. *(Externalizing Scale)*
106. I try to be fair to others.
107. I enjoy a good joke.
108. I like to take life easy.
109. I try to help others when I can.
110. I wish I were the opposite sex.

111. I keep from getting involved with others.

*(Internalizing Scale)*

112. I worry a lot.

*(Internalizing Scale)*

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## APPENDIX F

### *Trauma Symptom Checklist Questions*

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0 = Never, 1 = Sometimes, 2 = Lots of times, 3 = Almost all of the time

1. Having bad dreams or nightmares. This happens to me... (*Trauma Symptom*)
2. Feeling afraid something bad might happen. This happens to me...
3. Scary ideas or pictures just popping into my head. (*Trauma Symptom*)
4. Wanting to say dirty words.
5. Pretending I am someone else.
6. Arguing too much.
7. Feeling lonely.
8. Touching private parts too much.
9. Feeling sad or unhappy. This happens to me...
10. Remembering things that happened that I didn't like. (*Trauma Symptom*)
11. Going away in my mind, trying not to think. (*Trauma Symptom*)
12. Remembering scary things. This happens to me... (*Trauma Symptom*)
13. Wanting to yell and break things.
14. Crying.
15. Get scared suddenly and don't know why. This happens to me...
16. Getting mad and can't calm down.
17. Thinking about having sex.
18. Feeling dizzy. This happens to me...
19. Wanting to yell at people.
20. Wanting to hurt myself.
21. Wanting to hurt other people.
22. Thinking of touching other people's private parts.
23. Thinking about sex when I don't want to.
24. Feeling scared of men. This happens to me... (*Trauma Symptom*)
25. Feeling scared of women. (*Trauma Symptom*)
26. Washing myself because I feel dirty inside.

27. Feeling stupid or bad. This happens to me...
  28. Feel like I did something wrong.
  29. Feeling like things aren't real.
  30. Forget things or can't remember things. This happens to me...
  31. Feeling like I'm not in my body.
  32. Feeling nervous or jumpy inside.
  33. Feeling afraid. This happens to me...
  34. Not trusting people because they might want to have sex.
  35. Can't stop thinking about something bad that happened to me. (*Trauma Symptom*)
  36. Getting into fights. This happens to me...
  37. Feeling mean.
  38. Pretending I'm somewhere else.
  39. Being afraid of the dark. This happens to me...
  40. Getting scared or upset when I think about sex.
  41. Worrying about things.
  42. Feeling like nobody likes me. This happens to me...
  43. Remembering things I don't want to remember. (*Trauma Symptom*)
  44. Having sex feelings in my body.
  45. My mind going empty or blank. This happens to me...
  46. Feeling like I hate people.
  47. Can't stop thinking about sex.
  48. Trying not to have any feelings. This happens to me...
  49. Feeling mad.
  50. Feeling afraid someone will kill me.
  51. Wish bad things had never happened. This happens to me... (*Trauma Symptom*)
  52. Wanting to kill myself.
  53. Daydreaming.
  54. Getting upset when people talk about sex. This happens to me...
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