

Children's Internalizing, Externalizing, Sexualized Behavior, and Social Competence as Predicted by Maternal Level of Depression: Are These Associations Moderated by Child Sex and Mothers' History of Sexual Abuse?

by

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Abstract

Maternal depression is often related to child functioning, including child internalizing, externalizing, and sexualized behavior, as well as child social competence. However, little research has investigated how child sex and mothers' history of sexual abuse can affect the influence of maternal depression on these outcomes. The purpose of this study is to examine how maternal depression affects internalizing, externalizing, and sexualized behavior, as well as child social competence of their children. Additionally, this study examines whether these relationships differ according to child sex and mothers' history of sexual abuse. This study examines 820 children and mothers in a high-risk sample. We found that maternal depression is more predictive of child internalizing, externalizing, and sexualized behavior in children whose mothers have a history of sexual abuse than those who do not. Furthermore, the relationship between mothers' depression and child internalizing, externalizing, and sexualized behavior is strongest for sons of mothers with a history of sexual abuse. Our results indicate that mothers' depression is related to child behavioral and emotional adjustment and that child sex and mothers' history of sexual abuse do moderate these relationships.

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Introduction

According to the Fourth National Incidence Study of Child Abuse and Neglect Report to Congress (US Department of Health and Human Services: ACF, 2011), the total economic burden of child maltreatment has been estimated to be as high as \$585 billion. The widespread and negative individual, familial, and societal consequences of child maltreatment have been widely studied. However, the above statistic establishes the importance of further scientific investigation into the etiology and consequences of child abuse. Investment in these efforts will provide a solid foundation and direction for both social policy and intervention (Swisher, Silovsky, Stuart, & Pierce, 2008).

The consequences of child abuse are broad, with effects at each life stage for the abused child. Mothers who have been maltreated in childhood often suffer from depression in later life (Dubowitz et al., 2001). Other studies have suggested that mothers' experiences of victimization across their lifetimes and the resulting depression make it difficult for these mothers to provide their own children with good parenting and helpful support (DiLillo, Tremblay, & Peterson, 2000; Hall, Sachs, & Rayens, 1998; Miranda, de la Osa, Granero, & Ezpleta, 2013). Despite evidence of an exponential effect of a maternal history of sexual abuse on the emotional/interpersonal adjustment of mothers (Cohen, Hein, & Batchelder, 2008), only a few studies have investigated the role of maternal sexual abuse in predictive relationships between parent depression and child level functioning (DiLillo & Damashek, 2003; Spiller, Jouriles, McDonald, & Skopp, 2012).

Child sexualized behavior (CSB) is one of the most clearly linked and highly stigmatized outcomes of sexual abuse (Chaffin et al., 2008). When taking into consideration other individual/family level factors, we now know that child sexual abuse is not always the sole predictor of problematic CSB (Silvosky & Niec, 2002; Swisher et al., 2008). In fact, problematic CSB in children is often related to the emotional adjustment and sexual abuse history of those children's mothers (Friedrich, 2005). However, a clear picture of the etiology and normal range of CSB, especially across child sex, has yet to be established. The few investigations that have examined the cross-generational effects of mothers' history of sexual abuse have focused mostly on scores of child internalizing and externalizing behaviors, or even total scores of child emotional/behavioral adjustment as outcomes (Merrick, Litrownik, Everson, & Cox, 2008; Roberts, O'Connor, Dunn, & Golding, 2004). Our study distinctly considers four measures of child emotional and behavioral adjustment simultaneously (internalizing, externalizing, sexualized behavior, and child social competence). In addition, we investigate mother's abuse history and child sex as moderators of the relationship between mother's depression and these child outcomes.

Previous research has established higher rates of externalizing behavior in boys and higher rates of internalizing behavior in girls (Keiley, Bates, Dodge & Pettit, 2000). However, findings regarding the relationship between sexualized behavior and child sex are mixed and also are complicated by changes in the incidence of normative sexualized behavior across development (Chaffin, Letourneau, & Silovsky, 2002). This study is one of the first to investigate child sex as a potential moderator of the relationship between maternal emotional and child behavioral, emotional, and social adjustment, including sexualized behavior, in a population of mothers with and without a history of sexual abuse.

Using data from the Longitudinal Studies in Child Abuse and Neglect (LONGSCAN; see Runyan et al., 1998 for details) project, the following investigation examines the relationship between mothers' self-reported depression when their children are 4 years old and their children's internalizing, externalizing, sexualized behavior, and social competence four years later controlling for socioeconomic status and child experience of sexual abuse. Furthermore, this analysis investigates child sex and mothers' history of sexual abuse as moderators of this relationship.

Review of the Literature

Consequences of Maternal Depression

The relationship between maternal depression and child externalizing and internalizing problems is firmly established by previous literature (Carter, Garrity-Rokous, Chazan-Cohen, Little, & Briggs-Gowan, 2001; Elgar, McGrath, Waschbusch, Stewart, & Curtis, 2004). Children whose mothers experience depression during their lifetime show significantly more delinquent (e.g. lying, swearing, stealing) and aggressive behavior (e.g. physically attacking others, quick temper) than those who had not, even when controlling for mother's own delinquent/aggressive behavior (Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005). Diagnoses of depression and anxiety disorders are also twice as likely in children of mothers with a history of depression as compared to those whose mothers do not have a history of depression (Hammen, & Brennan, 2003).

Maternal depression affects parenting, specifically through negative maternal behavior (e.g. threatening gestures, negative facial expression, and expressed anger) and disengagement (e.g. ignoring and withdrawal). The largest effect sizes have been found for maternal depression's prediction of maternal hostility and irritability toward their children (Lovejoy,

Graczyk, O'Hare, & Neuman, 2000). Additionally, maternal depression has been linked to child emotional and behavioral adjustment through interruption of attachment between mother and child (Cicchetti, Toth, & Toth, 1998), harsh or ineffective parenting strategies (Lovejoy et al., 2000), and high levels of family dysfunction and relationship instability (Cummings & Davies, 1994).

Previous research indicates a dose and timing effect on the relationship between maternal depression and child emotional and behavioral adjustment. Children whose mothers have more depressive episodes and children whose mothers are currently depressed have significantly more delinquent/aggressive behavior (Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005). Although timing of depression is important, with current depression having largest effects on current child adjustment, the residual effects of prior maternal depression also have consequences for later child behavior (Elgar et al., 2004). This study will investigate maternal depression at child age 4 and examine the residual effects of mothers' depression at a time point four years later, at child age 8.

Although about one-third of women experience depression at some point in their lifetime, depression is especially common in low-income, single mothers (Elgar et al., 2004; Lovejoy et al., 2000). Additionally, the relationship between mothers' depression and delayed self-regulatory strategies, low social competencies, low levels of self-esteem, and high levels of behavioral problems in their children is stronger for economically disadvantaged families than for non-economically disadvantaged families (Black et al., 2002; Luoma et al., 2001). Thus, we will investigate the relationship between maternal depression and child internalizing, externalizing, sexualized behavior, as well as child social competence in an at-risk, low socioeconomic status population.

The ways that environmental factors and child sex affect the relationship between maternal depression and child adjustment remain unclear (Elgar et al., 2004). Negative life events are undoubtedly related to the possible intergenerational transmission of risk for emotional and behavioral problems, however how these experiences affect the relationship between maternal depression and child emotional and behavioral adjustment is not clearly established (Goodman & Gotlib, 1999). Some research indicates significant relations between maternal depression and female, but not male, internalizing symptoms (Fergusson, Horwood, & Lynskey, 1995). Other research indicates parallel effects across child sex (Elgar et al., 2003). Our study will investigate how one specific negative life event (mothers' experience of sexual abuse) affects the relationship between maternal depression and child emotional, behavioral, and social adjustment. We will also test for moderation of the relationship between maternal depression and child adjustment by child sex.

Consequences of Sexual Abuse of Mothers

Most research has focused on either current maternal physical victimization within partner relationships or lifetime histories of maternal victimization including sexual, physical, or inter-partner violence as predictors of the behavioral and emotional adjustment of their offspring (DiLillo & Damashek, 2003). Investigations using these indicators of maternal maltreatment have established that mothers' victimization is related to mothers' current depressive symptoms (Dubowitz et al., 2001; Miranda et al., 2013), as well as their children's externalizing and internalizing behavior (Koverola et al., 2005; Miranda, de la Osa, Granero, & Ezpleta, 2011; Morrel, Dubowitz, Kerr, & Black, 2003).

Child sexual abuse (CSA) is also strongly predictive of low levels of psychological functioning in adulthood. Women with a history of CSA report greater levels of depression and

anxiety (Banyard et al., 2001; Buist & Janson, 2001; Schuetze & Eiden, 2005), and greater levels of overall psychological distress as adults than their counterparts (DiLillo et al., 2000). Although the role of depression in the relationship between maternal victimization and child adjustment remains unclear (Thornberry, Knight, & Lovegrove, 2012), victimized women consistently experience themselves as incompetent parents, reporting low confidence, low emotional control, inconsistency, and disorganization as parents (Banyard, 1997; Cole, Woogler, Power, & Smith, 1992; Roberts et al., 2004).

Current negative family dynamics, including negative life events in general (Banyard et al., 2001) and/or current partner violence, and the cumulative effect of such experiences intensify these direct effects (Schuetze & Eiden, 2005). Women with a history of child sexual abuse are two times more likely to experience sexual victimization by both non-partners and partners in their adult life, even when controlling for demographic factors and their own childhood physical abuse. As adults, these women are three times more likely to be sexually victimized by a non-partner and six times more likely to be abused by their current partners (Desai, Arias, Thompson, & Basile, 2002).

Mothers victimized only as children or only as adults report similar levels of depressive symptoms in themselves and similar emotional and behavioral adjustment in their children. However, Cohen, Hein, and Batchelder (2008) found that mothers' history of multiple traumas is more strongly predictive of their own children's abuse than is any single instance of abuse, and mothers victimized during both childhood and adulthood report greater depressive symptoms and more child internalizing and externalizing problems (Dubowitz et al., 2001). Thus, the cumulative effects of mothers' CSA may be predictive of the emotional, behavioral, and social adjustment of their children (Paredes, Leifer, & Kilbane, 2001; Schuetze & Eiden, 2005).

Some studies find that mothers with a history of CSA report more conduct, aggression, anxiety, depression, and peer problems in their children than mothers without a history of CSA (Roberts et al., 2004), but other studies fail to find support for this relationship (DiLillo & Damashek, 2003). Despite evidence suggestive that mothers' histories of sexual abuse may be predictive of high levels of externalizing and internalizing problems and low levels of prosocial behavior in their children, this relationship has not been investigated thoroughly (Paredes, Leifer, & Kilbane, 2001). Our study will extend the research on the consequences of mothers' victimization by focusing on how the relationship between mothers' psychological functioning and their children's emotional and behavioral outcomes is affected by mothers' history of sexual abuse.

Defining Child Sexualized Behavior (CSB)

Child sexualized behavior (CSB) is the least understood and most socially stigmatized behavior that has been linked to sexual abuse (Chaffin et al., 2002). The following review will define children's sexualized behavior within a developmental psychopathology framework as recommended by Elkovitch, Latzman, Hansen, and Flood (2009). This framework will allow us to understand one possible pathway toward CSB, taking into account the role of development, context, as well as maternal history of sexual abuse in the development of CSB (Rutter & Sroufe, 2000).

The definition of normative sexual behavior in school age children varies across development and culture. Therefore, differentiation between normative and non-normative sexualized behavior should occur on an individual level, taking into consideration social norms as well as the developmental level of the child (Kellogg, 2009; Silovsky & Niec, 2002). Sexualized behavior is labeled as problematic when it is characterized by aggression, causes

harm or emotional distress for the child or others, occurs between children of different ages, size, or developmental levels, and/or occurs between children who do not know each other well. Sexualized behavior also becomes problematic when it persists despite appropriate caregiver intervention or disrupts normal childhood activities (Silovsky & Bonner, 2004).

The American Association for the Treatment of Sexual Abusers Task Force on Children with Sexual Behavior Problems defines problematic CSB as behaviors involving sexual body parts (i.e. genitals, anus, buttocks, or breasts) that occur in children younger than 12 that are developmentally inappropriate or potentially harmful to themselves or others. These behaviors may stem from curiosity, impulsivity, anxiety, trauma, and/or attention seeking. Sexualized behaviors in children do not represent a medical or psychological syndrome or a diagnosable disorder, but a set of behaviors outside of acceptable societal limits. That is, child sexualized behavior is normative in children, however becomes problematic when interrupting personal or interpersonal functioning.

Children who engage in CSB are a heterogeneous group, have few characteristics to differentiate them from other children (Chaffin et al., 2002), and no profile of children with CSBs has been established (Bonner, Walker, & Berliner, 1999). Children with CSBs have been found to be distinct from adolescent or adult sexual offenders in that they are not frequently held liable in court (Letourneau, Schoenwald, & Sheidow, 2004). They are usually not capable of using the characteristic behaviors of older offenders (planning, grooming, or rationalizing). Rather, children are mostly self-focused and have difficulty connecting their sexualized behavior to the consequences (Chaffin et al., 2002). As a result, criminal justice definitions or labels of sexual offender are inappropriate for children displaying such behavior and the term child

sexualized behavior problems more appropriately labels the *behaviors* of children, rather than the children themselves (Chaffin et al., 2002).

Correlates of Child Sexualized Behavior (CSB)

Children with problematic CSB are not a homogeneous group in terms of individual characteristics. However, as a group, children displaying problematic CSBs also display other types of behavioral difficulties (Bonner et al., 1999; Chromy, 2007; Friedrich, Davies, Feher, & Wright, 2003). Gray, Busconi, Houchens, and Pithers (1997) found that 93% of children with CSBs meet a second DSM-IV diagnosis and 45% of these children met two additional diagnoses. In the Gray et al. study, 73% of children with problematic CSBs are diagnosed with Conduct Disorder, 41% with an Attention Deficit Disorder, and 27% with Oppositional Defiant Disorder. Children displaying problematic CSBs have high levels of externalizing and social behavior problems (Letourneau et al., 2004), poor boundaries (Silovsky & Niec, 2002), and low levels of peer acceptance and self-esteem as compared to children without problematic CSB (Bonner et al., 1999).

High rates of comorbidity of CSBs with externalizing problems have even resulted in questioning the legitimacy of distinguishing CSBs from other behavior problems (Silovsky, Niec, Bard, & Hecht, 2007). However, young age and explicit family sexuality uniquely predict problematic CSB when controlling for externalizing problems; in addition, verbal abuse is often the only predictor of both externalizing problems and CSB (Lévesque, Bigras, & Pauzé, 2010). Based on the moderate relationship between CSB and externalizing problems, CSB should be addressed and investigated as a specific and distinct type of externalizing behavior.

The role of child sex in the prediction of problematic CSB remains unclear. Several studies indicate that problematic CSB is more common in girls (Gray, Pithers, Busconi, &

Houchens, 1999; Letourneau et al., 2004; Taren-Sweeney, 2008), whereas other studies indicate that boys are two times more likely to display problematic CSB (Lévesque et al., 2010) and may display more aggressive CSB when compared to girls (Bonner et al., 1999). Other studies indicate no difference in CSB across sex (Friedrich et al., 2003; Silovsky & Niec, 2002). However, studies showing no sex differences include children across wide age ranges and may fail to detect differences in the role of sex because the characteristics of children displaying CSB change significantly across early, middle, and late childhood/adolescence (Kellogg, 2009; Swisher et al., 2008). For example, although Gray et al. (1997) fails to find sex differences in rates of change in CSB across time, the rates of change in CSB are different for boys and girls when child age is considered. In boys, rates of CSB are two times higher in boys 6-9 years old when compared to boys 10-12 years old. Girls' scores remain similar across time. Our investigation focuses on CSB at age 8 because middle childhood has been established as a time in which CSB begins to decrease as children become more aware of social norms regarding sexual behavior (Friedrich, 2005).

One of the most consistent findings about sexualized behaviors in children is that children's sexual abuse is not as uniquely predictive of CSB when considering other individual/family level factors such as total life stress and domestic violence (Friedrich et al., 2003; Silovsky & Niec, 2002; Swisher et al., 2008). Although children who have been sexually abused have been found to engage in more sexualized behavior and a large percentage of children displaying sexualized behavior have been sexually abused (Letourneau et al., 2004), many children with problematic CSB do not have a history of sexual abuse (Silovsky & Niec, 2002). For example, Bonner et al. (1999) found that 52% of children exhibiting CSBs have no reported history of sexual abuse and 41% have no experience of abuse of any type. Thus, in

order to investigate the unique effect of mothers' history of sexual abuse beyond that of any possible sexual abuse of the children themselves, we control for children's history of sexual abuse.

We also control for the socioeconomic status of the families in our study, specifically family income and number of dependents in the household. Previous research has established that one of the biggest difficulties in child development research is determining the extent to which environmental stressors account for all or part of the negative influence following abuse/neglect/family violence (Herrenkohl & Herrenkohl, 2007). One such environmental stressor that has a negative influence on families in which sexual abuse occurs is economic disadvantage (Freisen, Woodward, Horwood, & Fergusson, 2010). Furthermore, Friedrich, Davies, Feher, and Wright (2003) found that family income and total life stress were strongly related to maladaptive sexual behavior in children, and strongly suggest controlling for family income in the study of CSB.

Mothers of Children with Problematic CSB

Mothers of children with problematic CSB report more negative life experiences in their childhood and adulthood, including domestic violence and arrest (Gray et al., 1999; Pithers, Gray, Busconi & Houchens, 1998). Furthermore, biological parents of children with CSBs report a history of abuse and neglect themselves (Bonner et al., 1999). These maternal experiences of abuse are related to the severity of CSBs in their children. According to Hall et al. (1998), mothers of children showing higher levels of CSBs report a greater range of negative experiences in their own childhoods and adulthoods than do mothers of children showing less intrusive and problematic behaviors.

Whether as a consequence of their own histories of abuse or of their children's behavior, mothers of children displaying problematic CSB view their children more negatively (Bonner et al., 1999), experience their children as excessively demanding of time and attention, and find their interactions with their children unrewarding compared to mothers of children without CSBs (Pithers et al., 1998). Although mothers who report having trauma symptoms in adulthood have children with behavior problems and problematic CSB (Paredes et al., 2001), the role of mothers' histories of abuse in the prediction of problematic CSB is not clear. The following investigation extends past research by linking maternal level functioning, specifically maternal depression to children's outcomes (externalizing, internalizing, and sexualized behavior, and social competence). In addition, the moderation of these effects by child gender and mothers' histories of abuse are tested.

Method

Data for this analysis were collected as part of the Consortium of Longitudinal Studies in Child Abuse and Neglect (LONGSCAN) project. LONGSCAN is a longitudinal study examining the etiology and effects of child maltreatment in high-risk samples. Researchers followed children from childhood through adulthood in a nation-wide study. We conducted a secondary data analysis of this dataset.

Participants

This study follows 820 children and their biological mothers across four years, from age 4 to 8. This analytic sample was selected from the larger sample based on the caregiver being the biological mother. Participants were recruited as caregiver-child dyads from 5 sites across the United States, located in the East (EA; 16%), Midwest (MW; 29%), South (SO; 24%), Northwest (NW; 21%), and Southwest (SW; 10%). Each site used slightly different enrollment strategies, and

each selected children with varying levels of exposure to maltreatment. The East site focused on low-income children with varying levels of risk of maltreatment: one group defined by child risk factors (inadequate growth in the first two years of life), one by parent risk factors (HIV infection/drug use), and a comparison group simply at risk based on low-income status. The Midwest site focused on families reported to CPS and a group of neighborhood controls. The Northwest site focused on children indicated to be at moderate risk following CPS reports. The Southern site included children identified as high risk at birth and a group of matched low-risk children. The Southwest site focused on children placed in foster care. Data collected from biological mothers were included from this site.

The majority of this sample is made up of racial minorities, with 52% of the children being African-American ($n=429$), 27% percent being European-America ($n=224$), and 21% percent reporting another race/ethnicity ($n=167$). The majority of the families are low-income households, with 76% making less than \$20,000 per year ($n=627$). Of the mothers in this sample, 53% are single mothers ($n=433$). Average age of mothers is 30 years. At child age 4, 58% of mothers reported that they had been sexually abused as children, teens, or adults ($n= 476$). Of the children in this sample, 52% are female ($n= 426$). We were able to examine differences in the proposed model across four groups based on maternal history of sexual abuse and child sex: sexually abused mothers of boys ($n=167$, 20%), sexually abused mothers of girls ($n=179$, 22%), non-sexually abused mothers of boys ($n=226$, 28%), and non-sexually abused mothers of girls ($n=248$, 30%).

Measures

Outcome Measures

Child Behavior Check List (CBCL). Child emotional/behavioral functioning was assessed at age 8 using the Child Behavior Checklist (Achenbach, 1991). Caregivers were allowed to

complete paper forms unless they required assistance in reading instruments, in which case the questionnaires were administered orally. The 113-item CBCL items are all scored from 0 to 2 (*0=not true, 1=somewhat true, and 2=very true or often true*) and are caregiver reports of observed behaviors over the past 6 months. This study looks at the Internalizing Behavior, Externalizing Behavior, and Social Competence scales. The Internalizing Problems subscale is made up of 33 items, with possible scores ranging from 0 to 62, and includes subscales of Social Withdrawal, Somatic Complaints, and Anxiety/Depression. The Externalizing Problems Subscale is 33-items, with possible scores ranging from 1 to 66, and includes subscales of Delinquent Behavior and Aggressive Behavior scores as well as Social Competence scores of the CBCL at age 8. The Social Competence Subscale contains 20 items, with possible scores ranging from 0 to 60, grouped into 3 scales (Activities, Social, and School). The CBCL has been shown to have internal and test-retest reliability with an internal reliability coefficient of .87 for the internalizing scale and .93 for the externalizing subscale. Many studies have shown that the CBCL is valid and scores are consistent with psychiatric diagnoses (Achenbach, 1991).

Child Sexual Behavior Inventory (CSBI). The Child Sexual Behavior Inventory was used to assess presence and frequency of a range of sexual behaviors in the previous 6 months (Friedrich, 1997). Caregivers were allowed to complete paper forms unless they required assistance in reading instruments, in which case the questionnaires were administered orally. The CSBI is comprised of 38 items indicated on a 4-point scale ranging from 0 (never) to 3 (at least once a week). Average raw scores will be used in this analysis. The instrument has demonstrated good internal consistency with internal reliability coefficient of .93. Construct validity has also been established through correlation of parent and teacher report on the CSBI (Friedrich et al., 1992).

Predictor Measure

Center for Epidemiologic Studies Depression Scale (CES-D). Maternal depression was measured when children were 4 by the Center for Epidemiologic Studies Depression Scale (CES-D) developed by Radloff (1977). Caregivers completed paper forms of the Center for Epidemiologic Studies Depression Scale at this time point, unless they required assistance in reading instruments, in which case the questionnaire was administered orally. The CES-D is comprised of 20 items reflecting depressed mood, feelings of guilt, worthlessness, and hopelessness, and somatic symptoms. Items are rated on a 4-point scale based on frequency, with 0 for rarely or none of the time to 3 for most or all of the time. Scores range from 0 to 60, with a score of 16 commonly used as a cut-off for a diagnosis of clinical depression (Radloff, 1977). The CES-D has been shown to be a reliable measure with high internal consistency indicated by Cronbach's alpha coefficient of .90. Radloff (1977) has also established concurrent and construct validity of the CES-D as a measure of depressive symptoms.

Moderating Measures

Maternal History of Sexual Victimization. The primary caregivers' histories of childhood sexual abuse were assessed when their children were 4 using the Caregiver's History of Loss and Victimization developed by Hunter and Everson (1991). This retrospective self-report measure includes three items indicating Childhood Sexual Abuse, three items indicating Adolescent Sexual Abuse, and two items indicating Adult Sexual Assault. A score of 1 on any of these items indicates a history of sexual abuse; a score of 0 indicates an absence of sexual abuse (Dubowitz et al., 2005; Koverola et al., 2005). The Caregiver's History of Loss and Victimization has been established to be a valid measure of a history of sexual abuse with scores on this assessment being highly correlated to actual experience of abuse (Hunter & Everson, 1991). If the mother designated a score of 1 on any of these items, she was classified as having been abused prior to the study.

Child Sex. Child sex was designated as a dichotomous variable with females being coded as 1 and males as 0.

Control Measures

Child History of Sexual Abuse. A LONGSCAN modified version of Barnett, Manly, and Cicchetti's (1993) Modified Maltreatment Classification System (MMCS; English & the LONGSCAN investigators, 1997) was used to code official Child Protective Services records of child sexual abuse. A lead abstractor trained from each site conducted reviews of Case Records and Maltreatment Data Forms from Child Protective Services and Central Registry records in order to gather information regarding child sexual abuse up to age 8. This study defines child sexual abuse (CSA) as any allegation of sexual abuse made at age 4 or earlier, as reported by Child Protective Services. Previous research indicates no significant differences in behavioral and emotional outcomes between children with substantiated reports and children with unsubstantiated reports of child abuse from age 4 to 8 (Hussey et al., 2005), and Litrownik's (2009) presentation on LONGSCAN data use suggests using allegations of abuse in analyses. Thus, we used allegations rather than substantiations of abuse as indicators of sexual abuse. Allegations were established as reliable indicators of sexual abuse with a Kappa of .77 (English & the LONGSCAN investigators, 1997). A score of 1 on any of these items will indicate any history of sexual abuse; a score of 0 will indicate an absence of sexual abuse.

Family Income and Mothers' Education. A family profile questionnaire developed by LONGSCAN was used to establish data on the family income and mothers' level of education in the study. This family profile includes information on the two other measures that we use as controls: family income and number of dependents. Family income was measured on an 11-point scale (1=<\$5,000 per year, 11=>\$50,000 per year). Mothers' level of education was measured on a 20-

point scale according to the highest grade in school or year of college completed by mothers (0=none, 20+=graduate/professional).

Demographic Controls. We also controlled for mothers' partner status, mothers' age, number of dependents, and race.

Plan of Analysis

After conducting a univariate and bivariate analysis in SAS (Version 9.2; SAS Institute Inc., 2009), we conducted a path analysis in MPLUS (Version 6; Muthen & Muthen, 1998-2010) to test the prediction of four indicators of child emotional, behavioral, and social adjustment (internalizing, externalizing, and sexualized behavior, and social competence) by maternal depression. First, an unconditional model was fit allowing mothers' depression at child age 4 to predict child internalizing, externalizing, and sexualized behavior, and social competence at child age 8. For these and all fitted models, adequate model fit was assessed by a χ^2 statistic/degrees of freedom ratio less than 5 and a RMSEA less than .10 (Wheaton et al., 1977). We then fit a conditional model in which we added control variables and tested for significance in this order: child history of sexual abuse, LONGSCAN site, family income, number of dependents, mothers' partner status, mothers' age, mothers' level of education, and race. Delta chi-square tests indicated that only family income, mothers' education, and child history of sexual abuse were significant in predicting mothers' depression. These three variables were retained. We re-fit the conditional model with only the 3 control variables that were significant. Finally, we tested for differences across four groups: female children with maltreated mothers (MAF), male children with maltreated mothers (MAM), female children with non-maltreated mothers (MNF), and male children with non-maltreated mothers (MNM). In other words, we tested if the conditional model was moderated by child sex and mothers' abuse history. To do so, each of the paths representing the relationship between the predictor and

each outcome variable one at a time was constrained to be equal across the four groups and delta-chi square tests were used to determine which paths were significantly different across these groups. To determine if mother's depression predicted a different amount of variance in each of the child behaviors (internalizing, externalizing, and sexualized behavior, and child social competence) across each of the 4 groups, the residual variances of child internalizing, externalizing, and sexualized behavior, and child social competence were constrained to be equal and delta-chi square tests were again used to determine if the amounts of variance predicted were different as well. Missing data were not imputed; rather, available data from all 820 children were used in analyses using full information-maximum likelihood (FIML) estimation with robust standard errors. FIML estimation is one of the best methods of dealing with missing data (Acock, 2005).

Results

Descriptive Statistics

The descriptive statistics for all of the study variables for the full sample and the four groups determined by maltreatment status of the mother and sex of the child are presented in Table 1a and the descriptive statistics for control variables are presented in Table 1b. Child social competence was fairly symmetrically distributed, but maternal depression, child externalizing, internalizing, and sexualized behavior were all skewed towards lower values. We will continue to use the labels maternal depression, child externalizing, internalizing, and sexualized behavior, but to create more normal distributions for use in multivariate analyses these variables were logged.

Although we did not test for differences across the four groups, mothers' depression, on average, was higher for the groups in which mothers had been abused than for those who had not. Furthermore, child internalizing and externalizing symptoms were higher, and child social competence lower for the groups in which mothers had been abused than for those who had not, on average. On average, girls scored higher on social competence than boys, despite mothers' history of sexual abuse. Although boys and girls in groups in which mothers had a history of sexual abuse scored similarly on externalizing and internalizing symptoms, boys indicated higher levels of internalizing and externalizing symptoms than girls in groups in which mothers did not have a history of sexual abuse.

With respect to control and demographic variables, mothers' level of education was symmetrically distributed, and there were about equal numbers of male ($n=393$) and female ($n=427$) children, and sexually abused ($n=346$) and not sexually abused ($n=474$) mothers in our

sample. There were fewer children with a history of sexual abuse ($n=346$) than without such a history ($n=736$) in our sample. The total income of the families included in this study was skewed toward lower values, with 76% of families making less than \$20,000 per year. Mean family income for the whole sample is around \$10,000 per year, on average. On average, the eleventh grade was the highest grade in school completed by mothers in this sample.

Bivariate Analysis

Pearson correlations were estimated among all variables used in our analysis. Results are presented in Table 2. Child internalizing, externalizing, and sexualized behavior, as well as social competence at child age 8 are all significantly related to maternal depression at child age 4. Furthermore, child internalizing, externalizing, and sexualized behavior, and child social competence at child age 8 are positively related, such that high levels of one outcome are associated with high levels of the others, and vice versa. Bivariate plots of the relationships between mothers' depression and child internalizing, externalizing, and sexualized behavior, and social competence were also examined, and these plots denote linear relationships between each of these outcome variables and maternal depression at child age 4.

Multivariate Analysis

The main effects model fit statistics including controls, indicates good fit ($\chi^2/df=3.47, p = .00$; RMSEA = .06, $p = .31$). Mother's depression at child age 4 predicts child externalizing ($\beta=.20, r=.22, p<.001$), internalizing ($\beta=.22, r=.23, p<.001$), and sexualized behavior ($\beta=.01, r=.10, p<.10$) at child age 8. Controlling for all else in the model, 0.5% of the variance in child externalizing behavior, 0.3% of the variance in child internalizing behavior, and 4.8% of the variance in child sexualized behavior at child age 8 is predicted by mother's depression at child age 4.

We tested the moderation of the main effects model by child sex and mothers' history of sexual abuse. The model fit statistics for this multi-group model with control variables indicate excellent model fit ($\chi^2/df = 1.87, p = .00$; RMSEA = .06, $p = .11$). In the final fitted multi-group model, the regression coefficients for mothers' depression predicting child internalizing, externalizing, and sexualized behaviors are significantly different according to child sex and mothers' history of sexual abuse. For all groups, maternal depression significantly predicts both child internalizing ($\beta_{MAF} = .26, r = .27, p < .001$; $\beta_{MAM} = .28, r = .32, p < .001$; $\beta_{MNF} = .15, r = .32, p < .001$; $\beta_{MNM} = .17, r = .18, p < .001$) and externalizing ($\beta_{MAF} = .21, r = .22, p < .001$; $\beta_{MAM} = .27, r = .34, p < .001$; $\beta_{MNF} = .16, r = .34, p < .001$; $\beta_{MNM} = .10, r = .10, p < .05$) behavior at age 8. If mothers are very depressed when a child is four then the child's levels of internalizing and externalizing behavior four years later are also high, vice versa. More specifically, this relationship between maternal depression and child-internalizing symptoms is strongest for the MAM group, followed by the MAF group, the MNF group, and finally the MNM group. Maternal depression is most predictive of child externalizing symptoms for the MAM group, followed by the MAF group, the MNM group, and finally the MNF group. In other words, maternal depression has the greatest effect on male children who have mothers who are abused and the least effect of maternal depression is on male children who have mothers who are not abused.

When sexually abused mothers are very depressed when their children are 4 years old, levels of child sexualized behavior is also high when their children are 8 years old, and vice versa for both males ($\beta_{MDEP \rightarrow CSB} = .02, r = .15, p < .001$) and females ($\beta_{MDEP \rightarrow CSB} = .01, r = .07, p < .10$). Mother's depression is most predictive of child sexualized behavior in the MAM group, followed by the MAF group. Mother's depression was not found to be predictive of child

sexualized behavior in the groups with male and female children whose mothers did not have a history of sexual abuse. In other words, maternal depression again has the greatest effect on male children who have mothers who are abused and the least effect of maternal depression is on female children who have mothers who are abused.

Residual variances were constrained to be equal and delta-chi square tests were used to determine whether R^2 values were different across groups. Based on this analysis, the amounts of variance in child internalizing and sexualized behavior are significantly different across groups. Controlling for all else in the model, maternal depression at child age 4 predicts the largest amount of variance in child internalizing behavior in the MAM group (10.4%), followed by the MAF group (7.3%), the MNF group (3.1%), and finally the MNM group (2.1%).

Controlling for all else in the model, maternal depression at child age 4 predicts the largest amount of variance in child sexualized behavior in the MAM group (2.3%), followed by the MNF group (0.6%), the MAF group (0.5%), and lastly the MNM group (0.1%). The amount of variance explained in either child externalizing behavior or child social competence was not found to vary according to group membership.

Discussion

We hypothesized that self-reported maternal depression at child age 4 would predict child internalizing, externalizing, and sexualized behavior, and child social competence four years later, expecting that these relationships would be moderated by child sex and mothers' history of sexual abuse (DiLillo et al., 2000; Dubowitz et al., 2001). Some, but not all, of our results support these hypotheses. Mothers' depression at child age 4 is positively and significantly predictive of child internalizing, externalizing, and sexualized behavior at child age 8. Contrary to our hypotheses, mothers' depression at child age 4 is not predictive of child social competence.

Our results indicate support for previous research that has established that boys often show higher levels of externalizing behavior as compared to girls (Broidy et al., 2003), and that maternal depression predicts child externalizing behavior (Leve, Kim, & Pears, 2005). For example, maternal depression at child age 4 is positively predictive of externalizing behavior for boys and girls whose mothers do have a history of sexual abuse. For females and males whose mothers are not abused a significant, but weaker, relationship exists between mothers' depression and externalizing behavior. On average, more variance in externalizing behavior is predicted by mother's depression if the mother is abused, especially for boys. Perhaps the stronger relationship between mothers' depression and child externalizing behavior is a result of harsh or inconsistent parenting in families where mothers have history of sexual abuse. Mothers who have a history of sexual abuse report both higher levels of harsh parenting and less emotional control (Banyard, 1997; Cole et al., 1992; Roberts et al., 2004), and maternal depression is also

related to such parenting practices (Lovejoy et al., 2000). It may be that our results are evidence of a cumulative effect of maternal depression and history of sexual abuse such that depressed mothers with a history of sexual abuse engage in more harsh and inconsistent parenting behaviors than those depressed mothers without such a history.

Our findings with regard to the relationship between maternal depression and child internalizing symptoms are particularly interesting. Previous research has provided partial evidence that maternal depression may reverse the typical patterns of gender differences in internalizing symptoms with boys of depressed mothers reporting more internalizing symptoms than girls (Watson, Potts, Hardcastle, Forehand, & Compas, 2012). Our results extend such research showing that mothers' history of sexual abuse is a moderator of the relationship between mothers' depression and child internalizing symptoms. We also found that boys have higher levels of internalizing symptoms as Watson and colleagues discussed, however only when mothers have a history of sexual abuse. In our study, mothers who have a history of sexual abuse have higher levels of depression than those who do not have such a history. It may be that a history of sexual abuse is one negative life experience that contributes to higher levels of depression that then reverse gender effects in child internalizing symptoms. Future research should continue to investigate this reversal of effect in order to inform practitioners of possible differences in symptomology depending on family history and functioning.

Contrary to previous research indicating that mothers' history of sexual abuse may be predictive of low levels of social competence, maternal depression at child age 4 is not significantly predictive of child social competence at age 8. Furthermore, no difference exists in the amount of variance in child social competence predicted by maternal depression by child sex and mothers' history of sexual abuse. Perhaps this is evidence of resilience in children's ability

to relate to their peers, or perhaps peer relationships are a separate sphere that independently contributes to child internalizing, externalizing, and sexualized behaviors. Future research should compare child sexualized behavior with other child behavior that may negatively affect peer relationships such as peer aggression or externalizing behavior in order to determine if this behavior is unique in its role as either a predictor or covariate of peer relationship status.

Although some research fails to find gender differences in CSB (Friedrich et al., 2003; Silovsky & Niec, 2002), our results indicate that child sex moderates the relationship between maternal depression and CSB. It may be that the stronger relationship between maternal depression and CSB in boys as compared to girls is related to the stronger relationship between maternal depression and child internalizing symptoms in boys as compared to girls when mothers have a history of sexual abuse. Perhaps boys of very depressed, sexually abused mothers do not know how to cope with their own higher levels of internalizing symptoms and sexualized behavior serves as a means of regulating these emotions. It may be that at very high levels of environmental stress, boys are less adept at regulating their emotions than girls and resort to CSB to soothe themselves (Merrick et al., 2008).

Previous research has established that mothers of children showing higher levels of CSB report a greater range of negative life events as compared to mothers whose children do not show CSB, and our results indicate that the relationship between maternal depression and CSB is moderated by mothers' history of sexual abuse. However, the amount of variance predicted in CSB taking into account all else in our model was small. Despite this fact, our results remain important, as previous research has suggested that we need further investigation of possible predictors of CSB beyond child sexual abuse (Chaffin, 2008). Additionally, our study is one of the first to attempt to predict such behavior rather than merely examining how CSB covaries

with other variables. It may be that maternal behavior, whether independently or as a result of a mothers' emotional adjustment, predicts such behavior. Future research should continue to try to identify alternate predictors of CSB beyond child sexual abuse in order to inform practitioners of possible points at which to intervene with children who show such behavior but do not have a history of sexual abuse.

Across groups, maternal depression predicts the largest amount of variance in child internalizing and sexualized behavior when mothers have a history of sexual abuse and the child is a boy. These findings can be understood in terms of current research on the importance of biology by environment interactions. Wetter and El-Sheikh (2012) found that boys who had higher physiological reactivity whose mothers had higher levels of depression showed higher levels of internalizing symptoms as compared to girls. Perhaps maternal depression is related to child internalizing symptoms is physiological reactivity and/or a mothers' ability to help her children learn to regulate their emotions. Additionally, it may be that mothers with a history of victimization treat their sons differently than their daughters, perhaps being more emotionally dependent on them as a result of their experiences with males.

Although all results must be considered in terms of the small amount of variance in child internalizing, externalizing, and sexualized behavior that is explained by maternal depression, this study provides evidence of the need to consider maternal psychological functioning in the understanding and treatment of child emotional and behavioral difficulties. In fact, the small amount of variance predicted by maternal depression makes sense, as this investigation predicts child emotional and behavioral functioning by a single measure of maternal psychological functioning across four years. Surely, maternal depression is not the only parent level factor that plays a role in these child outcomes, and future investigations should consider the simultaneous

and reciprocal effects of maternal depression and child adjustment as child behavior undoubtedly affects maternal psychological functioning (Civic & Holt, 2000; Wickramaratne et al., 2011).

This investigation is limited as we only examined children whose primary caregiver is their mother, excluding those who are cared for by grandparents, single fathers, and foster parents. Measures are either self or mother report, which may be biased as mothers who are depressed may have skewed perceptions of their children's functioning. Additionally, CSB is difficult to measure because of the social stigma surrounding such behavior. Mothers may underreport to protect their children or they may not be aware of the level of their children's sexualized behavior. Lastly, we did not consider information about the perpetrators of the sexual abuse or the severity and duration of mothers' history of sexual abuse. These limitations are understandable for such a study, but should be addressed in the future if possible.

Strengths of this study include its consideration of the role of maternal depression in predicting multiple levels of children's adjustment: behavioral, emotional, and social. This study is one of the first to investigate children's sexualized behavior as predicted by maternal depression. Furthermore, it is one of only a few studies that look at child sex as a potential moderator of the relationship between these multiple levels of child adjustment. The validity of our findings is strengthened by the large sample size and longitudinal design spanning four years. This study provides a unique contribution to our understanding of the role of mothers' history of sexual abuse and child sexualized behavior since the relationship between mothers' depression at child age 4 and child internalizing, externalizing, and sexualized behavior at child age 8 is different according to child sex and mothers' history of abuse.

Based on previous research, it appears as though the effects of maternal depression are specifically enduring for young children whose mothers have several major depressive episodes,

while older children may be able to adjust their behavior to receive adequate care and support from their depressed caregivers (Elgar et al., 2004; Hammen, & Brennan, 2003; Lovejoy et al., 2000). Additionally, significant improvements in child problem behavior and emotional functioning have been found to result from intervention with depressed mothers (Wickramaratne et al., 2011). Our findings add to such evidence of the value in assessing psychological functioning and intervening early with mothers whose children are showing emotional and behavioral maladjustment, especially when children are displaying CSB.

This study informs the field of child development about the relationship between mother mental health and child behavioral and emotional adjustment. In general, we found that maternal depression predicts child internalizing, externalizing, and sexualized behaviors. These relationships are found to vary according to both child sex as well as mothers' history of sexual abuse. Maternal depression is more predictive of child externalizing and internalizing symptoms in children whose mothers have a history of sexual abuse. Furthermore, this relationship is strongest for sons of mothers with a history of sexual abuse. In conclusion, we found that mothers' depression is related to child behavioral and emotional adjustment, and that child sex and mothers' history of sexual abuse do matter.

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Table 1a

Descriptive statistics for main predictor and outcome variables

	Overall Sample (N=820)		Daughters of Non-Maltreated Moms (n=179)		Sons of Non-Maltreated Moms (n=167)		Daughters of Maltreated Moms (n=248)		Sons of Maltreated Moms (n=226)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Main Predictors (Age 4)										
MDEP	14.29	11.24	12.88	10.08	12.93	10.45	16.26	12.42	16.09	12.42
Outcomes (Age 8)										
CEXT	11.87	8.73	9.51	7.68	11.39	9.03	14.85	8.71	14.85	8.71
CINT	6.94	6.31	5.71	5.39	6.20	6.45	8.52	6.93	8.52	6.93
CSB	0.11	.16	.06	.12	.10	.15	.16	.19	.16	.19
SCOM	5.61	1.96	5.71	1.97	5.57	2.02	5.58	2.03	5.57	2.03

Table 1b.

Descriptive statistics for control variables

	Overall Sample (N=820)		Daughters of Non-Maltreated Moms (n=179)		Sons of Non-Maltreated Moms (n=167)		Daughters of Maltreated Moms (n=248)		Sons of Maltreated Moms (n=226)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Total Income	3.07	2.15	3.07	2.21	3.09	2.23	2.90	1.82	3.24	2.27
Mom Education	11.5	1.92	11.61	1.80	11.42	1.84	11.41	1.92	11.54	2.17
Child Sexual Abuse	0.10	0.30	.09	.29	.05	.22	.20	.40	.09	.29

Table 2

Correlations between variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. MD	--									
2. Ext Age 8	.21***	--								
3. Int Age 8	.23***	.65***	--							
4. Soc Age 8	.25***	.62***	.60***	--						
5. CSB Age 8	.06~	.36***	.29***	.29***	--					
6. Income	.22***	-.04	-.03	-.10**	.08*	--				
7. Mom Ed.	.18***	-.06	.02	-.11**	.03	.33***	--			
8. CSA	.06~	.14~	.15***	.16***	.16***	.10**	.10**	--		
9. Mat Abuse	.12***	.20***	.21***	-.10**	.18***	-.00	-.01	.12***	--	
10. Sex	.02	-.10**	.00	.00	-.10**	-.04	.01	.11***	-.01	--

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; ~ $p < .10$

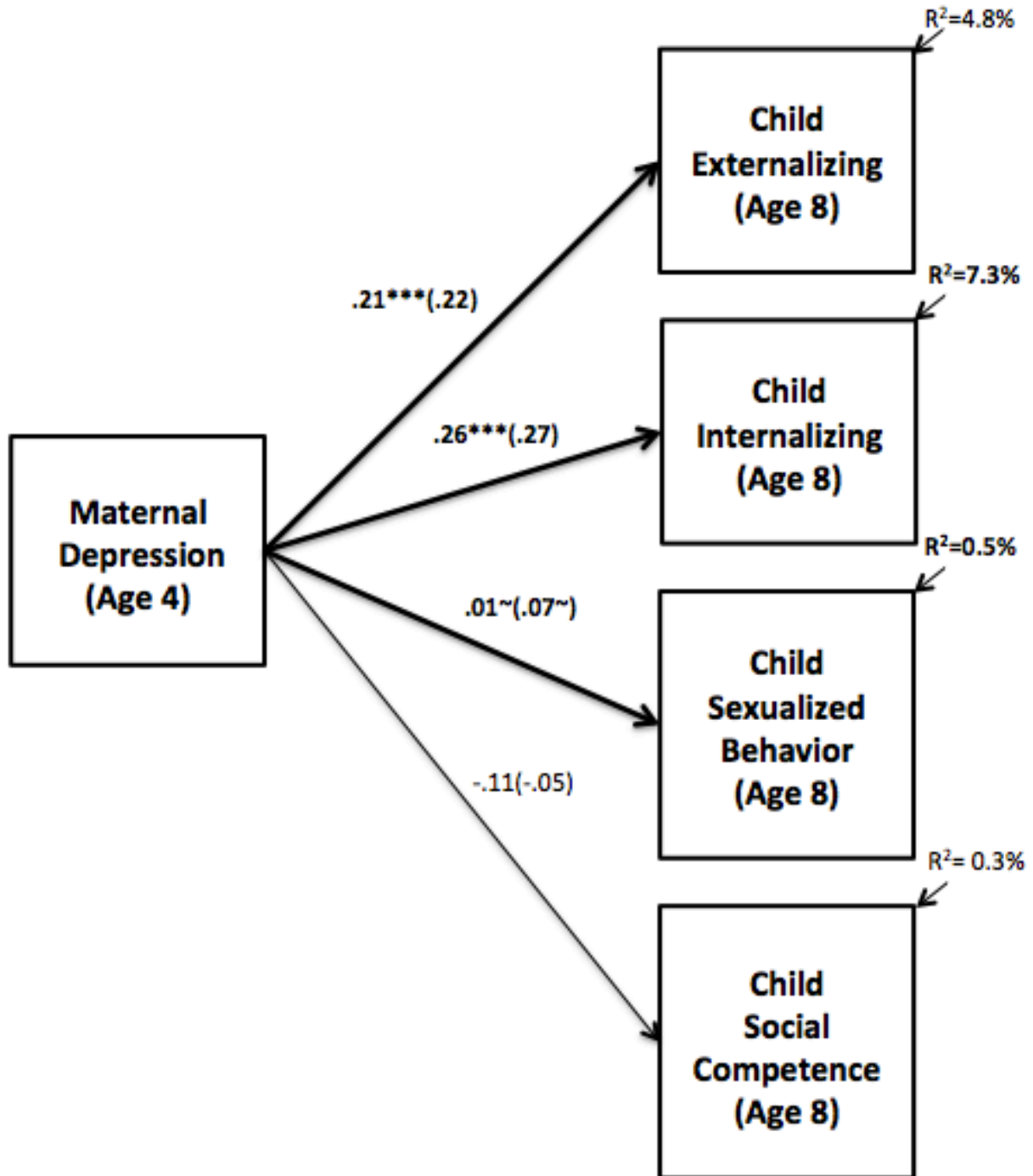


Figure 1. The relationship between maternal depression at child age 4 and child externalizing, internalizing, and sexualized behavior, and child social competence at child age 8 for females with sexually abused mothers. (Pathways and residual variances that differ according to child sex and maternal history of sexual abuse are bolded.)

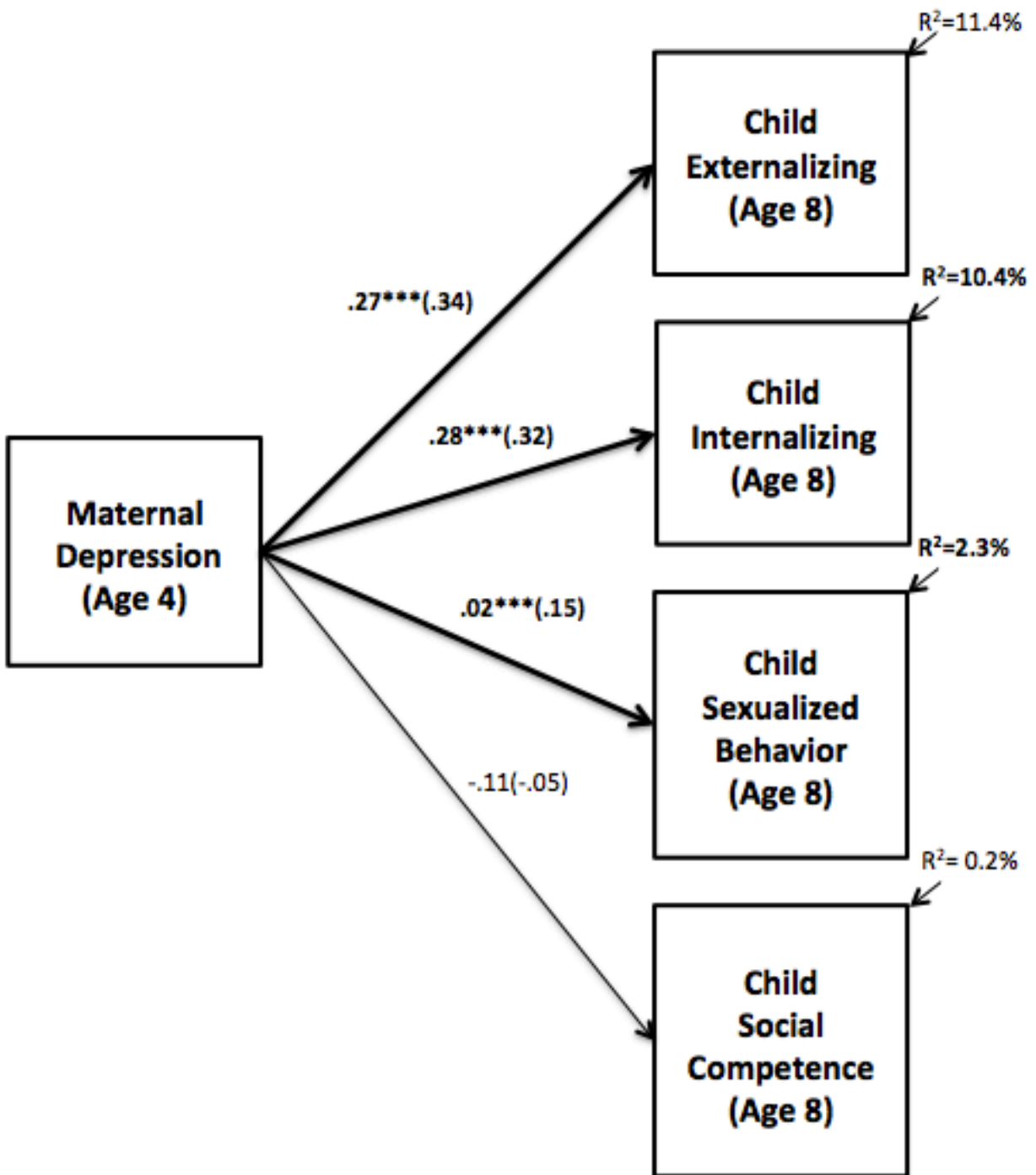


Figure 2. The relationship between maternal depression at child age 4 and child externalizing, internalizing, and sexualized behavior, and child social competence at child age 8 for males with sexually abused mothers. (Pathways and residual variances that differ according to child sex and maternal history of sexual abuse are bolded.)

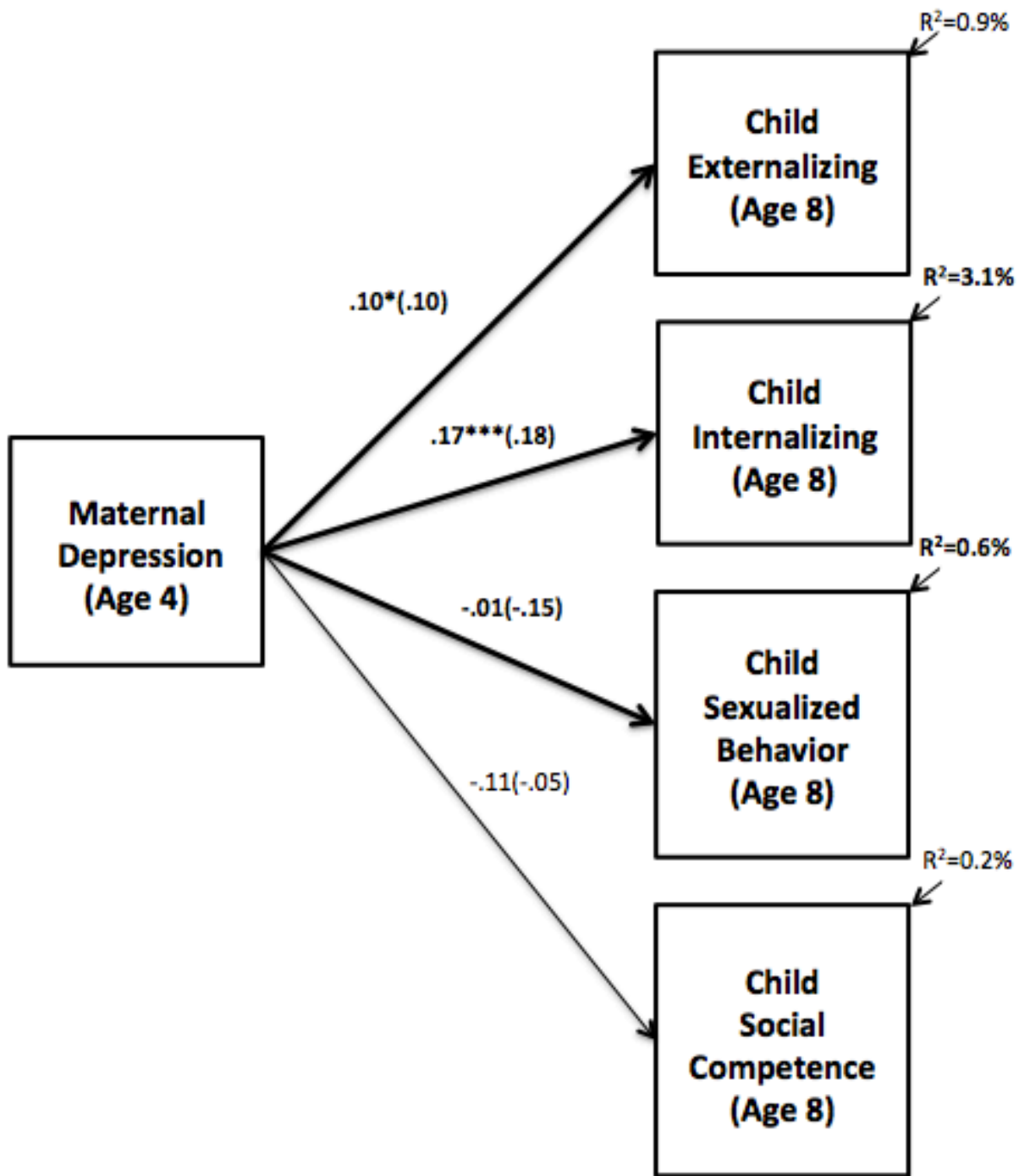


Figure 3. The relationship between maternal depression at child age 4 and child externalizing, internalizing, and sexualized behavior, and child social competence at child age 8 for females with non-sexually abused mothers. (Pathways and residual variances that differ according to child sex and maternal history of sexual abuse are bolded.)

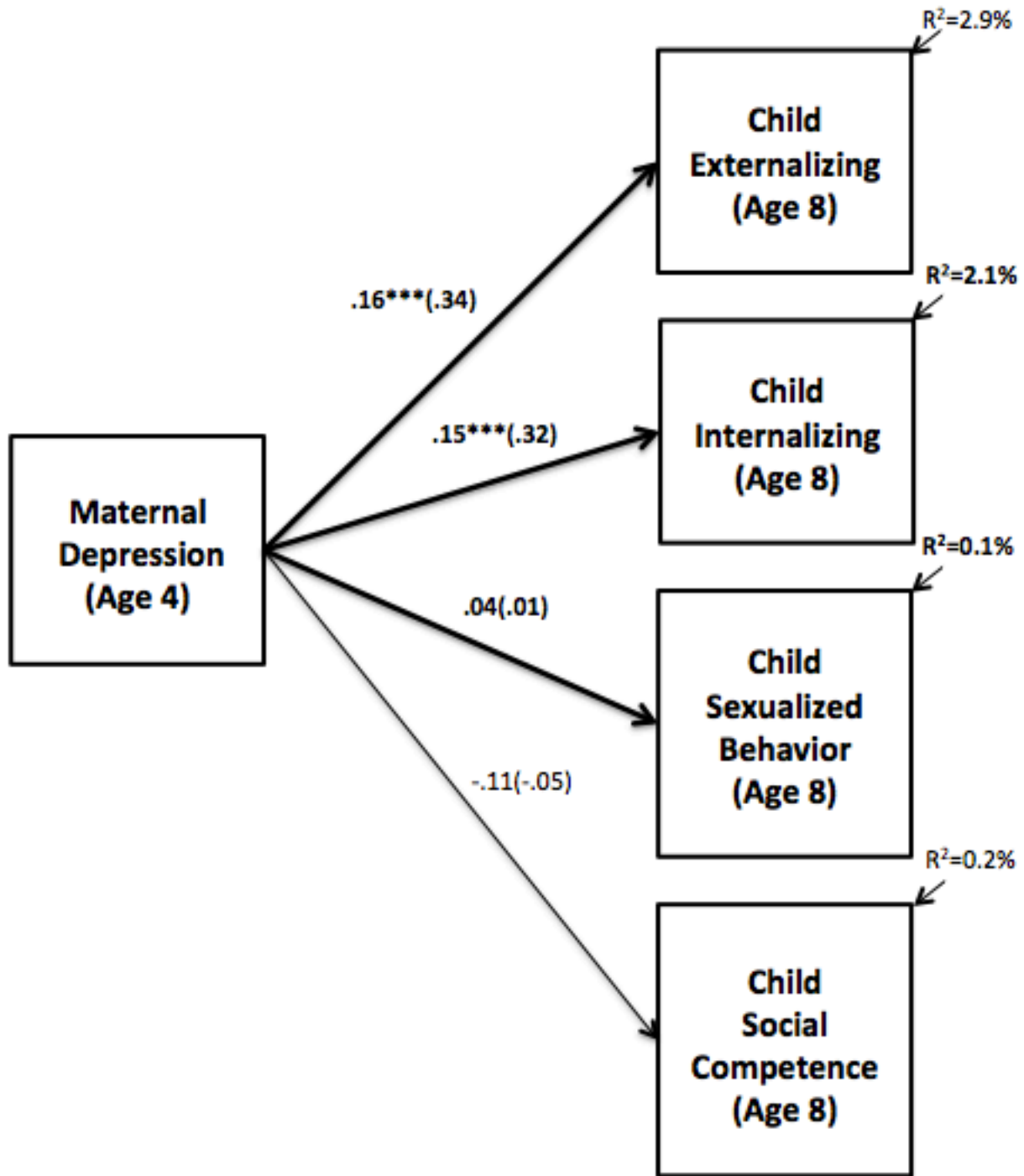


Figure 4. The relationship between maternal depression at child age 4 and child externalizing, internalizing, and sexualized behavior, and child social competence at child age 8 for males with non-sexually abused mothers. (Pathways and residual variances that differ according to child sex and maternal history of sexual abuse are bolded.)

LONGSCAN Visit 0 – 6 Data Dictionary

CES-D Scale – DEPA				
Variable Name	Format	Variable Description	Coding if Categorical	
ID	Char	LONGSCAN Subject ID		
CENTER	Char	LONGSCAN Field Center	EA = East MW = Mid West SO = South SW = South West NW = North West	
VISIT	Num	Visit Number	EA = 4,6 MW = 1,4,6 SO = 4,6 SW = 4,6 NW = 0,1,2,3,4,6	
DEPA1	Num	In the last week: I was bothered by things that usually don't bother me.	0 = Rarely or none of the time (or < 1 day) 1 = Some or a little of the time (or 1 – 2 days) 2 = Occasionally or a moderate amount of time (or 3 – 4 days) 3 = Most or all of the time (or 5 – 7 days)	
DEPA2	Num	In the last week: I did not feel like eating; my appetite was poor.		
DEPA3	Num	In the last week: I felt that I could not shake off the blues even with help from my family and friends.		
DEPA4	Num	In the last week: I felt that I was just as good as other people.		
DEPA5	Num	In the last week: I had trouble keeping my mind on what I was doing.		
DEPA6	Num	In the last week: I felt depressed.		
DEPA7	Num	In the last week: I felt everything I did was an effort.		
DEPA8	Num	In the last week: I felt hopeful about the future.		
DEPA9	Num	In the last week: I thought my life had been a failure.		
DEPA10	Num	In the last week: I felt fearful.		
DEPA11	Num	In the last week: My sleep was restless.		
DEPA12	Num	In the last week: I was happy.		
DEPA13	Num	In the last week: I talked less than usual.		
DEPA14	Num	In the last week: I felt lonely.		
DEPA15	Num	In the last week: People were unfriendly.		
DEPA16	Num	In the last week: I enjoyed life.		
DEPA17	Num	In the last week: I had crying spells.		
DEPA18	Num	In the last week: I felt sad.		
DEPA19	Num	In the last week: I felt people disliked me.		
DEPA20	Num	In the last week: I could not get going.		
DEPA21	Char	Interviewer initials.		
DEPA22	Date	Date of interview.		

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
ID	Char	LONGSCAN Subject ID	
CENTER	Char	LONGSCAN Field Center	EA = East MW = Mid West SO = South NW = North West
VISIT	Num	Visit Number	EA = 4 MW = 1,4 SO = 4,6 NW = 0,1,2,3,4,6
VICA1	Num	When you were a child or teenager: Were you ever physically hurt by a parent or someone else like hit, slapped, beaten, shaken, burned, or anything like that?	0 = No 1 = Yes
VICA1A1	Num	When you were a child or teenager: Did you experience physical abuse by parent figure?	
VICA1A2	Num	When you were a child or teenager: How upsetting was physical abuse by parent figure.	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA1B1	Num	When you were a child or teenager: Did you experience physical abuse by other family?	0 = No 1 = Yes
VICA1B2	Num	When you were a child or teenager: How upsetting was physical abuse by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA1C1	Num	When you were a child or teenager: Did you experience physical abuse by non-family?	0 = No 1 = Yes
VICA1C2	Num	When you were a child or teenager: How upsetting was physical abuse by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA2	Num	When you were a child or teenager: Were you ever punished or disciplined by someone in such a way that you were bruised or physically injured?	0 = No 1 = Yes
VICA2A1	Num	When you were a child or teenager: Did you experience excessive punishment by parent-figure?	

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA2A2	Num	When you were a child or teenager: How upsetting was excessive punishment by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA2B1	Num	When you were a child or teenager: Did you experience excessive punishment by other family?	0 = No 1 = Yes
VICA2B2	Num	When you were a child or teenager: How upsetting was excessive punishment by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA2C1	Num	When you were a child or teenager: Did you experience punishment by non-family?	0 = No 1 = Yes
VICA2C2	Num	When you were a child or teenager: How upsetting was excessive punishment by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA3	Num	Before you were age 13: Did anyone older than you ever try or succeed in touching your breasts or genitals?	0 = No 1 = Yes
VICA3A1	Num	Before you were age 13: Were you fondled by parent figure?	
VICA3A2	Num	Before you were age 13: How upsetting was fondling by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA3B1	Num	Before you were age 13: Were you fondled by other family?	0 = No 1 = Yes
VICA3B2	Num	Before you were age 13: How upsetting was fondling by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA3C1	Num	Before you were age 13: Were you fondled by non-family?	0 = No 1 = Yes
VICA3C2	Num	Before you were age 13: How upsetting was fondling by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA4	Num	Before you were age 13: Did anyone older than you ever try or succeed in getting you to touch their genitals?	0 = No 1 = Yes
VICA4A1	Num	Before you were age 13: Did you experience forced fondling by parent figure?	
VICA4A2	Num	Before you were age 13: How upsetting was forced fondling by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA4B1	Num	Before you were age 13: Did you experience forced fondling by other family?	0 = No 1 = Yes
VICA4B2	Num	Before you were age 13: How upsetting was forced fondling by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA4C1	Num	Before you were age 13: Did you experience forced fondling by non-family?	0 = No 1 = Yes
VICA4C2	Num	Before you were age 13: How upsetting was forced fondling by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA5	Num	Before you were age 13: Did anyone ever try or succeed in having any kind of sexual intercourse?	0 = No 1 = Yes
VICA5A1	Num	Before you were age 13: Did you experience forced sexual intercourse by parent figure?	
VICA5A2	Num	Before you were age 13: How upsetting was forced sexual intercourse by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA5B1	Num	Before you were age 13: Did you experience forced sexual intercourse by other family?	0 = No 1 = Yes
VICA5B2	Num	Before you were age 13: How upsetting was forced sexual intercourse by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA5C1	Num	Before you were age 13: Did you experience forced sexual intercourse by non-family?	0 = No 1 = Yes

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA5C2	Num	Before you were age 13: How upsetting was forced sexual intercourse by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA6	Num	When you were a teen: Did anyone ever touch your breasts or genitals, against your wishes?	0 = No 1 = Yes
VICA6A1	Num	When you were a teen: Did you experience forced fondling by parent figure?	0 = No 1 = Yes
VICA6A2	Num	When you were a teen: How upsetting was forced fondling by parent-figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA6B1	Num	When you were a teen: Did you experience forced fondling by other family against your wishes?	0 = No 1 = Yes
VICA6B2	Num	When you were a teen: How upsetting was forced fondling by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA6C1	Num	When you were a teen: Did you experience forced fondling by non-family?	0 = No 1 = Yes
VICA6C2	Num	When you were a teen: How upsetting was forced fondling by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA7	Num	When you were a teen: Did anyone ever force you to touch their genitals, against your wishes?	0 = No 1 = Yes
VICA7A1	Num	When you were a teen: Were you forced to fondle by parent figure?	0 = No 1 = Yes
VICA7A2	Num	When you were a teen: How upsetting was forced fondling by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA7B1	Num	When you were a teen: Were you forced to fondle by other family?	0 = No 1 = Yes
VICA7B2	Num	When you were a teen: How upsetting was forced fondling by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA7C1	Num	When you were a teen: Were you forced to fondle by non-family?	0 = No 1 = Yes

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA7C2	Num	When you were a teen: How upsetting was forced fondling by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA8	Num	When you were a teen: Did anyone ever force you to have sexual intercourse against your wishes?	0 = No 1 = Yes
VICA8A1	Num	When you were a teen: Were you forced to have sexual intercourse by parent figure?	0 = No 1 = Yes
VICA8A2	Num	When you were a teen: How upsetting was forced sexual intercourse by parent figure?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA8B1	Num	When you were a teen: Were you forced to have sexual intercourse by other family?	0 = No 1 = Yes
VICA8B2	Num	When you were a teen: How upsetting was forced sexual intercourse by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA8C1	Num	When you were a teen: sex Were you forced to have sexual intercourse by non-family?	0 = No 1 = Yes
VICA8C2	Num	When you were a teen: How upsetting was forced sexual intercourse by non-family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA9	Num	Since you've been an adult: Have you ever been hit, slapped, beaten, or pushed around by someone?	0 = No 1 = Yes
VICA9A1	Num	Since you've been an adult: Have you been physically abused by husband/partner?	
VICA9A2	Num	Since you've been an adult: How upsetting was physical abuse by husband/partner?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA9B1	Num	Since you've been an adult: Have you been physically abused physically abused by other family?	0 = No 1 = Yes
VICA9B2	Num	Since you've been an adult: How upsetting was physical abuse by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA9C1	Num	Since you've been an adult: Have you been physically abused by acquaintance?	0 = No 1 = Yes
VICA9C2	Num	Since you've been an adult: How upsetting was physical abuse by acquaintance?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA9D1	Num	Since you've been an adult: Have you been physically abused by stranger?	0 = No 1 = Yes
VICA9D2	Num	Since you've been an adult: How upsetting was physical abuse by stranger?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA10	Num	Since you've been an adult have you been physically hurt or physically threatened by someone in any other way?	0 = No 1 = Yes
VICA10A1	Num	Since you've been an adult: Have you experienced other physical abuse by husband/ partner?	
VICA10A2	Num	Since you've been an adult: How upsetting was other physical abuse by husband/ partner?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA10B1	Num	Since you've been an adult: Have you experienced other physical abuse by other family?	0 = No 1 = Yes
VICA10B2	Num	Since you've been an adult: How upsetting was other physical abuse by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA10C1	Num	Since you've been an adult: Have you experienced other physical abuse by acquaintance?	0 = No 1 = Yes
VICA10C2	Num	Since you've been an adult: How upsetting was other physical abuse by acquaintance?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA10D1	Num	Since you've been an adult: Have you experienced other physical abuse by stranger?	0 = No 1 = Yes

LONGSCAN Visit 0 – 6 Data Dictionary

Caregiver Victimization History – VICA			
Variable Name	Format	Variable Description	Coding if Categorical
VICA10D2	Num	Since you've been an adult: How upsetting was other physical abuse by stranger?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA11	Num	Since you've been an adult: Has anyone ever sexually assaulted or raped you?	0 = No 1 = Yes
VICA11A1	Num	Since you've been an adult: Have you been sexually assaulted or raped by husband/ partner?	1 = Yes
VICA11A2	Num	Since you've been an adult: How upsetting was sexual assault or rape by husband?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA11B1	Num	Since you've been an adult: Have you experienced other physical abuse by other family?	0 = No 1 = Yes
VICA11B2	Num	Since you've been an adult: How upsetting was sexual assault or rape by other family?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA11C1	Num	Since you've been an adult: Have you experienced other physical abuse by acquaintance?	0 = No 1 = Yes
VICA11C2	Num	Since you've been an adult: How upsetting was sexual assault or rape by acquaintance?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA11D1	Num	Since you've been an adult: Have you experienced other physical abuse by a stranger?	0 = No 1 = Yes
VICA11D2	Num	Since you've been an adult: How upsetting was sexual assault by stranger?	1 = Not at all 2 = A little 3 = Somewhat 4 = Very
VICA12	Char	Interviewer initials.	
VICA13	Date	Date of interview.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBBB)			
Variable Name	Format	Variable Description	Coding if Categorical
ID	Char	LONGSCAN Subject ID	
CENTER	Char	LONGSCAN Field Center	EA = East MW = Midwest SO = South SW = Southwest NW = Northwest
VISIT	Num	Visit Number	EA = 4,6,8 MW = 4,6,8 SO = 4,6,8 SW = 4,6,8 NW = 4,6,8
FORM	Char	Form the Data was collected in	CBB, CBC
Description of child or youth			
CBCL1	Num	Acts too young for his/ her age.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL2	Num	Allergy	
CBCL3	Num	Argues a lot.	
CBCL4	Num	Asthma.	
CBCL5	Num	Behaves like opposite sex.	
CBCL6	Num	Bowel movements outside toilet.	
CBCL9	Num	Can't get his/ her mind off certain thoughts.	
CBCL10	Num	Can't sit still, restless, or hyperactive.	
CBCL11	Num	Clings to adults or too dependent.	
CBCL12	Num	Complains of loneliness.	
CBCL13	Num	Confused or seems to be in a fog.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL14	Num	Cries a lot.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL15	Num	Cruel to animals.	
CBCL16	Num	Cruelty, bullying, or meanness to others.	
CBCL17	Num	Daydreams or gets lost in his/ her thoughts.	
CBCL18	Num	Deliberately harms self or attempts suicide.	
CBCL19	Num	Demands a lot of attention.	
CBCL20	Num	Destroys his/ her own things.	
CBCL21	Num	Destroys things belonging to his/ her family or others.	
CBCL22	Num	Disobedient at home.	
CBCL23	Num	Disobedient at school.	
CBCL24	Num	Doesn't eat well.	
CBCL25	Num	Doesn't get along with other kids.	
CBCL26	Num	Not seem to feel guilty after misbehaving.	
CBCL27	Num	Easily jealous.	
CBCL28	Num	Eats-drinks not food – don't include sweets.	
CBCL29	Num	Fears certain animal, situations, or places other than school.	
CBCL30	Num	Fears going to school.	
CBCL31	Num	Fears he/ she might think or do something bad.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL32	Num	Feels he or she has to be perfect.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL33	Num	Feels or complains that no one loves him/ her.	
CBCL34	Num	Feels others out to get him/ her.	
CBCL35	Num	Feels worthless or inferior.	
CBCL36	Num	Gets hurt a lot, accident-prone.	
CBCL37	Num	Gets in many fights.	
CBCL38	Num	Gets teased a lot.	
CBCL39	Num	Hangs around with others who get in trouble.	
CBCL40	Num	Hears sounds or voices that aren't there.	
CBCL41	Num	Impulsive or acts without thinking.	
CBCL42	Num	Would rather be alone than with.	
CBCL43	Num	Lying or cheating.	
CBCL44	Num	Bites fingernails.	
CBCL45	Num	Nervous, high-strung, or tense.	
CBCL46	Num	Nervous movements or twitching.	
CBCL47	Num	Nightmares.	
CBCL48	Num	Not liked by other kids.	
CBCL49	Num	Constipated, doesn't move bowels.	
CBCL50	Num	Too fearful or anxious.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL51	Num	Feels dizzy.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL52	Num	Feels too guilty.	
CBCL53	Num	Overeating.	
CBCL54	Num	Overtired.	
CBCL55	Num	Overweight.	
CBCL56A	Num	Physical problems without known medical cause - Aches or pains. (not headaches)	
CBCL56B	Num	Physical problems without known medical cause - Headaches.	
CBCL56C	Num	Physical problems without known medical cause - Nausea, feels sick.	
CBCL56D	Num	Physical problems without known medical cause - Problems with eyes.	
CBCL56E	Num	Rashes or skin problems.	
CBCL56F	Num	Stomachaches or cramps.	
CBCL56G	Num	Vomiting, throwing up.	
CBCL56H	Num	Other problem.	
CBCL57	Num	Physically attacks people.	
CBCL58	Num	Picks nose, skin, or other parts of body.	
CBCL59	Num	Plays with sex parts in public.	
CBCL60	Num	Plays with sex parts too much.	
CBCL61	Num	Poor school work.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL62	Num	Poorly coordinated or clumsy.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL63	Num	Prefers older kids.	
CBCL64	Num	Prefers younger kids.	
CBCL65	Num	Refuses to talk.	
CBCL66	Num	Repeats certain acts over and over; compulsions.	
CBCL67	Num	Runs away from home.	
CBCL68	Num	Screams a lot.	
CBCL69	Num	Secretive, keeps things to self.	
CBCL70	Num	Sees things that aren't there.	
CBCL71	Num	Self-conscious or easily embarrassed.	
CBCL72	Num	Sets fires.	
CBCL73	Num	Sexual problems.	
CBCL74	Num	Showing off or clowning.	
CBCL75	Num	Shy or timid.	
CBCL76	Num	Sleeps less than most kids.	
CBCL77	Num	Sleeps more than most kids during day and/ or night.	
CBCL78	Num	Smears or plays with bowel movement.	
CBCL79	Num	Speech problem.	
CBCL80	Num	Stares blankly.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL81	Num	Steals at home.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL82	Num	Steals outside home.	
CBCL83	Num	Stores up things he/ she doesn't need.	
CBCL84	Num	Strange behavior.	
CBCL85	Num	Strange ideas.	
CBCL86	Num	Stubborn, sullen, irritable.	
CBCL87	Num	Sudden changes in mood or feelings.	
CBCL88	Num	Sulks a lot.	
CBCL89	Num	Suspicious.	
CBCL90	Num	Swearing or obscene language.	
CBCL91	Num	Talks about killing self.	
CBCL92	Num	Talks or walks in sleep.	
CBCL93	Num	Talks too much.	
CBCL94	Num	Teases a lot.	
CBCL95	Num	Temper tantrums or hot temper.	
CBCL96	Num	Thinks about sex too much.	
CBCL97	Num	Threatens people.	
CBCL98	Num	Thumb-sucking.	
CBCL99	Num	Too concerned with neatness or cleanliness.	

CBCL Item Level Data – CBCL (Combined Data Set includes CBB, CBC, CBBA, CBB and CBB)			
Variable Name	Format	Variable Description	Coding if Categorical
CBCL100	Num	Trouble sleeping.	0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true
CBCL101	Num	Truancy skips school.	
CBCL102	Num	Underactive, slow moving, or lacks energy.	
CBCL103	Num	Unhappy, sad, or depressed.	
CBCL104	Num	Unusually loud.	
CBCL105	Num	Alcohol or drugs for nonmedical purposes.	
CBCL106	Num	Vandalism.	
CBCL107	Num	Wets self during day.	
CBCL108	Num	Wets the bed.	
CBCL109	Num	Whining.	
CBCL110	Num	Wishes to be of opposite sex.	
CBCL111	Num	Withdrawn, doesn't get involved with others.	
CBCL112	Num	Worries.	
CBCL113	Num	Other problems.	
CBCL115	Date	Date of interview.	MM/DD/YY

Child Sexual Behavior – SBA			
Variable Name	Format	Variable Description	Coding if Categorical
ID	Char	LONGSCAN Subject ID	
CENTER	Char	LONGSCAN Field Center	EA = East MW = Midwest SO = South SW = Southwest NW = Northwest
VISIT	Num	Visit Number	EA = 8 MW = 8 SO = 8 SW = 8 NW = 8
SBA1	Num	First of all would you say that [child] knows more about sex than other children his/ her age?	0 = No, knows less or about the same 1 = Knows a little bit more 2 = Knows a fair amount more 3 = Knows a lot more
Recently in the last six months			
SBA2	Num	how often has [child] shown an interest in the opposite sex?	0 = Never 1 = < Once a month 2 = 1 – 3 times a month 3 = At least once a week
SBA3	Num	how often has [child] talked in a flirty way?	
SBA4	Num	how often has [child] masturbated with hand?	
SBA5	Num	how often has [child] drawn sex parts when drawing pictures of people.	
SBA6	Num	how often has [child] made sexual sounds (sighs, moans, heavy breathing, etc.)	
SBA7	Num	how often has [child] asked others to engage in sexual acts with him or her?	
SBA8	Num	how often has [child] touched other people's private parts?	
SBA9	Num	how often has [child] used sexual words?	
SBA10	Num	how often has [child] pretended that dolls or stuffed animals are having sex?	
SBA11	Num	how often has [child] shown private parts to adults?	
SBA12	Num	how often has [child] touched or tried to touch mother's or other women's breasts?	
SBA13	Num	how often has [child] talked about sexual acts?	

Child Sexual Behavior – SBA				
Variable Name	Format	Variable Description	Coding if Categorical	
SBA14	Num	how often has [child] rubbed body against people or furniture?	0 = Never 1 = < Once a month 2 = 1 – 3 times a month 3 = At least once a week	
SBA15	Num	how often has [child] gotten upset when adults are kissing or hugging?		
SBA16	Num	how often has [child] put mouth on another person's breasts or private parts?		
SBA17	Num	how often has [child] been overly friendly with men s/he doesn't know well?		
SBA18	Num	how often has [child] touched animals' sexual parts?		
SBA19	Num	how often has [child] tried to undress others against their will (opening pants, shirt, etc.)		
SBA20	Num	how often has [child] wanted to watch TV or movies that show nudity or sex?		
SBA21	Num	how often has [child] when kissing, tried to put his/her tongue in other person's mouth?		
SBA22	Num	how often has [child] hugged adults s/he does not know well?		
SBA23	Num	how often has [child] shown private parts to children?		
SBA24	Num	how often has [child] imitated the act of sexual intercourse?		
SBA25	Num	how often has [child] talked about wanting to be the opposite sex?		
SBA26	Num	how often has [child] shown any other sexual behavior?		
SBA26A	Char	Describe other sexual behavior.		
SBA26B	Num	Did respondent answer "never" or (0) to <u>every</u> preceding item?		0 = No 1 = Yes
SBA27	Num	I have never seen my child touch his/ her private parts, even in the privacy of home.	0 = False 1 = True	
SBA28	Num	My child has never shown sexual behavior.		
SBA29	Num	It is normal for children to have sexual feelings and curiosity.		
SBA30	Num	Has s/he showered or bathed with an adult or teenager in the last six months?	0 = No 1 = Yes	
SBA31	Num	Has s/he seen people having sex on TV or in a movie?		
SBA32	Num	Has s/he ever seen people having sex in real life?		
SBA33	Num	Has s/he seen adult magazines like Playboy, Penthouse or hustler?		

Child Sexual Behavior – SBA			
Variable Name	Format	Variable Description	Coding if Categorical
SBA34	Num	To the best of your knowledge, has [child] ever been sexually abused or molested?	0 = No 1 = Yes
SBA35	Num	Has [child] ever been touched in a sexual way by an adult or older child?	
SBA36	Num	Has s/he ever been evaluated by a doctor or mental health professional for possible sexual abuse?	
SBA37	Num	Has s/he ever been reported as possibly having sexually abused to the Department of Social Services?	
SBA38	Char	Interviewer initials.	
SBA39	Date	Date of interview.	MM/DD/YY