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ABSTRACT

CHILD MALTREATMENT AND DEPRESSION: THE ROLE OF SOCIAL SUPPORT

BY

ANDIA MINOO AZIMI

DECEMBER 2018

Committee Chair: Dr. Leah E. Daigle

Major Department: Criminal Justice & Criminology

The goal of the current study is to examine the differential mediating and moderating effects of social support on depression after experiencing child maltreatment. The differential effects of social support will be examined by source and type of social support. Differences across gender will also be examined. It is expected that experiencing child maltreatment will increase the probability of depression, but social support in general is expected to mediate and moderate the relationship between maltreatment and depression. Emotional social support, especially from family, is expected to have the largest mediating effect on mental health outcomes among maltreatment victims compared (Cohen & Willis, 1985; Thoits, 1995). To investigate these relationships, data are used from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Structural equation modeling will be used to analyze the hypotheses. Directions for future research and policy implications will be discussed.

CHILD MALTREATMENT AND DEPRESSION: THE ROLE OF SOCIAL SUPPORT

BY

ANDIA MINOO AZIMI

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree
of
Doctor of Philosophy
in the
Andrew Young School of Policy Studies
of
Georgia State University

GEORGIA STATE UNIVERSITY
2018

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Andia Minoo Azimi
2018

ACCEPTANCE

This dissertation was prepared under the direction of Andia Azimi's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminal Justice & Criminology in the Andrew Young School of Policy Studies of Georgia State University.

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December, 2018

DEDICATION

This dissertation is dedicated to my parents, whose sacrifices for me and my brother are beyond measure. Without your love and support I would not be the person I am today. Thank you for showing me the way. I love you both.

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Chapter 1: Introduction

Child maltreatment is a pervasive social issue. Recent estimates show that the rate of child maltreatment in the U.S. population is 9.4 per 1,000 children (DHHS, 2016). Moreover, 1 in 25 children are estimated to experience maltreatment or are at risk for maltreatment (Sedlak et al., 2010). The most common forms of maltreatment that children experience are psychological maltreatment (Straus & Field, 2003) and neglect (Finkelhor, Ormrod, Turner, & Hamby, 2005; Hussey et al., 2006). When violence occurs, it is most likely to be minor assault, such as slapping, spanking, and pinching a child (Barnett, Miller-Perrin, & Perrin, 2005; Gelles & Straus, 1987). A small portion of children, however, experience more serious forms of maltreatment, such as physical abuse and sexual abuse (Barnett et al., 2005).

The experience of maltreatment early in life may be traumatic and can cause many difficulties for an individual. For example, issues with overall psychological well-being are more common among victims of maltreatment than compared to the general population. In addition to the issues of general mental health, specific internalizing symptoms are also common among this population (Cooke & Weathington, 2014; Blanco et al., 2015; Fergusson, Horwood, & Lynskey, 1996). Withdrawal, somatic complaints, anxiety, and depression are considered to be internalizing symptoms, with depression being a common one reported among victims of maltreatment (Beitchman, Zucker, Hood, DaCosta, & Akman, 1991; Beitchman, Zucker, Hood, DaCosta, Akman, & Cassavia, 1992; Cooke & Weathington, 2014; Gilbert, Widom, Browne, Fergusson, Webb, & Janson, 2008). The development of depression symptoms can either occur in the short-term (immediately after the incident) or in the long-term (later in the life course) (Barnett et al., 2005; Levesque, 2014), and since these issues can arise at any time it is important understand why they develop.

Although depression as an outcome of interest is usually not a focus within criminology, it is important to understand how it relates to experiences of child maltreatment. Specifically, it is important to understand why some individuals who are exposed to maltreatment go on to develop depression while others do not. When the pathways from maltreatment and depression are better understood, it can better help inform who will be at risk for the negative consequences related to child maltreatment. Further, because depression is associated with a host of negative consequences, understanding why certain people develop depression in the face of early life adversity and others do not is important. For instance, depression is related to repeat victimization later in life, and exposure to maltreatment exacerbates this risk (Day, Hart, Wanklyn, McCay, Macpherson, & Burnier, 2013). Depression has also been shown to be related to criminal offending (Mallett, Stoddard Dare, & Seck, 2009; Peterson, Skeem, Kennealy, Bray, & Zvonkovic, 2014). Thus, focusing on depression can inform our understanding of victimization and criminality, and therefore needs to be fully examined.

Perhaps the best way to understand why some individuals develop depression after exposure to child maltreatment is through examining protective factors rather than risk factors as a way to understand resiliency. Although the prevalence of depression is elevated among those who experience child maltreatment, there is evidence that some people who are exposed to child maltreatment can avoid negative outcomes like depression (Lynskey & Fergusson, 1997). Within a resiliency framework there is an emphasis on certain protective factors. These protective factors are thought to function in specific ways that will help the person be resilient in the face of trauma. There are two mechanisms through which protective factors can affect depression among victims of child maltreatment: a moderating mechanism and a mediation mechanism. Several personal, event-specific, and interpersonal factors are shown to moderate the potential negative

effects of child maltreatment (Beitchman et al., 1991; Beitchman et al., 1992; Linley, & Joseph, 2004; Lynskey & Fergusson 1997; Moran & Eckenrode, 1992). Similar factors are also shown to play a role in protecting individuals by mediating the relationship between child maltreatment and depression (Schumm, Briggs-Phillips, & Hobfoll, 2006; Ullman, 1999; Mason, Ullman, Long, Long, & Starzynski, 2009). In addition, some evidence suggests that moderating and mediating effects differ among men and women (Powers, Ressler, & Bradley, 2009).

Although several factors are identified as salient in protecting those exposed to maltreatment from the development of depression, several issues with the research in this area hinder complete understating of this process. The most critical issue to address involves the lack of a guiding theoretical framework. The research on what protects individuals from depression after experiencing child maltreatment has developed in a piece-meal fashion without a clear organizing framework. Thus, the understanding of the factors that are specifically linked to depression among victims of child maltreatment is limited. This oversight seems especially problematic given that evidence suggests only certain factors are directly related to depression (Spaccarelli, & Kim, 1995). It is important to identify these specific factors to better understand and respond to experiences of child maltreatment.

A promising area of focus involves specific interpersonal factors, such as social support, that may protect individuals from the harms associated with child maltreatment. Social support is argued to be the most important psychological resource externally available to an individual (Thoits, 1992;1995). Experiencing it from an early age sets a person on a life-course trajectory that has the potential to protect them from several negative outcomes, such as the development of depression after exposure to child maltreatment. Social support has been proposed as a framework to understand crime reduction and how the pains of victimization can be lessened

(Cullen, 1994). Cullen's social support framework explicitly focuses on victimization and expands on the reasons why social support would be beneficial for victims of crime in terms of helping them adjust. This framework can be applied to the study of depression among victims of child maltreatment to better understand why some people do not develop such issues.

Therefore, the goal of this dissertation is to use Cullen's social support framework to better understand the link between child maltreatment and depression. In chapter two, the concept of child maltreatment is defined and its prevalence among the U.S. population is discussed. The next section of this chapter concerns depression and its link to maltreatment. Chapter three focuses on protective factors that may play a role in the link between maltreatment and depression. Specific attention is given to social support and Cullen's (1994) framework, and social support's moderating and mediating effects. Potential gender differences in the effects of social support are also discussed.

The methods for the current study are covered in chapter four. First, the National Longitudinal Study of Adolescent to Adult Health (Add Health) data are discussed. The measures that will be used for the analysis are then presented and discussed. Following this discussion, the analytic plan for the dissertation is presented for three separate analytical models. These models are examined and then discussed in the results section. The first analytical model examines the mediating effects of social support on depression after experiencing child abuse. The mediating effects of social support will be examined by source and type of support. The main research question is: does social support mediate the link between child maltreatment and depression, and does it depend on the source and type of support?

The second analytical model examines the differential mediating-moderating effects of social support on depression after experiencing child maltreatment. Adding to the mediating

model from the first analytical model, the moderating effects of social support will be examined by source and type of support. The main research questions are: which sources and types of social support buffer the negative effects of child maltreatment on depression?

In the third and final analytical model, focus is given to determining how the mediating effects of social support on depression differ among males and females, and to identify the most salient forms of social support for both groups. The main research question is: do sources and types of social support differ for male and female victims in the ways they mediate the link between victimization and depression? Chapter eight will conclude the dissertation with a general discussion of the findings. Implications for future research and policy are also discussed.

Chapter 2: Child Maltreatment

Types of Maltreatment

Child maltreatment includes both abuse and neglect. Abuse entails actions that are done to a child, whereas neglect entails what a person fails to do for a child. Abusive actions include physical abuse, sexual abuse, and psychological maltreatment (Barnett et al., 2005). Examples of physical abuse are hitting, burning, slapping, and kicking (Saisan, Smith, & Segal, 2011). Child sexual abuse includes rape, sexual assault, molestation, prostitution, or sexual exploitation of a child. When one involves children in sexually explicit behavior or simulation that produces a visual depiction of such behavior it is also considered child sexual abuse. Psychological maltreatment includes rejecting the child, degrading the child (i.e. verbal abuse), terrorizing the child, isolating the child, encouraging anti-social behavior in the child, exploiting the child, and ignoring the child. Although not physically harmful, child psychological maltreatment may be damaging to the child's mental health and social development. This type of abuse many times leaves psychological scars that last a lifetime (Barnett et al., 2005; Saisan, et al., 2011).

Child neglect occurs when parents or caregivers do not provide the child's basic needs. As with physical abuse, child neglect can take several forms. Physical child neglect occurs when parents or caregivers fail to provide necessary food or shelter or provide appropriate supervision. Medical child neglect is a failure to provide necessary medical or mental health treatment. Educational child neglect is a failure to educate a child or attend to special educational needs. Finally, emotional child neglect is failure to provide psychological care to meet the child's emotional needs or allowing the child to use alcohol or other drugs (Barnett et al., 2005).

Extent of Child Maltreatment

Official statistics. Child maltreatment is hard to detect, which makes the true extent of it difficult to know (Straus & Hamby, 1997). Many times, the child is too young to verbalize what is happening to them. Also, if the parent or other family members are the perpetrator, the abuse is unlikely to be reported. The fear of getting a parent in trouble can deter the child from speaking up about the abuse. Since child maltreatment usually occurs between family members, it is less likely that other people will report to the authorities.

Despite the issues with reporting, all states in the U.S. have some form of mandatory reporting law for suspected cases of child maltreatment. These laws require that certain individuals report to authorities if they suspect a child is a victim of maltreatment. Individuals who work with children like teachers, day-care workers, mental health care providers, and social workers are typically mandatory reporters (Barnett et al., 2005). Most of the information regarding the extent of child maltreatment, therefore, comes from official data sources that reflect these reports. Using these reports, two main national data sources on child maltreatment exist: The National Child Abuse and Neglect Data System (NCANDS) and the National Incidence Study (NIS) (DHHS, 2016; Sedlak et al., 2010).

The NCANDS provides annual data on child abuse and neglect reports made to state child protective service agencies. Once reports of maltreatment are made to a child protective service agency, reports are either screened in for further attention or screened out due to lack of insufficient evidence. Data from states reporting child maltreatment in 2014 indicates that 702,000 children were victims, with a rate of child maltreatment of 9.4 per 1,000 children in the U.S. population. The majority of these victims were neglected (75%), 17% of victims were physically abused, and 8.3% of victims were sexually abused (DHHS, 2016).

Similar to the NCANDS, the NIS collects data from Child Protective Services, but cases on other children who were not reported to child protective agencies or were screened out of child protective agencies are also included. To be included in the data this way, children are identified as maltreatment victims by community professionals, referred to as sentinels. According to the NIS-4 (latest estimates), more than 1.25 million children experienced maltreatment that resulted in harm during 2005-2006. When using a less restrictive definition that includes children who were not yet harmed but at risk of harm due to maltreatment, NIS-4 estimates show that 1 in 25 children (nearly 3 million) children experienced maltreatment or were at risk for maltreatment during the study period. More than 77% of these children were neglected and 29% were abused. Most abused children were physically abused (57%), 36% reported emotional abuse, and 22% were sexually abused (Sedlak et al., 2010). These numbers are comparable to NCANDS in that most child victims experience neglect, yet a significant number of children experience abuse.

Self-report data. In addition to official data sources, surveys of individuals and families across the United States provide researchers with data that can be used to estimate self-reported rates of child maltreatment. It is generally agreed upon that rates of child maltreatment reflected in official data sources are underestimated. Results from self-report surveys show rates that greatly exceed those reported in official statistics (Straus & Hamby, 1997). For instance, the rate of child maltreatment in 1984 was estimated to be 6.8 per 1,000 children. When compared to self-report data, the rate of child maltreatment was 3.6 to 16 times higher than the officially reported rate (Straus & Gelles, 1990). Therefore, self-reported data serve as an alternative to official data sources for child maltreatment rates, and perhaps reflects a more accurate picture of the problem.

Since the 1970s, several nationally representative studies have been conducted among families across the United States. Overall, these studies show that the majority of parents use a form of violence against their children, such as hitting and slapping, but this behavior is not usually considered abusive. Abusive violence, which is defined as an act with a high probability of injuring the child is rare among American families (Gelles & Straus, 1987; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). When violence does occur, it is most likely to be minor assault, such as slapping, spanking, and pinching a child (Barnett et al., 2005; Gelles & Straus, 1987).

Nationally representative studies show that almost half of all parents surveyed report using physical assault at some point in their lifetime to rear their child, but most of these acts are corporal punishment or are not considered to be severe. These behaviors include shaking the child, slapping the child on the face, hitting the child with a fist, kicking the child, and throwing/knocking down the child. Less than 1% report using very severe physical assault against their child, such as beating-up the child, burning the child, or threatening the child with a gun or knife (Barnett et al., 2005; Straus et al., 1998). Data using a nationally representative sample of 2,030 American youth show that the rate of physical abuse that caused injury was 15 per 1,000. Sexual abuse is also a rare occurrence but almost 6% report experiencing it in their lifetime. Nationally representative data shows that for females the rate of sexual assault by a known adult is 11 per 1,000, and for males it is 1 per 1,000 (Barnett et al., 2005).

When asked about using psychological aggression, 90% (n=991) of parents reported that they used one or more forms of psychological aggression against their child in the previous 12 months (child was at least 2 years old). Similarly, for children who were at least 5 years old, 98% of parents reported that they used one or more forms of psychological aggression against their

child in the previous 12 months. The rate for serious psychological aggression, such as threatening the child with violence or cursing at the child, was lower. Only 10 to 20% of parents reported such behavior with their toddlers, and 50% of parents reported such behavior with their teenagers. These figures demonstrate that psychological aggression is a common practice among American parents (Straus & Field, 2003). In fact, more recent data using a nationally representative sample of 2,030 American youth show that 103 per 1,000 children aged 2 to 17 experienced this type of maltreatment. It was also the most common type of maltreatment reported in the sample (Finkelhor, Ormrod, Turner, & Hamby, 2005).

Neglect is also a common type of maltreatment that is self-reported, but numbers vary by type of neglect. For instance, a study using nationally representative data shows that 41% of victims report supervision neglect and about 12% report physical neglect (Hussey, Chang, & Kotch, 2006). Other estimates show that anywhere from 1.4% to 15.4 % of American children experience persistent absence of care or provisions, like food and medical care (Gilbert et al., 2009). The rate of neglect that causes injury is estimated to be 11 per 1,000 American youth (Finkelhor et al., 2005).

Younger individuals may be vulnerable to certain situations, especially those involving family members and close adults, and for this reason they are at risk for maltreatment. The age of the child can pose a risk in some situations. A child at any age can potentially experience child maltreatment, but certain children are at a higher risk compared to others. According to official statistics, younger children are more likely to experience child maltreatment than children of older age. Newborns and children aged 1-year-old have the highest rates of victimization (DHHS, 2016). When examining findings from self-report data, however, a different pattern emerges. For any type of maltreatment, children 13 to 17 years old report the highest rates

compared to younger children. Also, children 13 to 17 years old report the highest rates of physical, sexual, and psychological abuse compared to younger children. Younger children, however, experience neglect at higher rates than older children (Finkelhor et al., 2005). The discrepancy in age as a risk factor for different types of maltreatment may be due to the issues surrounding the reporting child maltreatment discussed previously. Self-report data may give a more accurate picture compared to official statistics, hence the differing conclusions on age.

In addition to age, the race of the child also matters. White children make up the largest percentage of reports (44.0%) from child protective service agencies. Black (22.3%) and Hispanic (20.7%) children are disproportionately represented in reports to agencies, compared to their composition in the general population (DHHS, 2016). Other figures show that rates of maltreatment for Black children are higher than those for White children (Sedlak et al., 2010). Self-report data also shows that Hispanic, Asian American, and Black children are more likely to experience neglect compared to White children (Finkelhor et al., 2005).

The gender of a child also matters. Males and females are equally likely to be victims of child maltreatment; however, females are more likely to experience child sexual abuse compared to males (DHHS, 2016; Sedlak et al., 2010; Gilbert et al., 2009). Males, on the other hand, are more likely to experience injury and death related to injury (DHHS, 2016; Sedlak et al., 2010) and other forms of maltreatment (Gilbert et al., 2009).

It is also important to note that the experiences of neglect and abuse can be qualitatively different. Abuse usually involves deliberate harm to someone either physically or mentally. Neglect, however, does not entail the act of deliberately harming someone. As mentioned above, neglect occurs when one fails to do certain things for a child. Unlike abuse, certain circumstances may be beyond a parent's control that result in neglectful behavior. Perhaps one of

the most visible examples of this occurs among families living below the poverty line and unable to provide basic necessities for their children, such as food, clothes, or even shelter. Although parents may recognize the harm it is causing their children, social circumstances many times hinder the parent from alleviating this burden. It is important to acknowledge the differences between neglect and abuse as they may have differing outcomes. In addition, the child may interpret these experiences differently than those that involve deliberate neglect or abuse. Experiences of intentional child maltreatment may result in more severe outcomes for the child.

Child Maltreatment and Negative Outcomes

The experience of maltreatment in childhood, especially when frequent and long lasting, can result in an array of negative social and health outcomes. Early stressful and traumatic experiences have enduring effects on neuroplasticity and the structural composition of the brain that can lead to issues in development and functioning (Blanco et al., 2015; Cooke & Weathington, 2014; Lovallo, 2016). Research shows that experiences of child maltreatment are associated with reduced cognitive development, deficits in cognitive functioning, low IQ, and low educational attainment (Barnett et al., 2005; Hildyard & Wolfe, 2002; Perez & Widom, 1994). Child maltreatment is also associated with maladaptive behaviors. These behaviors include delinquency or criminal activity, violent behavior, interpersonal violence, and illegal drug use (Barnett et al., 2005; Widom, 1989). In some cases, the negative consequences associated with maltreatment persist well into adulthood (Barnett et al., 2005). Short-term or initial effects of child maltreatment usually occur within two years following the abuse. Long-term effects include outcomes that present two years after the maltreatment (Barnett et al., 2005).

Although it is important to understand all negative outcomes associated with child maltreatment, focus in this section is solely given to depression as it relates to such experiences.

In general, those exposed to child maltreatment tend to report greater problems with mental health and overall well-being compared to those without such histories (Cooke & Weathington, 2014; Blanco et al., 2015; Fergusson et al., 1996; Gilbert et al., 2009; Lynskey & Fergusson, 1997). Specifically, common outcomes among victims of child maltreatment include mood disorders like depression (Barnett et al., 2005; Beitchman et al., 1991; Beitchman et al., 1992; Cooke & Weathington, 2014; Fishbein, 2001). It is clear, then, that experiencing child maltreatment often comes with lasting psychological scars. Understanding the development of these issues and how child maltreatment is connected to depression are crucial pieces in fully understanding the effects of child maltreatment.

Child Maltreatment and Depression

One of the most widely studied internalizing symptoms as it relates to child maltreatment is depression. The symptoms of depression include lowered mood and decreased interest or pleasure in all activities. Overall, this research shows that depression, is strongly linked with exposure to childhood adversity (Beitchman et al., 1991; Beitchman et al., 1992; Cooke & Weathington, 2014; Gilbert et. al 2009; Hussey et al., 2006; Ip et al., 1994; Tuscic, Flander, & Mateskovic, 2013; Kessler & Magee, 1994; Norman et al., 2012). Other research shows that about a quarter to a third of maltreated children meet the criteria for major depression (symptoms of depression present every day for two weeks) by their late 20's, with the onset of depression usually beginning in childhood (Barnett et al., 2005).

There is no clear evidence, however, for a specific effect of any maltreatment. Victims of physical abuse, sexual abuse, neglect, and psychological abuse all report depression following their trauma (Barnett et al., 2005). Factors such as severity of the abuse/neglect, relationship with the perpetrator, and duration of the abuse/neglect; however, also influence the development of

depression among victims of child maltreatment (Gilbert et al 2009; Barnett et al., 2005; Kessler & Magee, 1994). Research shows a dose-response relationship between non-sexual child maltreatment and depression that is influenced by repetition, frequency, and severity of the abuse (Norman et al., 2012).

Child physical abuse and depression. Not only is there robust evidence that depressive disorders afflict child and adolescent victims of physical abuse, but issues with depression also seem to persist decades after the victimization experience (Barnett et al., 2005; Norman et al, 2012; Springer, Sheridan, Kuo, &, Carnes 2007; Springer, 2009). Research using data from the Wisconsin Longitudinal Study, a population-based study of men and women who graduated high school in 1957, demonstrates the long-lasting effects of child physical abuse. Results show that even when controlling for family background and other childhood adversities (i.e. parental drinking problem or parental marital problems) child physical abuse significantly predicted depression decades after the abuse (Springer et al., 2007; Springer, 2009). Shaw and Krause (2002) found similar relationships between these variables. Using data from the National Survey of Midlife Development in the United States (a nationwide sample of adults age 25 to 74), their study found that child physical abuse significantly predicted current depressive symptomology in adulthood.

Child sexual abuse and depression. Depression is shown to be a short-term and long-term outcome among child sexual abuse victims (Barnett et al., 2005; Beitchman, et al., 1991; Beitchman et al., 1992; Putnam, 2003; Tusic et al., 2013). In fact, depression is the most common outcome reported by adults who were sexually abused as children (Barnett et al., 2005). For victims of child sexual abuse, additional factors seem to influence the severity of depression, such as duration and frequency of the abuse, age at onset of abuse, the child-perpetrator

relationship, and the victim's gender. Lifetime prevalence rates of major depression in women who are victims of this type of abuse are usually three to five times higher than women who are not victims (as cited in Putnam, 2003).

Some of the most compelling evidence to date between the association of child sexual abuse and psychological sequela originates from birth cohort studies. For instance, Lynskey and Fergusson (1997) gathered data on a birth cohort of 1,025 New Zealand children studied from birth to the age of 18. They found that exposure to increasingly severe forms of sexual abuse had a positive linear relationship with major depression. Similarly, systematic reviews of the outcomes associated with sexual abuse show that frequency and duration of abuse, abuse involving penetration, force, or violence, and a close relationship to the perpetrator are the most harmful in terms of long-lasting effects of depression on the child (Beitchman, et al., 1991; Beitchman, et al., 1992).

Another birth cohort study examined treatment-seeking behaviors among a sample of 1,612 children 16 years of age and younger, who had been sexually abused. Results show that both male and female victims had significantly higher rates of psychiatric treatment during the study period than general population controls (12.4% v. 3.6%), with rates of major affective disorders (i.e. depression) higher among victims. Male victims were significantly more likely to receive mental health treatment than female victims and showed links to depression that are just as strong as those shown in females. There was no significant difference in the rate of major affective disorders between the two groups of victims (Spataro, Mullen, Burgess, Wells, & Moss, 2004).

Other types of maltreatment and depression. Depression is also identified as a long-term consequence associated with child emotional abuse and child neglect (Barnett et al., 2005;

Tusic et al. 2013). Research on adults in the community shows that those with a history of child neglect report higher symptoms of major depressive disorder compared to adults without histories of neglect (as cited in Barnett et al., 2005). Child emotional abuse is also related to depression later in life, although the specific types of emotional abuse and their relationship to mental health have not been explored (Barnett et al., 2005). Gaps in research are also related to the fact that child emotional abuse tends to co-occur with other forms of abuse, especially physical abuse; making it difficult to isolate specific outcomes of emotional abuse (Tusic et al., 2013).

Conclusion

As demonstrated by this review, there is a large body of evidence that shows the link between experiencing child maltreatment and depression symptoms both in the same developmental time period and later in life. No matter when these issues manifest, it is clear that exposure to child maltreatment can leave lasting psychological scars. Therefore, it is important to understand the link between depression symptoms and child maltreatment.

The relationship, however, between child maltreatment and subsequent depression symptoms is complex. Most studies in this area are correlational. It cannot necessarily be assumed that maltreatment is a direct cause of depression. Child maltreatment many times occurs in conjunction with other problems in the family or in the environment, including drug and alcohol use by family members, parental mental health issues, exposure to marital violence, and low socio-economic status.

In addition, research shows that while those exposed to child abuse are at an increased risk of developing psychiatric and adjustment difficulties, not all individuals exposed to abuse will develop these outcomes. It is not fully understood why some individuals exposed to child

maltreatment develop depression whereas other do not. Research does, however, point to certain factors that may help explain why some people can avoid adverse outcomes associated with maltreatment. The relationship between abuse and negative outcomes many times develops in the absence of certain peer and family relationships (Lynskey & Fergusson, 1997). The nature and quality of interpersonal relationships also seem to be important factors in the link between maltreatment and depression (Fergusson et al., 1996; Lynskey & Fergusson, 1997; Moeller et al., 1993; Mullen et al., 1996). Moreover, research suggests the importance of social support in the link between abuse and mental health (Lynskey & Fergusson, 1997; Moeller et al., 1993; Mullen et al., 1996; Moran & Eckenrode, 1992). The concept of social support and how it functions, however, has not been fully developed within this literature. More research needs to focus on examining social support comprehensively as it relates to child maltreatment and health outcomes.

Chapter 3: Preventing and Reducing Depression

Child maltreatment is often linked to negative mental health outcomes, but it is important to note that this is not the case for all. Although there is no argument that the development of depression is elevated among this group, some estimates suggest that about 20% to 40% of victims do not develop problems of personal adjustment, including the development of depression (Lynskey & Fergusson, 1997). This finding is intriguing because traumatic events, such as exposure to maltreatment, are usually thought to create hardships for the individuals affected by them. Findings that suggest otherwise have spurred research into the factors that protect an individual from the adverse consequences of exposure to child maltreatment.

Evidence points to two main mechanisms that protect individuals from depression following exposure to child maltreatment. First, certain factors seem to buffer or moderate the effects of maltreatment on mental health, reducing the likelihood or severity of outcomes. The buffering process is embedded within a larger resiliency framework that emphasizes the need for certain protective factors, which will be delineated later in this chapter. Second, certain factors can mediate the relationship between child maltreatment and depression. This means that the mediating variable accounts for the relationship between child maltreatment and depression. Although both mechanisms essentially can lead to improved mental health, the process is different for each. Also, the factors that play a role in buffering versus mediating could potentially be different. Therefore, a full understanding of these mechanisms is crucial when examining depression among child maltreatment victims.

Resiliency, Child Maltreatment, and Depression

Resilience research is an area that focuses mainly on protective factors. This area of research differs from risk factor research in that it focuses on the assets and resources that allow

some people to overcome the negative outcomes tied to trauma exposure (Fergus & Zimmerman, 2005; Frazier, Conlon, & Glaser, 2001; Frazier, Tahir, Berman, Steger, & Long, 2004).

Therefore, assets and resources are thought of as factors that can potentially buffer the effects of child maltreatment on depression or act as mediators between maltreatment and depression. If a specific asset or resource is available in the person's environment, depression may not be an outcome after traumatic events.

Although resilience research is partly concerned with risk exposure, its main focus is on strengths rather than weaknesses that individuals may possess or that are present in their environment. Thus, this research is designed to understand healthy outcomes despite exposure to risk. This fact reinforces the idea that the resiliency process is embedded within a greater ecological context or the environment in which a person is enmeshed; a fact that must be considered. The process of resiliency involves overcoming negative effects of risk exposure, coping successfully with trauma exposure, and avoiding trajectories related with risks. It is imperative, then, that all these factors are identified and understood (Fergus & Zimmerman, 2005).

In general, resilience refers to the process by which individuals cope successfully with trauma and avoid the negative trajectories associated with it. To fully understand resilience and why certain individuals avoid bad outcomes, there needs to be a clear understanding of protective factors *and* risk factors (Fergus & Zimmerman, 2005). This may seem counterintuitive, but the ecological context is important to consider, which includes all factors, good or bad, that contribute to depression or the lack thereof after exposure to maltreatment. The ecological context affects how effectively one can cope with trauma. If a person possesses protective factors that outweigh or can counteract the risk factors, then they will most likely be

able to buffer against the negative effects of trauma. If the risk factors, however, outweigh the protective factors, their ability to buffer against trauma is lessened.

The protective factors that help individuals avoid negative outcomes can be considered assets or resources. Assets are considered to be positive factors that are *internal* to the individual, such as personality traits. Resources are positive factors that are *external* to the individual, such as parental support. Risk factors are related to protective factors in that they represent deficits in assets or resources. Emphasis on assets, resources, and any related deficits place the process of resiliency within an ecological model. A focus on the ecological context helps move the focus of resiliency away from static, individual traits, to a focus on factors that are amenable to change. In addition, since resources are external factors and can be manipulated, they are emphasized as a key focus of change. Resources are also crucial in helping individuals face risk and avoid negative outcomes (Fergus & Zimmerman, 2005). Child maltreatment and its negative outcomes are similar to other traumas in that the ecological context matters and effects outcomes (Frazier et al., 2001; 2004).

Moderating effects, child maltreatment, and mental health. Moderators or buffering variables effect the strength of the relationship or they specify the conditions under which the variable exerts its effects (Hayes, 2018; Yap & Devilly, 2004). Therefore, moderators speak to when certain effects are expected to occur (Hayes, 2018). Evidence points to several factors that act as buffers against depression and bring about resiliency among individuals in the face of child maltreatment. These salient factors reflect the context in which individuals are embedded; they represent assets, resources, and, event-specific considerations that either reduce or increase the risk of depression after exposure to child maltreatment. Moderating factors related to depression among victims of child maltreatment fall into three broad categories: personal traits,

event-specific factors, and the quality of interpersonal relationships (Beitchman et al., 1991; Beitchman et al., 1992; Linley, & Joseph, 2004; Lynskey & Fergusson 1997; Moran & Eckenrode, 1992; Romans, Martin, Anderson, O'Shea, & Mullen, 1995; Spaccarelli & Kim, 1995). Each of these major categories reflect important parts of the resiliency process. Fully knowing the role of each will also allow to pinpoint factors that are specifically tied to child maltreatment exposure and the buffering process.

Personal traits. Assets are traits that are internal to the individual and are important in the process of resiliency. Research shows that certain personal traits can be assets because they influence internalizing symptoms, like depression, associated with child maltreatment. For instance, attributional styles are related to internalizing symptoms among victims of maltreatment. Individuals who can perceive the event and the causal inferences attached to the event in an optimistic manner are less likely to report negative internalizing symptoms as opposed to those who frame events in a pessimistic manner (Brown & Kolko, 1999; Finkelhor & Browne, 1985; Lovallo, 2016; Scheier & Carver, 1992).

In addition to attributional styles, coping styles are also shown to be important personal traits in the link between child maltreatment and negative mental health. Victims who have avoidant coping styles are more likely to use drugs and ignore feelings associated with the abuse, which impairs psychological functioning (Lovallo, 2016; Thoits, 1995; Tremblay et al., 1999; Runtz & Schallow, 1997). Therefore, evidence suggests that individuals who employ active coping styles (those that address the emotional aspect of the event) possess an asset that is protective against negative outcomes specific to child maltreatment. Those who employ avoidant coping styles (those that avoid the emotional aspect of the event) have a deficit in this asset, and therefore, are at risk of negative outcomes, including depression.

Event-specific factors. The event-specific factors of maltreatment are not necessarily an asset or resource, but these factors can reflect the greater ecology in which the victim is enmeshed. The factors that surround the maltreatment event highlight the presence of assets and resources, or the lack thereof. There are several factors shown to be related to child maltreatment, in that they negatively affect mental health and well-being. Key factors include severity and duration of maltreatment (Beitchman et al., 1992; Martin & Elmer, 1992; Wind & Silvern, 1992). Also, exposure to multiple forms of child maltreatment (e.g. sexual and physical) results in increased mental health problems (Finkelhor et al., 2007). The early years of life is a crucial developmental period, and therefore, the younger the child at the time of maltreatment, the worse the internalizing symptoms they develop (Finkelhor, 1980).

Interpersonal relationships. Within the resiliency process, relationships with other individuals are considered a potential resource. Evidence suggests that interpersonal relationships influence internalizing symptoms among victims. Lynskey and Fergusson (1997) found that young people who were exposed to child sexual abuse, but did not go on to develop adjustment difficulties, were characterized by more parental care. Moreover, the negative effects of physical abuse are greater for those in families in which there are high levels of stress and psychopathology (Kurtz, Gaudin, Howing, & Wodarski, 1993). The quality of the parent child interaction is also important. Specifically, the presence of a supportive parental figure has positive effects on adjustment after exposure to child maltreatment (Stice, Ragan, & Randall, 2004).

Mediating effects, child maltreatment, and mental health. The second mechanism that influences depression among victims involves mediating third variables. In terms of trauma, these third variables are considered “dynamic, endogenous variables” (as cited in Yap & Devilly,

2004) that are affected by trauma, and in turn influence depression. In this process then, developing depression is not necessarily a direct result of exposure to trauma but rather stems from the indirect effect of trauma working through the mediating variable. In contrast to moderating variables, then, mediators account for the link between trauma and negative outcomes. Therefore, mediators speak to *how* certain effects occur (Muthen, Muthen, Asparouhov, 2016; Hayes, 2018). Therefore, the mechanics underlying mediation differ greatly from moderation, which only speaks to the conditional relationships of variables. Mediation rather focuses on the causal path from the independent variable to the dependent variable, working through the mediator. In other words, if the mediator was not present (in this case social support) the link between the independent variable and the dependent variable would not exist.

It is important to fully understand both of these processes as they can offer different points of intervention. Moderation suggests that in the absence of social support child maltreatment will lead to depression, whereas mediation suggests the process through which child maltreatment leads to depression via reactions from social support providers. Therefore, for moderation, the process suggests that intervention provided before or at the time of the maltreatment for at-risk children is needed to enhance their social support. Doing so can be the key to alleviating the potential negative effects of child maltreatment such as depression. For mediation, interventions should be targeted to maltreated children and those around them to ensure that social support providers are responding to the child in ways that can prevent depression and that the child can receive their support.

To fully understand the meaning of mediation, it is important to use a path diagram as a model for displaying the casual chain between the variables of interest. The simple mediation model assumes a three-variable system where there are two causal paths: the direct impact of the

independent variable and the impact of the mediator. There is also a path from the independent variables to the mediator (Hayes, 2018). Variables function as a mediator under 3 conditions: (1) variations in the independent variable significantly account for variations in the mediator. For example, less severe forms of child maltreatment may account for positive reactions from social support providers, unlike serious forms of child maltreatment. (2) Variations in the mediator significantly account for variations in the dependent variable. That is, high levels of social support account for the absence of depression and low levels of social support account for the presence depression. (3) When a previously significant path from the independent variable to the dependent is no longer significant (Hayes, 2018; Muthen, Muthen, Asparouhov, 2016). This path would be rendered non-significant if the link between child maltreatment and depression was no longer significant once accounting for social support.

Historically, questions of mediation have only been considered once evidence of an association between X and Y is established. This rationale is based on one of the criteria described as being necessary to establish causality between variables. Thus, if X is not associated with Y, it has usually been assumed that tests of mediation or how certain effects occur cannot be conducted. Although this way of thinking has dominated mediation analysis, there is growing recognition that conceptualizing and conducting mediation in this manner is outdated. More recently, scholars argue that a lack of association does not imply a lack of causation, and that associations are neither necessary or sufficient to explain causation. Mediation analysis in its modern form no longer requires demonstrating evidence of an association between X and Y as a prerequisite (Hayes, 2018).

Several factors have also been shown to function as mediators between child maltreatment and mental health. Studies show that attributional styles mediate the relationship

between child maltreatment and internalizing symptoms, like depression (Steel, Sanna, Hammond, Whipple, & Cross, 2003; Wolfe, Gentile, & Wolfe, 1989). There is also evidence that coping style can mediate the link between child maltreatment (i.e. physical abuse and sexual abuse) and depression (Runtz & Schallow, 1997), although this may not be the case in all instances of maltreatment (Tremblay et al., 1999). The ways in which individuals react to the victim can also mediate the link between maltreatment and mental health. The presence of a supportive non-offending parent or teacher is an important mediating factor (Ullman, 1999). Victims of child abuse are more likely seek out support due to positive reactions from others and perceptions of available social support, which is shown to have a positive impact on psychological adjustment and other negative outcomes (Schumm et al., 2006; Ullman, 1999; Mason et al., 2008).

Gaps in Research

Even though the research on buffering and mediating effects adds to the knowledge base, simply identifying factors that may influence depression among victims of maltreatment is not enough. This area needs a guiding theoretical framework in order to fully understand causality and the mechanisms that lead to depression after exposure to maltreatment. The identification of the above factors without incorporation of theory has led to knowing the general features that seem to help those who are exposed to child maltreatment deal with mental distress. This research has developed in a piece-meal fashion; thus, there is no clear organizing framework or theory that can guide the understanding of the factors that are specifically tied to depression among victims of child maltreatment. For example, the causal link between child maltreatment and depression has not been fully identified. Further, this causal link underlying depression may not be the same for all individuals. In addition, only certain factors may specifically be tied to

depression (Powers et al., 2009) and currently it is not clear which factors are most important to these outcomes.

A lack of theory has not allowed for a full understanding of the moderating and mediating mechanisms that lead to depression. Thus, the incorporation of a guiding theoretical framework is crucial to move the field forward and better understand the processes that lead to depression after child maltreatment. A lack of a guiding framework is highlighted by mixed results shown in the literature. Interpersonal factors, like social support, are often shown to function both as a mediator and a moderator, but simply knowing how social support influences the link between child maltreatment and depression is not sufficient in understanding the whole picture. The most salient types and sources of social support among victims and their links to depression need to be identified. A theoretical framework can help identify these forms of social support and when they will function as a moderator or mediation. Doing so will improve upon the piecemeal fashion in which this work has been conducted.

In terms of mediation, certain types and sources of social support are shown to mediate the link between child maltreatment and outcomes in adulthood such as depression (Hill et al., 2010; Runtz & Schallow, 1997; Shaw & Krause 2002; Stice et al., 2004; Tremblay et al., 1999). Perceived social support from family and friends is related to better psychological adjustment among victims of child abuse (Runtz & Schallow, 1997). Emotional and instrumental social support are also shown to mediate the link between sexual coercion and psychological distress. Nevertheless, some research shows that social support from family and friends does not always mediate the link between child maltreatment and depression. In general, among adolescents, parental social support is shown to only exhibit direct effects on depression, and social support from peers is shown to have no effect on depression (Stice et al., 2004). In other research that

examines child abuse social support is only shown to mediate the relationship between abuse and externalizing behaviors but not internalizing behaviors like depression (Tremblay et al., 1999). It is important then, to identify exactly which types and sources of social support are related to depression and under which conditions it mediates the link between maltreatment and depression.

Although research shows that social support can act as a buffer against the negative effects of child maltreatment such a depression (Hill, Kaplan, French, & Johnson, 2010; Holt, & Espelage, 2005; Kaniasty, & Norris, 1992, Yap & Devilly, 2004), there is evidence that social support may not buffer the effect of child maltreatment for all individuals in all circumstances. Women who experience child abuse are 2.39 times more likely to have below average social support. These women are also more likely to experience severe depression compared to non-victims. A study that examined how social support affects depression and PTSD among women who were exposed to child abuse found that social support did not buffer against developing depression, as it did for PTSD (Schumm et al., 2006), which demonstrates that social support may not always act moderator. In a different study, emotional social support, but not instrumental social support was found to moderate the relationship between victimization and psychological distress (Hill, Kaplan, French, & Johnson, 2010). Other studies show that social support moderates the association between victimization and depression, but these effects depend on the race of the individual (Holt & Espelage, 2005).

The mixed findings surrounding the mediating and moderating role of social support, in addition to a lack of understanding of why these mixed findings exist highlight the need for further research in this area. It is clear from the research above that social support does not always function the same for all individuals exposed to child maltreatment. Given the

multifaceted nature of social support, these findings may come as no surprise, but it is crucial to understand when it acts as a moderator and when it acts as a mediator. Also, given the different types and sources of social support, it is important to account for this variety when measuring it rather than using aggregate measures of support (Sperry & Widom, 2013).

There are several other issues surrounding the literature on the salient factors related to child maltreatment and depression (Barnett et al., 2005; Beitchman et al., 1991; 1992). First, most of the studies in this area are cross-sectional; thus, it is difficult to know the true relationship of factors that influence depression among victims of child maltreatment. The lack of longitudinal studies prevents the understanding of exactly how these factors are linked to child maltreatment and depression. An abundance of cross-sectional research is especially problematic since some scholars argue that the manifestation of depression among child maltreatment victims may not be straight forward. A reliance on cross-sectional research makes it difficult to assess the direct impact and nature of child maltreatment on mental health. Also, cross-sectional research prevents the identification of factors that buffer and/or mediate the link between child maltreatment and mental health.

Another major limitation in this area concerns the potential gender differences in developing depression. Within biosocial research there is much attention given to gender differences in the development of depression among victims of child maltreatment, with most of the empirical evidence pointing to significant differences in brain structure and function between men and women (Cooke & Weathington, 2014; Lovallo, 2016). It is interesting to note that within social science research there is also evidence of significant gender differences in depression among maltreatment victims (Powers et al., 2009; Sperry & Widom, 2013). Although these findings are important, it is still unclear what role exposure to child maltreatment plays in

this process. The effects of child maltreatment may vary across gender and could account for why there are differences in symptoms of depression between males and females who have experienced child maltreatment.

There are several potential reasons why males and females may differ in their reactions to child maltreatment. First, both groups are not at risk for the same types of maltreatment. Although both males and females are equally likely to experience child maltreatment, females are more likely to experience child sexual abuse compared to males (DHHS, 2016; Sedlak et al., 2010; Gilbert et al., 2009). Males are more likely to be exposed to child physical abuse, and also sustain injury and death related to injury as a result of the abuse (DHHS, 2016; Sedlak et al., 2010). Boys are also more likely to experience other forms of maltreatment, such as emotional abuse and neglect (Gilbert et al., 2009). Moreover, male victims are less likely than female victims to be abused at the hands of a family member (Finkelhor, 1980). These differences in abuse experiences may be one factor that contributes to differences seen in the development of depression. All forms of child maltreatment are potentially damaging to a person's mental health, but experiences of violence and neglect may have different effects compared to experiences of sexual abuse that do not result in physical injury. Exposure to sexual abuse, especially when perpetrated by a family member, may be closely linked to depression and could account for the reason why female victims are more likely to develop depression than male victims (Cooke & Weathington, 2014).

Second, it is probable that interpersonal factors, like available social support, influence males and females differently. Evidence suggests that differences in the effectiveness of social support for maltreatment may stem from the varying ways females and males cope with traumatic experiences. Female victims are more likely than males to talk to their friends and seek

emotional support. These differences in coping may be why females experience protective benefits of friend social support (Powers et al., 2009). Other research also demonstrates the nuances in social support and how it affects depression. Sperry and Widom (2013) found that higher levels of appraisal support and tangible support had a greater impact on depression for males than females. Moreover, the results of a three-way interaction that included child abuse/neglect, gender, and type of social support showed that maltreated females had higher levels of depression than control females under low levels of tangible support. Nevertheless, there was a stronger effect for maltreated females under higher levels of tangible support that minimized the difference between victims and non-victims. For males, however, there was a more complicated crossover effect, suggesting that the impact of tangible support was more potent for control males as compared to the victim group. This study, however, did not examine sources of social support which is important to consider since evidence suggests that males and females react differently to certain sources of social support.

Evidence suggests that the sources of social support matters. Female adolescents perceive significantly more support from friends than male adolescents, whereas male adolescents perceived significantly more support from fathers than female adolescents. For both males and females, no gender differences were found in perceptions of support from mothers or teachers. Females and males also perceived the least amount of support from fathers compared with other providers. The separate effects of mothers, teachers, and friends had similarly-sized significant negative effects on depression, but father social support was not significantly related to depression (Colarossi & Eccles 2003). In other circumstances, paternal rather than maternal social support is shown to buffer depression for females who have high but not low levels of physical dating violence. For males who experience any level of dating violence, social support

from the mother but not the father buffers depression (Holt & Espelage, 2005). Other research shows that deficits in parental support but not peer support predicts future increases in depressive symptoms and onset of major depression (Stice et al., 2004). Thus, it is unclear as to what the true relationship between child maltreatment and different types and sources of social support and depression actually is. It is apparent that more research is needed exploring potential differences in how males and females who have been exposed to maltreatment respond to social support, and how that affects depression. Further, whether different sources and types of social support can account for the relationship between child maltreatment and depression for males and females needs to be explored.

These major gaps in research raise several issues that are crucial to address to move the field forward. Given the abundance of cross-sectional research, it is difficult to know the true relationship between child maltreatment and depression. It is expected that only certain factors play a role in influencing depression among those exposed to child maltreatment, and the relationships are expected to be complex. There are several ways that these factors can be linked to maltreatment and mental health. Perhaps these factors mediate the link between child maltreatment and mental health? Perhaps these factors also moderate or buffer the effects of child maltreatment on mental health? Moreover, these effects may not be the same for males and females.

The current state of the literature is in need of an organizing framework that allows researchers to identify and understand the causal process of developing depression after exposure to child maltreatment. The gaps in the literature described above demonstrate and confirm the need for a framework in guiding this work. First, the use of guiding frameworks helps inform research, and since the former is lacking, there is no roadmap to help guide researchers on which

factors they can expect to be most important in terms of depression among child maltreatment victims. The lack of a guiding framework to help identify specifically which factors matter leads to a second problem, which is a lack of understanding the exact relationships between maltreatment, social support, and depression. Therefore, developing a framework that can identify the sources and types of social support that are linked to depression among victims is crucial in moving this area of research forward. The next section will focus on a potential theoretical framework that can enhance the knowledge in the area of child maltreatment and depression.

Potential Theoretical Framework

As mentioned above several factors have been identified as being important in reducing depression among victims of child maltreatment, given they may affect how victims react and cope with the trauma. However, simply knowing the general factors that are related to depression among victims of maltreatment is not sufficient in understanding why some individuals develop depression whereas others report no issues. Research suggests that the relationships between child maltreatment and depression is complex. Also, the exact pathways that lead to and the factors that influence depression are not known. This gap in knowledge seems especially problematic given that the evidence suggests only certain factors are directly related to depression (Spaccarelli, & Kim, 1995), but the bulk of the research in this area does not acknowledge or explore this possibility.

The best and needed alternative is to focus on research that identifies *specific* factors that interact with or mediate depression. Evidence points to factors that are potential key determinants of negative depression among victims, but synthesis of the information into a workable framework is required. Since exposure to child maltreatment and related outcomes

seem to be dependent on internal and external factors, the ecological context is important. This means that an appropriate theoretical framework needs to take this into consideration. Given the saliency of interpersonal factors and features in the environment, examining social support seems to be an important and promising line of inquiry. A focus on social support, suggests a focus on ecological context since it is considered a coping resource (Thoits, 1995). Keeping in line with a resiliency framework that focuses on protective factors, it would seem that a focus on social support in a person's environment would be worthwhile when examining negative depression associated with maltreatment.

In addition to considering the interpersonal factors present in one's environment to identify and better understand the salient factors, it may be important to conceptualize child maltreatment as a stressor. The psychosocial and criminological literatures consider victimization as "stressful life events" (Agnew, 2001; Cullen, 1994; Dohrenwend & Dohrenwend, 1984; Lin & Ensel, 1989; Lovallo, 2016; Thoits, 1995). It is important to note that both of these literatures consider victimization, like child maltreatment, to be but only one source of strain or stress, and that social support is an important coping tool (Agnew, 2001; Dohrenwend & Dohrenwend, 1984).

It is assumed that psychological adjustment or psychological distress stem from exposure to stress and one's ability to cope. "Stress" or "stressor" is defined as "any environmental, social, or internal demand, which requires the individual to readjust his/her usual behavior patterns" (as cited in Thoits, 1995, pp. 54). Stressors are expected to influence efforts to cope with behavioral demands and the emotional reactions evoked by these demands (Lovallo, 2016; Thoits, 1995). As the level of stress increases, a person's ability to cope can become overburdened, which drains their psychological resources. In turn, a depletion of psychological resources will increase

the probability that psychological distress or disorder will follow (Dohrenwend & Dohrenwend, 1984; Lovallo, 2016; Thoits, 1995).

An advantage of conceptualizing maltreatment as a form of stress is that it allows for the consideration of certain factors that can help relieve or lessen its negative effects. One such factor that seems to lessen the effects of stress is social support. In general, social support improves well-being in the presence of stressful events (Cohen & Wills, 1985). It also seems to be a critical factor in helping victims adjust to trauma leading to better outcomes (Cullen, 1994; Fergusson et al., 1996; Lynskey & Fergusson, 1997; Tremblay et al., 1999).

Scholars argue that social support is the most important psychological resource externally available to an individual (Cohen & Wills, 1985; Thoits, 1992;1995). Experiencing social support from an early age sets a person on a life course trajectory that has the potential to protect them from several negative life outcomes, such as the development of depression after exposure to child maltreatment. Research shows that even if trauma is experienced at an early age, the ways in which one copes with it, especially long-term, are relevant to depression (Lovallo, 2016). Because social support affects coping, exposure to it in the early stages of life is crucial.

Theoretical perspectives. There are several theoretical perspectives that can be applied to the study of depression among victims of maltreatment. In an attempt to understand why some develop mental health problems, theorists have historically relied on two schools of thought. First, there is a belief that those who develop psychopathology differ in ways that preceded the occurrence of the disease. These differences are thought to be influenced by biological variations between people (Belsky & Pluess, 2009; Monroe & Simons, 1991). Second, there is a belief that stress is a salient factor in the development of psychopathology. But there is a recognition that not all individuals break down in times of stress (Monroe & Simons, 1991).

Eventually, both of these schools of thought were combined into one theoretical framework, termed the diathesis-stress model (Monroe & Simons, 1991). The basic tenet of this framework is that stress initiates diathesis or suffering from a medical condition, and due to this predisposition to diathesis one will eventually develop psychopathology (Belsky & Pluess, 2009; Monroe & Simons, 1991). Early formations of the diathesis-stress model based predispositions solely on biological vulnerabilities. More recent models applied to the study of depression, however, show that other areas of predisposition, including cognitive and social factors, can also be considered a diathesis. This most recent formulation of the diathesis-stress model has informed life-stress theory (Monroe & Simons, 1991).

In terms of the basic life-stress process, there are many formulations of how stress affects negative outcomes. Dohrenwend and Dohrenwend (1984) propose various models of the life-stress processes, along with the psychological and social context in which they occur. The hypotheses in these models share two common features: (1) the dependent variable is adverse health or adverse health change, and (2) each model explains the possible association between life events and health. The most basic model, called the victimization hypothesis, predicts that that stressful life events directly affect negative health outcomes.

In the next model, the stress-strain hypothesis, individual variations in psychological strain mediate the impact of stressful life events on health. The third model, the vulnerability hypothesis, posits that personal dispositions and social situations interact with stressful life events to produce negative outcomes on health. The additive burden hypothesis, which is the fourth model, also considers personal and situational characteristics but see them as having additive direct effects in addition to life events in affecting health outcomes. The fifth model, the chronic burden hypothesis, posits that stable personal and social conditions rather than stressful

life events bring about negative health outcomes. Lastly, the event proneness hypothesis postulates that poor health changes lead to subsequent stressful life events, which then increase issues with poor health.

The Dohrenwends propose that all six models are examined together, but this has not practically been translated into research due to the difficulty in meeting all the requirements of the theoretical models. In response to this difficulty, Lin and Einsel (1989) make several revisions to the Dohrenwends' models and argue that a more comprehensive model should give equal attention to all the major elements in the life stress process. The major elements of this process are the social, psychological, and physiological environments; all these elements are expected to affect health outcomes. They also identify social resources and social stressors in each environment. The effects of social resources and social stressors on outcomes can either be direct, mediating, or buffering. In the revised model (Lin & Einsel, 1989), social resources and social stressors can have direct effects on health outcomes. A mediating effect will take place when social resources account for the relationship between social stressors and health outcomes. Buffering effects take place when the interaction between social stress (stressful life event) and social resource (lack of social support) creates negative impacts on health.

Within criminology, Agnew's General Strain Theory (GST) is widely used to explain how stress or strain are related to negative outcomes, like juvenile delinquency. Certain features of GST can be helpful in understanding exposure to maltreatment and negative outcomes. The basic argument of GST is that when juveniles experience strain or stress, given the right conditions, they will engage in delinquency as a result (Agnew, 1992). Specifically, stressful events that cause the juvenile to feel angry or frustrated are more likely to lead to coping that involves delinquency (Agnew, 1992; 2001). In the GST model, two general categories of strain

are linked to delinquency: 1) the failure to achieve goals, and 2) the loss of positive stimuli/presentation of negative stimuli. Strain that results from the latter category of strain is of most interest to the discussion at hand as these events include criminal victimization and child abuse (Agnew, 2001).

GST's assumption that negative life events, like child abuse, cause stress and lead to negative outcomes among individuals is similar to the psychosocial framework, but Agnew's (2001) model provides more clarity in terms of the causal process of experiencing victimization and a subsequent negative outcome. Unlike the psychosocial model, GST's focus is narrower by only focusing on the types of strain that are linked to delinquency. In addition to describing how the quality of social support affects delinquency, Agnew (2001) identifies situational factors, community differences, individual traits, peer characteristics, and school characteristics that increase the likelihood of delinquency. These factors are thought to buffer against the negative effects of strain, so that individuals who experience them in high levels are at a lower risk of engaging in delinquency.

Limitations in theoretical perspectives. Although early theoretical perspectives in the life-stress area identify social support as an important protective factor (Dohrenwend & Dohrenwend, 1984; Lin & Ensel, 1989), conceptualization of social support's many dimensions have not been thoroughly incorporated in definitions of social support within these models (Thoits, 1995). The importance of social support as a protective resource is acknowledged in the transactional model, but there is no consideration of specific types and sources of social support that may be most important. Similarly, GST also identifies social support as an important mechanism in helping to cope with strain. Beyond simply naming some types of social support, Agnew (1992) does not expand further on the dimensions of social support or how the

dimensions may operate in different ways. Without clear distinction of social support's various dimensions, the above theories fall short of being able to identify how and why it is a salient protective factor. Evidence shows that various source and types of social support affect victims in different ways (Powers et al., 2009; Sperry & Widom, 2013).

Use of Cullen's (1994) social support framework may prove useful in better understanding depression among victims of child maltreatment. He explicitly acknowledges that the nature of social support is broad and complex, requiring researchers to make several distinctions when studying the construct. This framework synthesizes past research on social support and expands on how various dimensions of social support are related to victimization. He argues that social support is useful in lessening the pains of victimization. In comparison, life-stress models and GST simply note that experiencing victimization, like maltreatment, can be one source of strain or stress and that social support is an important coping tool (Agenw, 1992; Dohrenwend & Dohrenwend, 1984; Lin & Ensel, 1989). Cullen's framework, however, explicitly focuses on victimization and expands more on the reasons why social support would be beneficial for victims of crime in terms of helping them adjust. Cullen argues that social support mitigates the negative effects of criminal victimization and cites psychosocial research that shows its importance for psychological adjustment post-victimization (as cited in Cullen, 1994).

Since the psychosocial literature is cited, one can assume that Cullen (1994) agrees with the basic tenants of life-stress process: that social support is a coping resource that can help reduce the negative effects of stress on mental health. Therefore, a lack of social support increases the likelihood that one will experience more severe outcomes after being victimized compared to having adequate social support. Nevertheless, explicit acknowledgment of social

support's multi-dimensions and the specific tie to victimization in Cullen's framework are the central pieces of a potential framework explaining why exposure to child maltreatment leads to negative outcomes among some people but not others.

Cullen's social support framework. Social support has been considered an important factor in the link between child maltreatment and mental health. Specifically, Cullen's (1994) framework considers social support as a useful way to reduce crime and lessen the pains of victimization. The social support framework explicitly focuses on victimization and expands on the reasons why social support would be beneficial for victims of crime in terms of helping them adjust. He argues that social support mitigates the negative effects of criminal victimization and cites psychosocial research that shows its importance for psychological adjustment post-victimization. Moreover, Cullen (1994) explicitly acknowledges that the nature of social support is broad and complex, requiring researchers to make several distinctions (i.e. type, source, consistency) when studying the construct.

What is social support. Social support is defined as "the perceived or actual instrumental and/or expressive provisions supplied by the community, social network, and confiding partners" (as cited in Cullen, 1994, p. 530). Since the psychosocial literature is cited, one can assume that Cullen agrees with the basic tenants of life-stress process: that social support is a coping resource helping to reduce or mediate the negative effects of stress on mental health. It is a coping resource that is in part contingent on the social environment. A lack of social support increases the likelihood that one will experience higher levels of psychological distress post-victimization compared to having adequate social support. Explicit acknowledgment of social support's multi-dimensions and the specific tie to victimization in Cullen's framework are the central pieces of a potential framework explaining why exposure to child maltreatment leads to depression among

some people but not others. A central focus on social support will help inform researchers on how it can be manipulated to improve adjustment after victimization.

Conceptualization of social support. The concept of social support is broad and complex. Social support is multi-dimensional. The first dimension concerns the types of social support. There are four main types: emotional, instrumental, informational, and appraisal. Emotional support includes providing empathy, love, caring, and trust. Instrumental support includes tangible aid and services that directly help a person in need. Informational support is the giving of advice, suggestions, and information that a person can use to help address problems. Lastly, appraisal support is information that is useful in situations of self-evaluation, like constructive feedback, affirmation, and social comparison. These different types of support provide diverse and important functions for individuals, but, in general, emotional support has been found to be the key component of social support in improving well-being and coping (Branch, 2005; Cullen, 1994; Cohen & Wills, 1985; Thoits, 1992; 1995).

The next dimension concerns perceptions of support and actual receipt of support. For social support to be useful and helpful, the individual must perceive it as such. In this way, social support depends on the perception of the beneficiary. Perceived social support is the cognitive evaluation of being connected to others and knowing support is available. Received support is the actual provisions provided to the individual (Branch, 2005; Cullen, 1994). In studies comparing received and perceived social support, the perception of support has been a better predictor of health outcomes than received support (Branch, 2005).

Moreover, the consistency of social support is a key component to perceived social support. When social support is received in a consistent manner, it forms a greater sense of trust between the recipient and the giver of support. As a result, a person feels compelled to be more

altruistic rather than selfish towards individuals and social institutions, which as a result lowers the chance that persons will turn to deviant or criminal behavior (Cullen, 1994). Consistently received support also reduces strain and anger, while facilitating internalized self-control as individuals learn that certain behaviors lead to positive outcomes and more social support. Erratic social support, however, results in a person feeling that he or she cannot depend on other people or social institutions to receive aid. Erratic social support leads people to look out for themselves in the best way possible. These individuals experience higher rates of strain and anger, which can result in lower levels of self-control. Erratic social support permits a person to drift towards deviant undertakings, often searching for alternative sources of social support along the way (Colvin et al., 2002; Cullen, 1994).

The third dimension focuses on the various levels of social support. Social support is available from many levels within society. It exists in the intermediate connections within families, among friends, and within larger social contexts (i.e., neighborhoods, nations) (Branch, 2005). Next, the fourth dimension concerns the different sources of social support. Social support can be provided either from an official agency or informal relations (Branch, 2005). Informal social support occurs through social relationships with others, such as family, friends, and neighbors. Formal social support can be provided by schools, governmental assistance programs, and the criminal justice system (Cullen, 1994). The sources of social support are of particular importance. It cannot be assumed that social support from different sources will have the same effects. Further considerations need to be made when examining social support among child maltreatment victims. The relationships between abuse, sources of social support, and subsequent outcomes are complicated and require researchers to identify the differential impacts of different types of social support (Sperry & Widom, 2013).

The role of social support in child maltreatment. Social support is the most frequently studied psychosocial resource in the literature (Cohen & Wills, 1985; Thoits, 1995). It has been shown to influence the choice and/or efficacy of coping strategies. Also, the availability of social support is shown to foster adaptive or positive coping (Cohen & Wills, 1985; Thoits, 1995). In other words, social support can be thought of as a kind of social “fund” from which people may draw from when handling stress (Cohen & Wills, 1985; Thoits, 1995). As it relates to child maltreatment, evidence shows that social support is an important moderating and mediating factor against the negative effects of exposure to this type of victimization.

Several studies demonstrate the salient influence of social support as a buffer against the potential deleterious consequences of experiencing child maltreatment. In terms of buffering, depression for those who experience child sexual abuse are worse when the perpetrator is close to the victim, such as a parent or step-parent (Beitchmen et al., 1991). But a warm and supportive relationship with a non-offending parent or adult is shown to be a protective factor against such outcomes (Feiring, Taska, & Lewis, 1998; Lynskey & Fergusson, 1997; Mullen et al., 1996; Wilson & Scarpa, 2014). Friends may also be an important source of support. Supportive, non-delinquent friendships during adolescence have a protective effect against depression, PTSD, and other adjustment difficulties for those exposed to childhood abuse (Powers et al., 2009; Lynskey & Fergusson, 1997; Wilson & Scarpa, 2014). Therefore, this evidence demonstrates social support is a salient factor in adjustment among child maltreatment victims, implying that more focus needs to be given to social support’s role in reducing depression symptoms among those exposed to maltreatment (Fergusson et al., 1996; Lynskey & Fergusson, 1997).

Social support is also shown to be a potential mediator, but not all victims of child abuse experience the benefits of social support within their social network. Research shows that child

abuse is associated with compromised perceptions of social support availability (Schumm et al., 2006; Ullman, 1999). Environments that place children at risk of maltreatment are also many times void of social support (Beitchman, 1991; 1992). Also, the ways in which social support providers (e.g. parents, teachers) react post-victimization not only influences perceptions of available social support (Ullman, 1999), but negative reactions from social support providers is also associated with self-blame, negative self-cognitions, and maladaptive coping (Littleton, 2010). Victims of child abuse may be less likely to seek out support due to negative reactions from others and compromised perceptions of available social support, which is shown to have a detrimental impact on psychological adjustment (Schumm et al., 2006; Ullman, 1999; Mason et al., 2008).

Although there seems to be a connection between child maltreatment and low social support, those victims who do report feeling supported and connected to others tend to fair better after exposure to abuse. In fact, research shows that factors tied to interpersonal relationships, like parent or friend social support, have the largest effects on depression (Lynskey & Fergusson, 1997; Moeller et al., 1993; Mullen et al., 1996; Powers et al., 2009; Tremblay et al., 1999), and may be the factors specifically tied to depression among victims of abuse (Spaccarelli, & Kim, 1995). In the face of maltreatment, despite the adversity experienced, it could increase the likelihood of receiving good social support. That is, when a child is maltreated, persons in their network may react with love and care after they discover the maltreatment. In this way, its occurrence may serve to enhance the support a child receives. As stated earlier, the presence of supportive individuals, no matter the number, has positive effects on well-being and can protect a person from the negative effects of child maltreatment.

The relationship between child maltreatment, social support, and depression is complex, and there are several questions yet to be answered. Three main gaps in the literature will be addressed. First, issues concerning the conceptualization of social support exist. Specifically, definitions of social support utilized in previous research are often vague and broad, which places the concept of social support in danger of losing its distinctiveness (Cohen & Wills, 1985; Thoits, 1982; 1995). Cullen (1994) explicitly acknowledges that the nature of social support is complex, requiring researchers to make several distinctions when defining the construct. It is important that measures of support capture all of its main dimensions. Although Cullen (1994) and others before him (Dohrenwend & Dohrenwend, 1984; Lin & Ensel, 1989) acknowledge social support has multiple dimensions, few studies have attempted to capture all aspects of social support in the conceptualization of the variable (Thoits, 1995). Many studies that capture social support tend to use single item measures (Hill, Kaplan, French, & Johnson, 2010; Ullman, 1999) and do not attempt to address the complexities of the concept. A recent study suggests, however, that relationships between abuse, level of social support, and subsequent outcomes are complicated and require researchers to identify the differential impacts of different types of social support (Sperry & Wisdom, 2013). In order to address the complex, multi-dimensional nature of social support, this dissertation will examine types and sources of social support for their differential links to child maltreatment and depression.

Second, social support and depression are both latent factors, meaning that their proper measurement must be determined through factor analysis. Proper measurement of latent factors is important because such variables cannot be directly observed and to ensure that these concepts are indeed being measured accurately, several analytical steps are required. Unfortunately, many studies do not use research designs that account for measurement error (Hill, Kaplan, French, &

Johnson, 2010; Holt & Espelage, 2005 Whiffen & MacIntosh, 2005). To address this, Structural Equation Modeling (SEM) will be utilized to properly identify and model latent models. The use of SEM is rare among studies that examine child maltreatment, social support, and depression (Lincoln, Chatters, & Taylor, 2003; Merrill, Thomsen, Sinclair, Gold, & Milner, 2001; Vranceanu, Hobfoll, & Johnson 2007). Moreover, some studies using SEM do so with cross-sectional data and not all dimensions of social support are measured (Lincoln, Chatters, & Taylor, 2003; Merrill, Thomsen, Sinclair, Gold, & Milner, 2001; Vranceanu et al., 2007).

Third, it is unclear for victims of child maltreatment when social support will act as a buffer or mediator on depression. Since there is evidence for both mechanisms (Cohen & Wills; 1985; Lin & Ensel; 1989; Thoits, 1982; 1995), it is important to fully examine social support in a model that addresses the limitations in operationalizing and measuring social support. Both the mediating and moderating effect of social support will be examined. Furthermore, this dissertation will address the gaps in knowledge surrounding which sources and types of social support are most salient for male and female victims. The next section will further explain the data and methods used to answer the research questions and address these gaps.

Chapter 4: Methods

Data and Sample

Data for this project are derived from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a prospective, longitudinal study of youths in grades 7 through 12. These data include measures on parenting, family dynamics, mental and physical health, engagement in risky behaviors, decision making, sexual behaviors, education, employment, relationships, and household structure (Harris, Florey, Tabor, Bearman, Jones, & Udry, 2009). This dissertation will examine child maltreatment, social support from various sources, and mental health; thus, the use of Add Health is appropriate.

Add Health data collection occurred in four waves, and recently data collection has started for wave five. Wave 1 data collection began in September 1994 and lasted until April 1995. There were three types of surveys administered during Wave I, an in-school questionnaire, an in-home questionnaire, and a parent in-home questionnaire. The school sample participants were chosen using a multi-stage stratified sampling procedure in which 80 high schools were identified for inclusion in the study from a sampling frame of 26,666. Prior to sampling, schools were sorted by size, school type, census region, percent white, and level of urbanization. Of the 80 high schools selected, 52 agreed to participate. The remaining 28 schools were replaced by similar high schools. Participating high schools were also asked to identify 5 junior or middle schools that would most likely provide 5 students to the entering high school class. One feeder school was selected for each high school, resulting in a total of 160 schools (Harris et al., 2009).

In the second stage of gathering the sample, students enrolled in these schools filled out the Wave I in-school questionnaire. Students were selected by using a roster of all students enrolled in the school whose parents granted consent for their child to be listed on the roster and

to participate in the study (Harris et al., 2009). In total, 90,118 adolescents completed the in-school questionnaire. The in-school questionnaire included questions regarding students' and parents' background, friends, school life, school work, school activities, general health status, and health related behaviors.

Each school provided a roster of enrolled students. All students who completed the in-school questionnaire plus those who did not complete a questionnaire but were listed on a school roster were eligible for selection into the core in-home sample. Individuals in grades 7 through 12 were chosen to participate in the in-home questionnaire. Those students who completed the in-school questionnaire and those who did not complete a questionnaire but were listed on a school roster were eligible for selection into the core in-home sample. In-home questionnaires were collected at all four survey waves. Out of the 90,118 adolescents who participated in the in-school questionnaire, 20,745 adolescents were also chosen to participate in the in-home survey at Wave I. A Computer –Assisted Interview (CAPI)/ Audio Computer-Assisted Self Interview (ACASI) was administered to these adolescents. During the in-home survey, respondents were asked questions about family composition, health history, sexual history, friends, drug/alcohol use, and delinquent behavior.

A majority of the respondents in Wave I were white, but certain minority groups were oversampled during the in-home survey who are usually not represented well in other datasets. Eligibility for oversamples was determined by an adolescent's responses on the in-school questionnaire. These groups include adolescents with disabilities (N=957), African Americans (N= 1,547), Cubans (N= 538), Puerto Ricans (N= 633), and Chinese (N=406) (Harris et al., 2009). A sample of twins (N= 1,534), full siblings (N=2,500), half-siblings (N=848), non-related

adolescents living in the same household (N=1,314), and genetic pairs (N= 2,553) were also included in the Wave I in-home questionnaire (Harris et al., 2009).

Also in wave I, in the parent questionnaire, parents were asked to complete questions about family and relationships. This survey provided more information about family composition and the adolescent's health history. The parent questionnaire also asked about demographic and health-related information about the parent or guardian and general questions about the adolescent.

Wave II data collection began in April 1996 and continued until August of that same year. The Wave II in-home interview, administered with a CAPI/ACASI, consisted of 14,738 adolescents in grades 8 through 12, who were drawn primarily from the pool of participants in Wave I. One exception, however, is that individuals in 12th grade at Wave I were not included in Wave II data collection, as they exceeded the grade eligibility. The twelfth-graders who were part of a genetic pair, however, were retained from Wave I. In addition, the Wave I disabled sample was not re-interviewed at Wave II and no parent interview was conducted. Wave II also contains a small number of adolescents who did not participate in the first wave of data collection (Harris et al., 2009).

Wave III data were collected through an in-home interview administered with a CAPI/ACASI in July 2001 through April 2002. This wave included 15,197 young adults aged 18-26. Wave III includes 15,170 respondents from Wave I and 27 Wave II special genetics respondents. During Wave III, 14,979 respondents were interviewed during the main study and 218 were interviewed during the pretest. Moreover, 1,507 romantic partners of Add Health respondents were included (Harris et al., 2009). Wave IV data collection was conducted from January 2008 to February 2009. Respondents were aged 24-32 in Wave IV.

The current study uses the in-home interview from wave I, wave II, and wave III. The total final sample used in the current study is 14,322. The final sample decreased from the original sample size because cases that were missing on cross-sectional wave III weight were excluded from the analysis.

As discussed later in the measures section, the child maltreatment measure is a retrospective measure captured at wave III. Therefore, to ensure proper time order, the social support variables are used from wave I and the mental health variables are used from wave II. The majority of the final study sample (see Table 8) is male and non-white. The mean age for the sample is 16. Also, 30 percent of respondents reported that their mother had at least a high school education.

Measures

Dependent variables

Depression. The Add Health data include items that are designed to measure depression and anxiety. The Add Health study includes items from the Center for Epidemiological Studies Depression Scale (Blashill & Wilhelm, 2014). These 19 items ask about experiences in the past week and were used to capture depression in wave II. For example, respondents were asked whether they were bothered by things, had the blues, had trouble staying focused, were too tired to do things, felt happy, and felt like life was not worth living. The items use a 4-point Likert scale with 0 indicating “never or rarely” and 3 indicating “most of the time or all the time”. In order to determine whether these items load on one factor, a series of exploratory factors analyses (EFA) were conducted which suggested that a bi-factor EFA was necessary to establish whether a one factor solution is appropriate for this model. The results of the bi-factor demonstrated that a one factor solution fits the data well. The EFA factor loadings also correlate

moderately to high with one factor, with the lowest being 0.378 and the highest being 0.838. Once the theoretical model was established for depression, confirmatory factor analysis (CFA) was conducted. The CFA revealed that the data fit the model well once modification indices were taken into consideration; the RMSEA value is 0.025 and the CFI value is 0.982. See Table 1 for the CFA factor loadings.

Table 1. Depression: CFA Factor Loadings

	Unstandardized λ	S.E.	Standardized λ	S.E.
Bothered	1.000	0.000	0.658	0.010
Poor appetite	0.833	0.020	0.548	0.013
Had Blues	1.234	0.019	0.812	0.007
Felt Good	0.526	0.020	0.346	0.013
Trouble Focus	0.848	0.018	0.558	0.010
Felt Depressed	1.308	0.021	0.860	0.006
Tired	0.821	0.020	0.540	0.012
Felt Hopeful	0.484	0.019	0.318	0.012
Life Failure	1.128	0.024	0.742	0.012
Felt Fearful	0.914	0.023	0.601	0.013
Felt Happy	0.774	0.021	0.509	0.012
Talked Less	0.780	0.022	0.513	0.016
Felt Lonely	1.136	0.019	0.747	0.008
People Unfriendly	0.715	0.023	0.470	0.014
Enjoyed Life	0.802	0.019	0.527	0.011
Felt Sad	1.274	0.019	0.838	0.008
People Disliked	0.934	0.024	0.614	0.012
Hard to Start	0.714	0.022	0.470	0.014
Life Not Worth	1.120	0.025	0.737	0.013

Notes. $\chi^2 = 53550.18$; $df=171$; $p<0.000$; $CFI=0.982$; $RMSEA= 0.025$

Independent Variables

Child maltreatment. Four measures from wave III are used to capture child maltreatment. Two of the four items were used to capture neglect. Respondents were asked by the time they started sixth grade how often their parents or other adult care-givers left them alone without supervision and had not taken care of their basic needs, such as cleanliness and providing food and clothing. One item captured physical abuse. Respondents were asked by the time they started sixth grade how often their parents or other adult care-givers slapped, hit, or kicked them. One item captured sexual abuse. Respondents were asked by the time they started sixth grade how often their parents or other adult care-givers had touched them in a sexual way, forced them to touch him or her in a sexual way, and forced them to have sexual relations.

Next, a series of loglikelihood tests of model fit were conducted to check the linear relationship between maltreatment and depression. In the full model, child maltreatment is measured using 15 dummy variables to capture every possible sum of child maltreatment experiences. In the first nested model, child maltreatment is measured as 5 separate dichotomous variables, each one capturing the different number of child maltreatment types. For instance, the first variable measures no experiences of child maltreatment, 0 for “no” and 1 for “yes”. The second variable measures experiences of one type of child maltreatment, 0 for “no” and 1 for “yes”. Next, in the second nested model, child maltreatment is measured as a variety score variable. The variable is coded as 0 for “no experiences”, 1 for “one type of maltreatment”, 2 for “two types of maltreatment”, 3 for “3 types of maltreatment”, and 4 for “four types of maltreatment”. The loglikelihood tests of model fit revealed that out of these three models, nested model 2 with child maltreatment coded as a variety score variable fits the data the best.

Different types of child maltreatment are usually highly correlated with one another, which the data confirm. Moreover, exposure to multiple types of child maltreatment or poly-victimization is a common occurrence for many individuals and is usually tied to worse outcomes as compared to exposure to one type of maltreatment (Finkelhor et al., 2007; Moeller et al., 1993; Witt et al., 2016). The data confirm these findings. The loglikelihood test shows that a variety score measure for child maltreatment fits the data best, suggesting that individuals in the sample are more likely to report more than one type.

Lastly, a test of measurement invariance (MI) was conducted to further confirm the measurement model. In the framework of SEM, MI is used to test whether factor loadings, intercepts, and residual variances are equivalent in a factor model that measures a latent concept (van de Schoot, Lugtig & Hox, 2012). If the questions are measurement invariant, they are measuring identical constructs with the same structure for different groups (Van de Schoot et al., 2012). Establishing MI involves running a set of increasingly constrained SEMs and testing whether differences between the CFAs for each factor are significant. First, after each CFA was established for the social support and depression factors, each factor was regressed on the independent variable, child maltreatment, in separate models. Each model constrained the separate item paths on maltreatment to zero, but the factor path on maltreatment was not constrained. For each model, none of the modification indices indicated that the items were invariant. Factor loadings, intercepts, residual variances, and model fit indices were equivalent to the corresponding CFAs, which indicates that the factors are correctly identified by the given items.

Parent instrumental social support. Six items from wave I were used to measure parental instrumental social support. Respondents were asked whether in the past four weeks

they talked about school with their mom and dad, whether they worked on a school project with their mom and dad, and whether they talked about other things in school with their mom and dad. All items were coded dichotomously with 0 for “no” and 1 for “yes”. EFA was also conducted initially for ALL social support items, which revealed a 6-factor solution was appropriate. Once this was established, a CFA was conducted on the six items selected for parent instrumental social support. The results confirm the EFA, and show that the data fits the model well. The RMSEA value is 0.034 and the CFI value is 0.9954. Further model testing also revealed that the full model with “mom” and “dad” factors fit the data significant better than the nested model of only one parent factor. See Table 2 for the CFA factor loadings.

Table 2. Parent Instrumental: CFA Factor Loadings				
	Unstandardized λ	S.E.	Standardized λ	S.E.
Mom: Talked School	1.000	0.000	0.904	0.015
Mom: School Project	0.668	0.019	0.604	0.016
Mom: Talk Other	0.888	0.025	0.803	0.012
Dad: Talked School	1.000	0.000	0.896	0.013
Dad: School Project	0.754	0.021	0.675	0.018
Dad: Talk Other	1.015	0.030	0.910	0.015
Notes. $\chi^2= 17840.96$; $df=15$; $p<0.000$; $CFI=0.995$; $RMSEA=0.035$				

Parent informational social support. After an EFA was conducted on all the social support items, four items were selected to capture parent informational social support from wave I. Respondents were asked whether in the past four weeks they talked about life with their mom and dad and whether they talked about a problem they were having with their mom and dad. All items were coded dichotomously with 0 for “no” and 1 for “yes”. The results of the CFA further support the use of these items. The data fits the model well, with an RMSEA value is 0.000 and

the CFI value is 0.00, and the full model was shown to fit the data significantly better than the nested model with one parent factor. See Table 3 for the CFA factor loadings.

Table 3. Parent Informational: CFA Factor Loadings				
	Unstandardized λ	S.E.	Standardized λ	S.E.
Mom: Talked Life	1.00	0.000	0.830	0.025
Mom: Talked Problem	0.739	0.043	0.614	0.021
Dad: Talked Life	1.00	0.000	0.872	0.021
Dad: Talked Problem	0.791	0.036	0.690	0.018
Notes. $\chi^2= 3999.84$; $df=6$; $p<0.000$; $CFI=0.896$; $RMSEA=0.170$				

Parent emotional social support. As a result of the EFA described above, parental emotional social support was measured with six items from wave I. Respondents were asked whether their mom and dad is warm and loving, whether they have good communication with their mom and dad, and whether they have a good relationship with their mom and dad. All items were dichotomously coded with 0 for “no” and 1 for “yes”. The CFA confirmed that these items indeed capture one factor. The data fit the model well, with an RMSEA value of 0.24 and the CFI value is 1.00. The full model was shown to fit the data significantly better than the nested model. See Table 4 for the CFA factor loadings.

Table 4. Parent Emotional: CFA Factor Loadings				
	Unstandardized λ	S.E.	Standardized λ	S.E.
Mom: Warm	1.000	0.000	0.758	0.006
Mom: Communication	1.187	0.009	0.899	0.003
Mom: Relationship	1.282	0.011	0.972	0.003
Dad: Warm	1.000	0.000	0.893	0.003
Dad: Communication	1.060	0.003	0.947	0.002
Dad: Relationship	1.083	0.004	0.967	0.002
Notes. $\chi^2=166621.17$; $df=15$; $p<0.000$; $CFI=1.000$; $RMSEA=0.024$				

Friend informational social support. Respondents were asked in the past seven days whether they talked to their best male and female friend about a problem. Both items were dichotomously coded with 0 for “no” and 1 for “yes”. See Table 5.

Table 5. Friend Informational: CFA Factor Loadings				
	Unstandardized λ	S.E.	Standardized λ	S.E.
Talked Best Male Friend	1.000	0.000	0.724	0.010
Talked Best Female Friend	1.000	0.000	0.724	0.010
Notes. $\chi^2=1422.890$; $df=1$; $p<0.000$; $CFI=1.000$; $RMSEA=0.000$				

Friend emotional social support. Respondents were asked whether they feel that their friends care. The item was coded using a 5-point Likert scale with 1 for “not at all” and 5 for “very much”.

School emotional social support. The school social support EFA indicated that the following items four items load on one factor. The following items are: how much they feel close to the people at school, they feel like they are a part of their school, and they are happy to be at school. These items were coded using a 5-point Likert scale with 1 for “strongly agree” and 5 for “strongly disagree”. All items were reverse coded so that higher values indicate greater school social support. The CFA confirmed that these items indeed capture one factor. The data fit the model well, with an RMSEA value is 0.00 and the CFI value is 1.00. See Table 6 for the CFA factor loadings.

Table 6. School Emotional: CFA Factor Loadings				
	Unstandardized λ	S.E.	Standardized λ	S.E.
Feel Close to People	1.000	0.000	0.771	0.006
Feel Like Part	1.128	0.013	0.869	0.006
Felt Happy at School	0.938	0.010	0.723	0.007
Notes. $\chi^2=24117.64$; $df=3$; $p<0.000$; CFI=1.000; RMSEA=0.000				

Controls

In addition to these theoretically-derived measures, several control variables were also included. Age was measured in years (wave I); gender was coded as 0 for “female” and 1 for “male” (wave I); and race/ethnicity was coded as 1 for “white”, “non-Hispanic”; 2 for “black”, “non-Hispanic”; 3 for “Hispanic”; and 4 for “other race” (wave I). As a proxy measure for socioeconomic status, respondents were asked to give their mother’s highest educational attainment. This item was measured on an ordinal variable ranging from one to five; with 1 coded as “never went to school”; 2 “8th grade or less”; 3 “some high-school”; 4 “high-school”; 5 “college or grad school”.

Research Questions

There are three sets of research questions for this dissertation. For the first analysis, the first set of research questions is as follows: Do certain sources of social support mediate the link between the number of maltreatment types and levels of self-reported depression? Do certain types of social support mediate the link between the number of maltreatment types and levels of self-reported depression? It is expected that emotional social support, especially from the family, will have the greatest impact on depression. Research shows that this type of social support has the largest effects on well-being (Branch, 2005; Cullen, 1994; Thoits, 1992). Moreover, the presence of a supportive non-offending parent is shown to be an important mediator between maltreatment and negative outcomes (Turner & Butler, 2003).

Building off of the first model, the second analysis examines the mediated-moderated relationship between the variables of interest. The following research questions are addressed: Do certain sources of social support mediate and moderate the link between the number of maltreatment types and levels of self-reported depression? Do certain types of social support mediate and moderate the link between the number of maltreatment types and levels of self-reported depression? Research shows that emotional social support is the most crucial type of social support. It is shown to be most salient to physical health, mental health, and overall well-being (Branch, 2005; Cooke, & Weathington, 2014; Cullen, 1994; Thoits, 1992), and for this reason, it is also expected this type will also moderate the link between child maltreatment and depression. Moreover, a warm family environment is shown to be an important factor in reducing depression and these sources are expected to have the largest effects on the outcome.

In the third analysis the research questions are: Do certain sources of social support more effectively mediate between the number of maltreatment types and levels of self-reported

depression based on a person's gender? Do certain types of social support more effectively mediate between the number of maltreatment types and levels of self-reported depression based on a person's gender? Since female victims are more likely to seek out emotional social support compared to male victims (Power et al., 2009), it is expected that this type will be more effective for females, and males will benefit more from instrumental and informational support (Sperry & Widom, 2013).

Analytical Plan

To investigate these research questions, structural equation modeling (SEM) will be used. Social support is a latent theoretical construct and to ensure proper measurement of the various sources and types of support, structural equation modeling (SEM) will be utilized. In the first analytical model, SEM is used to examine the mediating effects of social support on the relationship between child maltreatment and depression (see Figure 1). In the second analytical model, a conditional process analysis SEM is used to examine the buffering effects of social support on the relationship between child maltreatment and depression (See Figure 2). This step will build off of the mediation model (first analytical model) with an analysis that combines mediation and moderation called conditional process analysis. The focus for this analysis is on the estimation and interpretation of the conditional nature (moderation) of the indirect and or/direct effects (mediation) of social support on the relationship between child maltreatment and depression. In other words, a 3-way interaction is tested by examining the conditional nature of each social support factor while accounting for the indirect and direct effects of all exogenous variables (Hayes, 2018). Then, the mediation model from the first analysis will be split and analyzed separately for males and females, with the aim of identifying differences across groups. The aim is to explore whether direct and indirect effects of child maltreatment and social support

on depression differ across gender. Mplus version 7 (Muthen & Muthen, 1998-2010) will be used to conduct all analyses.

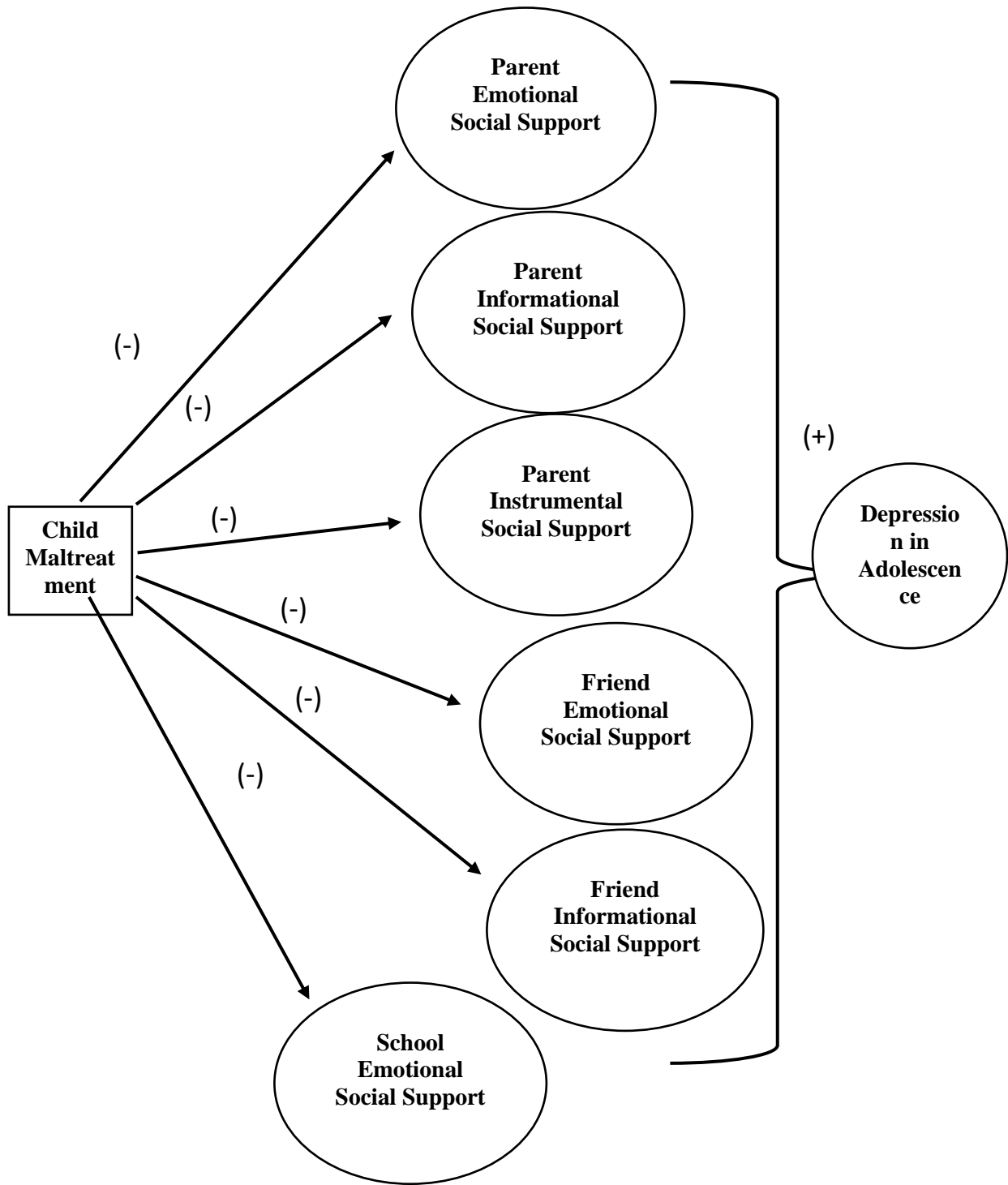


Figure 1: Conceptual Model Mediation

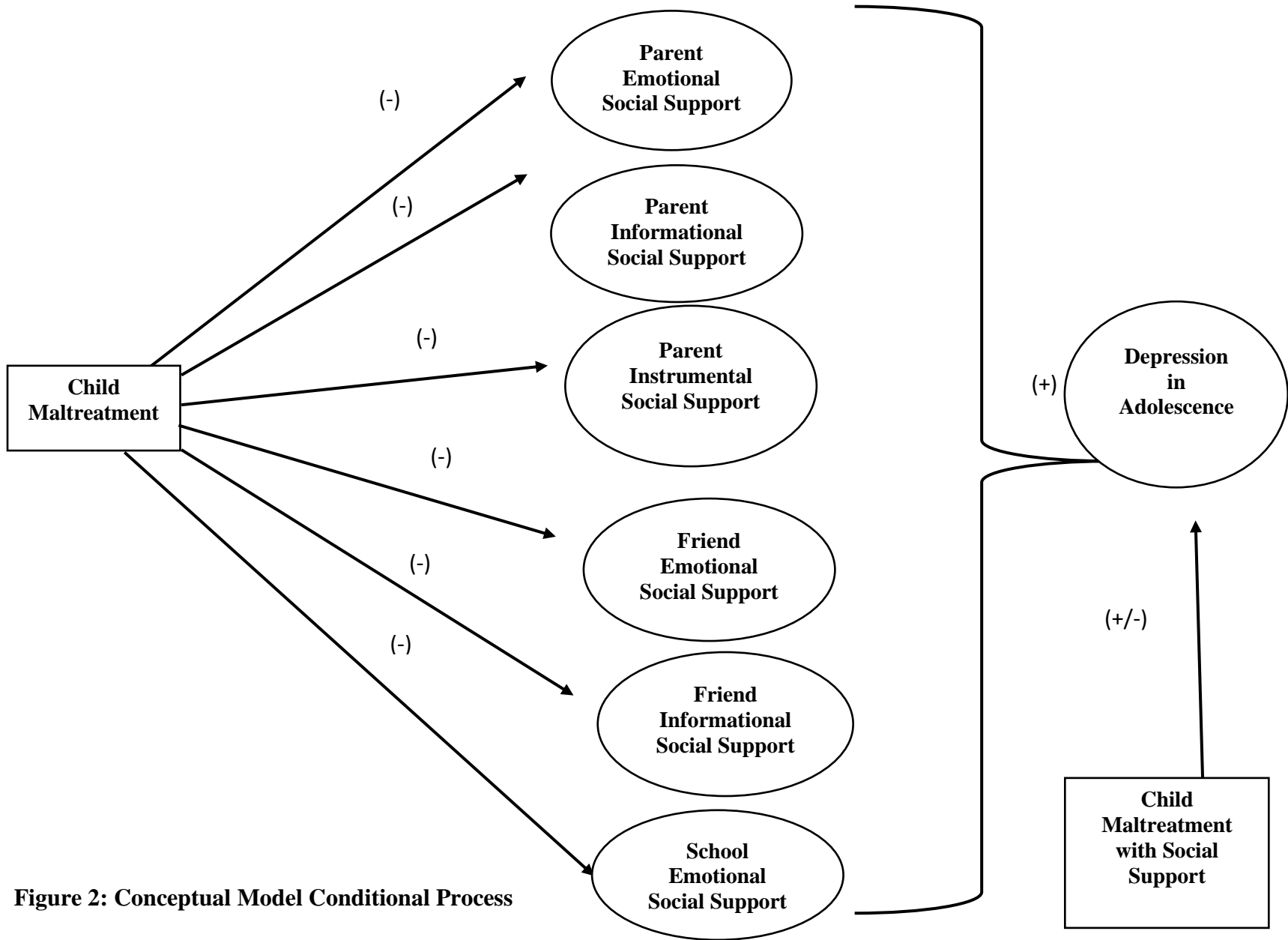


Figure 2: Conceptual Model Conditional Process

Table 7. Descriptive Statistics (n=14,322)

	\bar{x}	s	Range
<u>Dependent Variables at Wave II</u>			
<i>Depression (past week)</i>			
Bothered by things	0.51	0.79	0-3
Poor appetite	0.47	0.71	0-3
Had the blues	0.41	0.71	0-3
Felt just as good as others	1.87	1.01	0-3
Trouble keeping focused	0.83	0.82	0-3
Felt depressed	0.54	0.77	0-3
Too tired to do things	0.75	0.75	0-3
Felt hopeful about future	1.78	0.99	0-3
Thought life had been failure	0.23	0.57	0-3
Felt fearful	0.33	0.58	0-3
Felt happy	2.09	0.82	0-3
Talked less	0.59	0.75	0-3
Felt lonely	0.47	0.71	0-3
People were unfriendly	0.41	0.63	0-3
Enjoyed life	2.20	0.88	0-3
Felt sad	0.58	0.69	0-3
Felt people disliked you	0.42	0.64	0-3
Felt hard to start things	0.64	0.69	0-3
Felt life was not worth living	0.17	0.51	0-3
<u>Child maltreatment (before 6th grade) at Wave III</u>			
Variety score measure	0.87	1.02	0-4
<u>Social Support at Wave I</u>			
<i>Parent emotional</i>			
Mom is warm and loving	1.98	1.48	1-5
Dad is warm and loving	3.41	2.45	1-5
Good relationship mom	2.03	1.51	1-5
Good relationship dad	3.41	2.46	1-5
Good communication mom	2.27	1.54	1-5
Good communication dad	3.53	2.41	1-5
<i>Parent Informational</i>			
Talked about life mom	0.83	1.62	0-1
Talked about life dad	2.25	3.09	0-1
Talked about problem with mom	0.76	1.63	0-1
Talked about problem with dad	2.20	3.11	0-1
<i>Parent Instrumental</i>			
Worked on school project mom	0.54	1.65	0-1
Worked on school project dad	2.14	3.15	0-1
Talked about school work mom	1.00	1.57	0-1
Talked about school work dad	2.43	2.99	0-1

Talked other things in school mom	0.91	1.60	0-1
Talked other things in school dad	2.37	3.02	0-1
<i>Friend Emotional</i>			
Friends care about you	4.19	0.82	1-5
<i>Friend Informational</i>			
Talk to male friend problem	0.99	1.80	0-1
Talk to female friend problem	1.40	2.17	0-1
<i>School Emotional</i>			
Feel close to people at school	2.39	1.18	1-5
Feel like part of school	2.29	1.21	1-5
Feel happy to be at school	2.39	1.28	1-5
<u>Control Variables at Wave I</u>			
Gender	0.55	0.50	0-1
Mom education	2.50	0.10	1-5
Race	1.98	1.19	1-4
Age	16.04	1.68	11-21

Chapter 5: Mediation Analysis

Mediation Model

Although exposure to child maltreatment is associated with the development of depression, not all victims go on to struggle with this problem (Lynskey & Fergusson 1997; Moran & Eckenrode, 1992; Romans et al., 1995; Spaccarelli & Kim, 1995). There is evidence that the quality of interpersonal relationships can mediate the link between exposure to child maltreatment and depression. Specifically, those who experience maltreatment and then disclose their experiences to supportive others may be able to avoid the development of depression. If one perceives they have low social support, however, they may be less likely to confide in the people around them. In addition, being the victim of child maltreatment may lead to a reduction in social support that may be tied to others not knowing how to respond to their behavior or affective state post-maltreatment may be off-putting to others. In such scenarios, then, depression is not a direct result of the trauma experienced but rather stems from one not being able or willing to disclose their victimization or get the care that they need. Moreover, the presence of non-supportive people in one's social network may also imply that if the victim does disclose the maltreatment experience, reactions from others may be negative. Negative reactions from others can also lead to depression (Schumm et al., 2006; Ullman, 1999; Mason et al., 2008).

The implications of this research are that social support can function as an important mediator, which can thwart the development of depression. Given that social support is a broad, multi-dimensional concept, it is important to understand which types and sources of support are most relevant to the prevention of depression among victims of child maltreatment. The state of the current literature does not adequately account for the complexity of social support. Beyond knowing that social support can act as a mediator in the face of trauma, it is not clear which types

and sources matter for victims of child maltreatment. The current analysis aims to address these gaps by analyzing the mediating role of different types and sources of social support.

Analytical strategy. Structural equation modeling (SEM) is used to investigate the research questions for the meditation model. Given the vast amounts of missing data within Add Health, multiple imputation with chained equations (MICE) using Stata version 13 was utilized to account for missing values. Unlike other methods of handling missing data, multiple imputation handles missing cases in advance of the substantive analysis. In multiple imputation, the missing values are replaced by $M > 1$ sets of simulated imputed values (Collins, Schafer, & Kam 2001). In this case, MICE was performed only on the co-variables, and 100 separate imputed data sets were generated in order to yield sufficient and reliable inferences (Collins et al., 2001). Each imputed data file was then transferred into an Mplus file, where they were pooled together and analyzed. The final sample reflects imputed values for the exogenous variables on all cases except for those who had missing values on the wave III cross-sectional sampling weight. The final sample size is 14,322.

The next step in the analytical strategy was to establish the measurement model, which relates the selected indicators to the latent variables (social support and depression). The measurement model develops the latent factors along with the item indicators. The methods used to determine the specific measurement model are detailed starting on page 50. When establishing the measurement model, the modification indices indicated the need to include several cross-item correlations (e.g., feeling hopeful correlated with feeling happy, dad is warm and loving correlated with mom is warm and loving). Then, the structural model (the model developed from the measurement model stage) was assessed for potential causal dependencies between endogenous and exogenous variables using a maximum likelihood estimator. Maximum

likelihood estimation attempts to find the parameter values that maximize the likelihood function, given the observations. The model then assesses the relationship of child maltreatment and social support on depression holding constant age, race, gender, and mother's educational level. Within this model, each social support factor is also regressed on child maltreatment holding constant age, race, gender, and mother's educational level. To examine the mediating effects of social support and the indirect effects of child maltreatment on depression, six different indirect paths were tested, one for each type of social support (e.g., child maltreatment → parent emotional support → depression). In total, this model examines direct effects of child maltreatment (and the control variables) and social support on depression and tests for indirect paths between child maltreatment (and the control variables) and depression. The SEM analysis was conducted in Mplus version 7.

Results. The results for the first analytical model are presented in Table 8 and 9. In addition, a path diagram of the significant structural paths is presented in Figure 3. As stated earlier, there are two main research questions for the mediation model. Do certain sources of social support mediate the link between the number of maltreatment types and levels of self-reported depression? Do certain types of social support mediate the link between the number of maltreatment types and levels of self-reported depression? In terms of the most effective types and sources, it was hypothesized that emotional social support from one's parents would be the most salient mediator between maltreatment and depression. There, however, was no support for this. As can be seen in Table 8 and Figure 3. There is no direct link between child maltreatment and depression. Similarly, there is no evidence of an indirect link between child maltreatment and depression. None of the six social support factors mediates the link between child maltreatment and depression.

Although there were no significant indirect effects, the results suggest that social support can influence depression independent of child maltreatment (see Table 9). It was expected that emotional social support, especially from the family, will have the greatest impact on depression. The results support this prediction. Parental emotional support was the only social support factor that exhibited significant effects on depression. Those who report lower levels of parental emotional support are more likely to report higher levels of depression. Since no other social support factor was significant, however, it cannot be determined which one is more effective in influencing depression compared to others.

In addition, depression also exhibits significant relationships with some of the control variables (see Table 9). Those who are older in age and female are more likely to report higher levels of depression. The control variables also exhibit significant links to social support (see Table). Compared to males, females are more likely to report higher levels of parental informational support, parental emotional support, and parental instrumental support. Similarly, females are more likely than males to report higher levels of friend care, friend informational support, and school emotional support.

Table 8. Direct Effects of Endogenous Variables Predicting Social Support (n = 14,322)

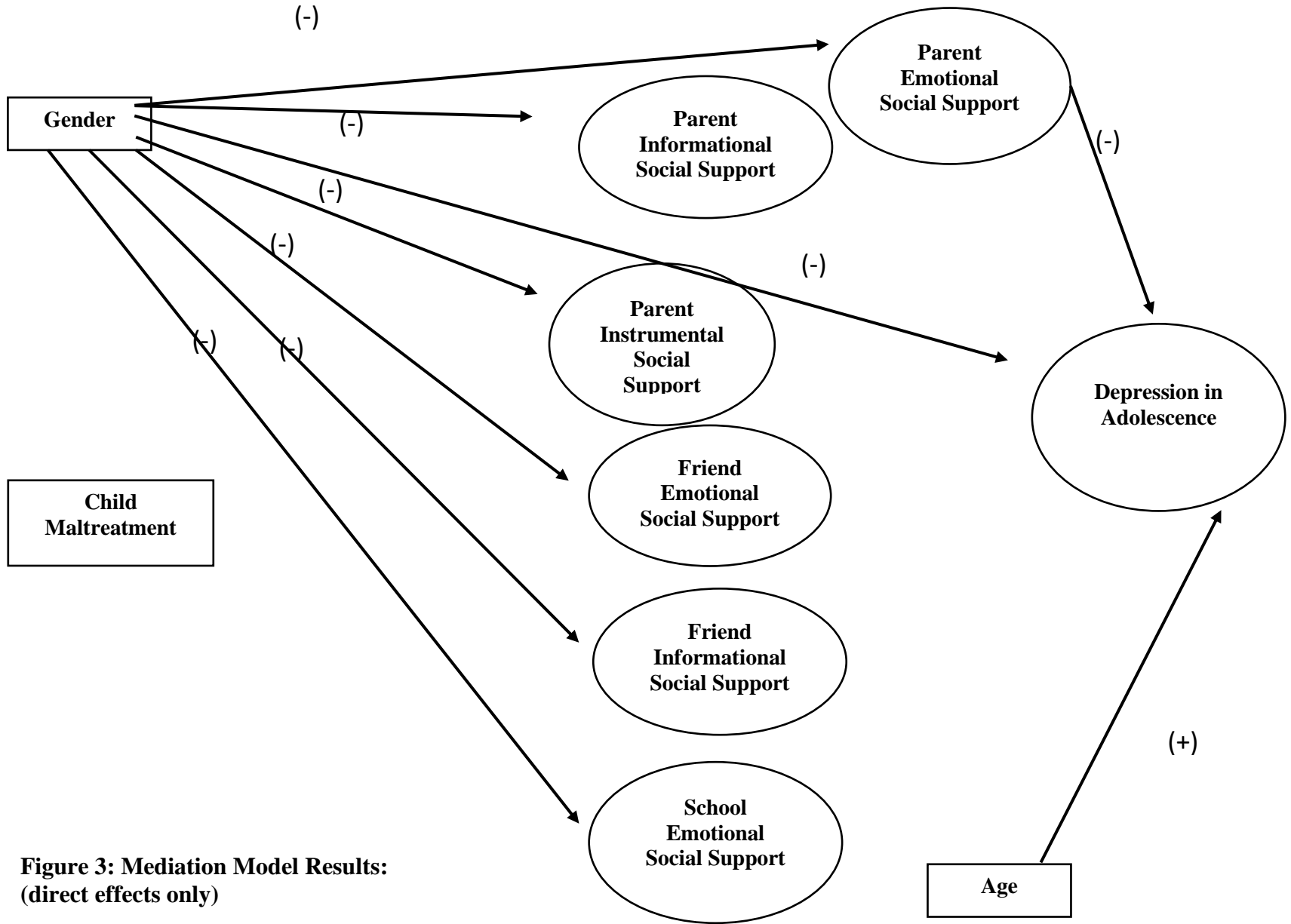
	Parent emotional		Parent informational		Parent instrumental		Friend emotional		Friend informational		School emotional	
	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.
Child maltreatment	0.013	0.007	-0.003	0.006	-0.001	0.004	-0.012	0.011	-0.006	0.005	0.005	0.010
Age	0.001	0.004	0.00	0.002	-0.001	0.003	0.008	0.006	0.002	0.003	-0.002	0.005
Race	0.008	0.004	0.005	0.003	0.005	0.005	0.001	0.008	-0.008	0.004	0.009	0.009
Mother's education	0.000	0.004	0.004	0.003	0.001	0.003	0.001	0.008	0.001	0.004	-0.008	0.007
Gender	-0.040**	0.012	-0.021*	0.010	-0.026***	0.008	-0.207***	0.017	-0.141***	0.009	-0.107***	0.021

Note: * p< .05; ** p<.01; ***p<.001

Table 9. Direct and Indirect Effects Predicting Likelihood of Depression

	λ	S.E.
Child Maltreatment	0.008	0.015
<i>Social Support Variables</i>		
Parent emotional	-0.044*	0.021
Parent informational	0.005	0.018
Parent instrumental	-0.017	0.018
Friend emotional	0.019	0.012
Friend informational	-0.022	0.021
School emotional	0.074	0.015
<i>Indirect Paths</i>		
CM -> FI -> DP	0.000	0.000
CM -> FC -> DP	0.000	0.000
CM -> SE -> DP	0.000	0.000
CM -> PIN -> DP	0.000	0.000
CM -> PE -> DP	-0.001	0.000
CM -> PI -> DP	0.000	0.000
<i>Control Variables</i>		
Age	0.042***	0.013
Race	0.007	0.015
Mother's education	0.002	0.014
Gender	-0.042***	0.012

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; CM= child maltreatment; DP= depression; FI= friend instrumental; FC= friend care; SE= school emotional; PIN= parent instrumental; PE= parent emotional; PI= parent informational



**Figure 3: Mediation Model Results:
(direct effects only)**

Chapter 6: Conditional Process Analysis

Conditional Process Model

Building off of the previous analytical model, in the second analytical model, moderating effects are tested. In addition to social support acting as a mediator, research also shows that it may act like a moderator. In this scenario, social support buffers the negative effects of child maltreatment on depression. For example, someone who experiences low levels of child maltreatment and has effective parent instrumental support may not experience depression, while someone who experiences high levels child maltreatment and has weak parent instrumental support may suffer depression as a result. In support of a moderating effect, among victims of child abuse, perceived social support from family and friends is related to better psychological adjustment (Runtz & Schallow, 1997). Therefore, social support has been shown to act both as a mediator and a moderator.

The conditions under which it will moderate or mediate are less clear. Not all types and sources of social support have been shown to mediate the link between child maltreatment and depression (Hill et al., 2010; Runtz & Schallow, 1997; Stice et al., 2004; Shaw & Krause, 2002). For instance, some research shows that emotional and instrumental social support from parents and friends mediates the link between victimization and psychological distress (Hill et al., 2010). Whereas, other studies find that social support from family and friends has no effect on the link between child maltreatment and depression. There is also evidence that social support may not always buffer the effects of child maltreatment on depression. One study that examined child abuse that occurred to inner-city women, found that social support does not buffer against developing depression (Schumm et al., 2006). In a different study, emotional social support was found to moderate the relationship between victimization and psychological distress, whereas

instrumental social support did not exhibit any relationship to psychological distress (Hill, Kaplan, French, & Johnson, 2010). These mixed findings demonstrate that different types and sources of social support may be moderators and mediators; thus, supporting the call for additional research examining the relationships between maltreatment, social support, and depression (Sperry & Widom, 2013).

Analytical strategy. The analytical model examines both the potential mediating and moderating effects of social support in tandem. Essentially, the structural model developed in step 1 is used with the inclusion of interaction terms between each element of social support and child maltreatment (six in total). Thus, this model testing the buffering effects of social support also accounts for the indirect and direct effects of the exogenous variables on depression. Given certain analytical restrictions, six analyses were performed where each interaction term was examined separately. Therefore, there were a total of six different analytical models, one for each social support variable and its interaction with child maltreatment. These interaction terms were examined for their direct effect on depression. Figure 4 shows the conceptual model for the conditional process model with one example of the interaction terms (control variables are omitted for clarity).

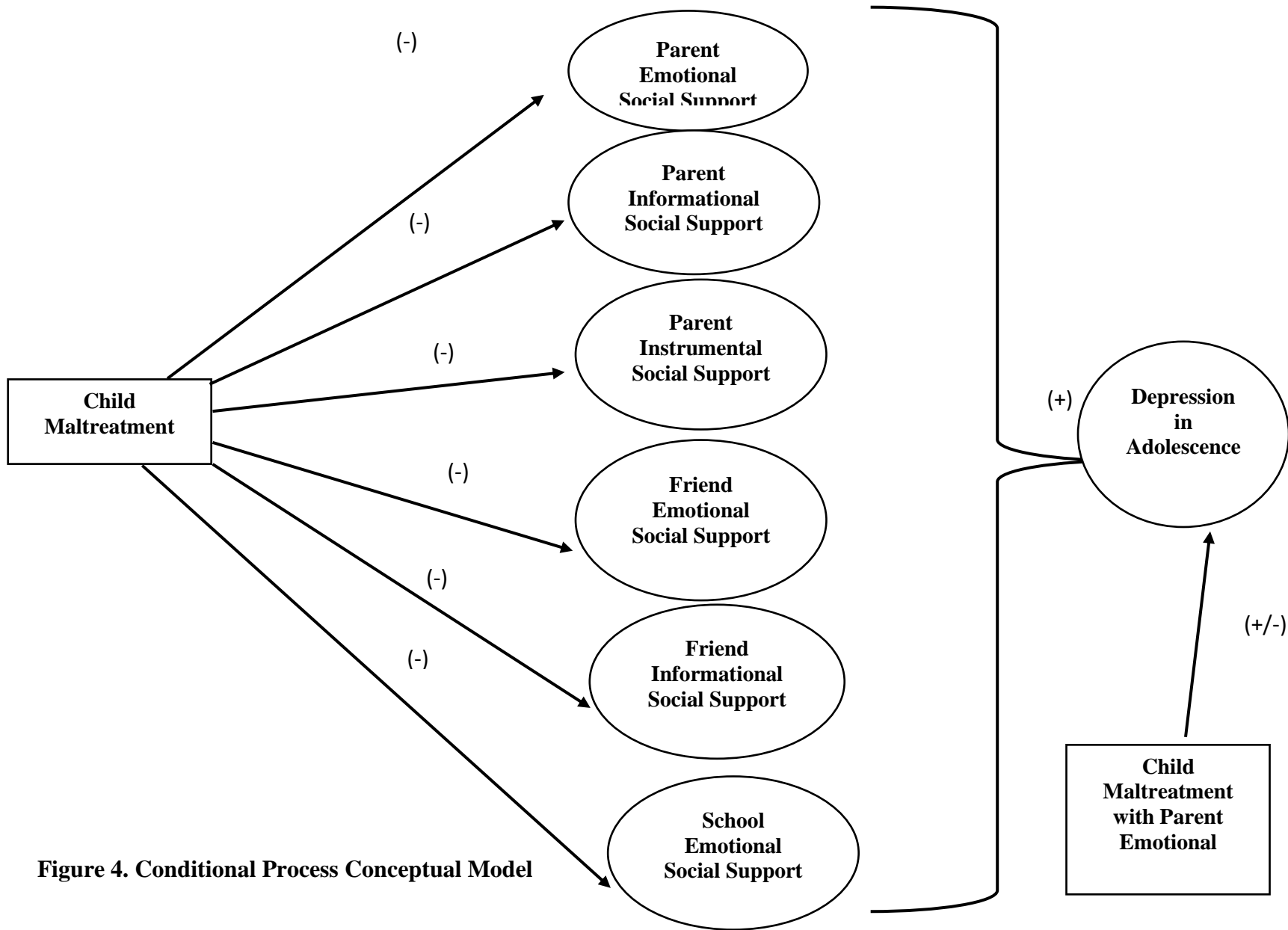


Figure 4. Conditional Process Conceptual Model

Results. There were two research questions tested: Do certain sources of social support mediate and moderate the link between the number of maltreatment types and levels of self-reported depression? Do certain types of social support mediate and moderate the link between the number of maltreatment types and levels of self-reported depression? It was hypothesized that emotional social support, especially from the family will be most salient in the conditional process model. As can be seen from Table 10, which presents the results for the 2-way interaction, there is no evidence that social support moderates the level of depression among those exposed to maltreatment. There is no evidence that certain *sources* of social support are more effective in reducing the level of depression among victims of maltreatment. Similarly, there is also no evidence that certain *types* of social support are more effective in reducing the level of depression among victims of maltreatment.

There are some unexpected results that are worth noting, given that they differ from the findings of analytical model one, which only tested the mediating effect of social support. As can be seen in Table 10 parental emotional support exhibits significant effects on depression when child maltreatment is at zero. Individuals who report lower levels of parental emotional support and have lower scores on child maltreatment are more likely to have higher levels of depression. Also, being older in age is significantly related to higher levels of depression. In the current analytical model, the effect of child maltreatment on parental emotional social support is significant as shown in Table 11 ($p < .10$; note this table shows direct effects without any interaction terms). Those with higher scores on child maltreatment are significantly more likely to have higher levels of parental emotional support. Child maltreatment did not exhibit direct effects on any other type social support. See Figure 5 for a depiction of the results (direct effects

only; since indirect effects were not significant they have been omitted for clarity) from analytical model two.

Table 10. Direct Effects Predicting Likelihood of Depression; Conditional Process with Interaction Terms Included

	λ	S.E.
Child Maltreatment	-0.026	0.028
<i>Social Support Variables</i>		
Parent emotional	-0.052*	0.026
Parent informational	0.010	0.032
Parent instrumental	-0.022	0.028
Friend emotional	0.003	0.008
Friend informational	-0.031	0.028
School emotional	0.003	0.028
<i>2-way Interactions</i>		
FIxCM	-0.008	0.027
FCxCM	0.007	0.007
SExCM	0.006	0.009
PINxCM	-0.012	0.031
PExCM	0.002	0.027
PIxCM	0.038	0.034
<i>Control Variables</i>		
Age	0.010**	0.003
Race	0.003	0.005
Mother's education	0.000	0.00

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; CM= child maltreatment; DP= depression; FI= friend instrumental; FC= friend care; SE= school emotional; PIN= parent instrumental; PE= parent emotional; PI= parent informational

Table 11. Direct Effects of Exogenous Variables Predicting Social Support; Conditional Process Model (n = 14,322)

	Parent emotional		Parent informational		Parent instrumental		Friend emotional		Friend informational		School emotional	
	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.
Child maltreatment	0.012 [†]	0.007	-0.003	0.006	0.000	0.004	-0.012	0.011	-0.007	0.005	0.005	0.010
Age	0.001	0.004	0.000	0.002	-0.001	0.003	0.008	0.006	0.002	0.003	0.002	0.005
Race	0.008	0.004	0.005	0.003	0.005	0.004	0.001	0.008	-0.007	0.004	0.009	0.008
Mother's education	0.000	0.004	0.004	0.003	0.002	0.003	0.001	0.008	0.002	0.004	-0.008	0.007
Gender	-0.040**	0.012	-0.021*	0.010	-0.026**	0.001	0.027***	0.017	0.141***	0.009	0.109***	0.022

Note: [†] p<.10; * p<.05; ** p<.01; ***p<.001

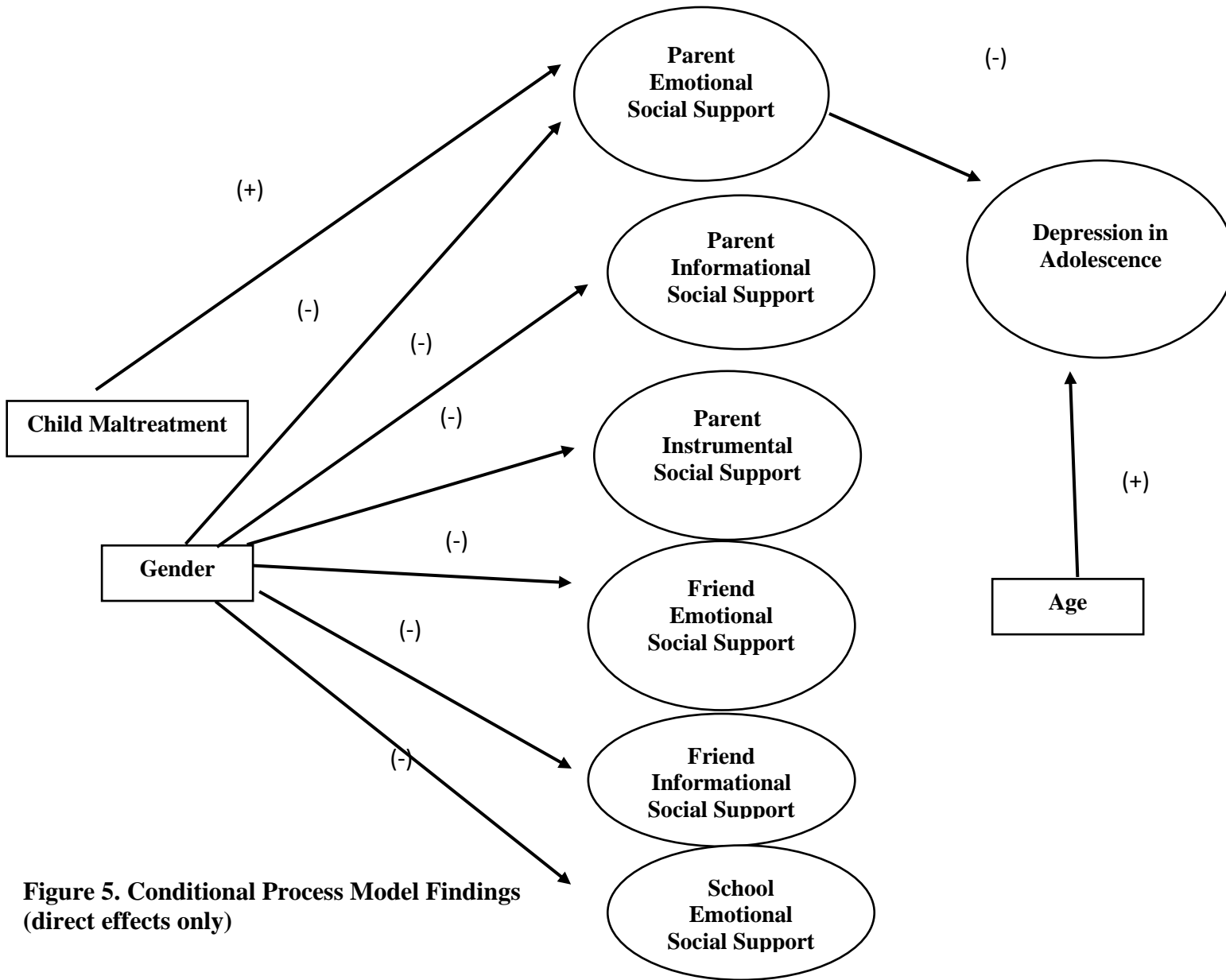


Figure 5. Conditional Process Model Findings (direct effects only)

Chapter 7: Split Gender Analysis

Split Gender Model

The literature suggests that males and females differ in the risk and development of depression after exposure to child maltreatment. Research shows that mood disorders such as depression tend to be more prevalent among female victims compared to male victims of maltreatment (Cooke & Weathington, 2014). The reasons behind these differences are not fully understood. Most of the research points to significant differences in brain structure and function between men and women (Cooke & Weathington, 2014; Lovallo, 2016), which may account for differences in depression between the two groups post victimization. Although there is biological evidence that can potentially explain differences in depression outcomes, other factors may also be at play. Females and males experience different types of child maltreatment more frequently. In addition, male and females are shown to cope in different ways, which may influence the effectiveness of social support for each group.

As stated earlier, both males and females are equally likely to experience child maltreatment, but they are not at risk for experiencing the same types of maltreatment. Compared to males, females are more likely to experience child sexual abuse (DHHS, 2016; Sedlak et al., 2010; Gilbert et al., 2009), while males are more likely to experience child physical abuse, emotional abuse, and neglect (DHHS, 2016; Sedlak et al., 2010). Differences exist in the context and consequences of abuse as well. Males sustain injury and death related to injury as a result of the abuse more frequently than females (DHHS, 2016; Sedlak et al., 2010). Females tend to experience abuse at the hands of family members, whereas males are more likely to experience it at the hand of people outside of the family (Finkelhor, 1980). These differences in abuse experiences may contribute to differences in the development of depression. All forms of child

maltreatment are potentially damaging to a person's mental health, but experiences of violence and neglect may have different effects compared to experiences of sexual abuse that do not result in physical injury. Exposure to sexual abuse, especially when perpetrated by a family member, may be closely linked to depression and could account for the reason why some research has shown female victims are more likely to develop depression (Cooke & Weathington, 2014).

In addition, evidence suggests that differences in the influence of social support on child maltreatment may stem from the varying ways females and males cope with traumatic experiences. Female victims are more likely than males to talk to their friends and seek emotional support (Powers et al., 2009). Sperry and Widom (2013) found that higher levels of tangible social support were associated with lower levels of anxiety in males, whereas there was little reduction for females. Higher levels of appraisal support and tangible support had a greater impact on depression for males than females. Thus, social support appears to be an important factor in why males and females may have different outcomes post-child maltreatment. The exact types and sources of social support have not been fully examined, in prior research examining gender differences in the effects of child maltreatment on depression. The current analysis aims to address these gaps by analyzing the mediating role of different types and sources of social support across gender.

Analytical strategy. To examine whether gender differences exist in the relationships between child maltreatment, social support, and depression, the same analytical model from the mediation analysis was examined for males and for females. In short, males and females were split into two groups and SEM was used to analyze each group separately although within the same analytical model. That is, the group-specific models were analyzed simultaneously.

Since there was no evidence of a moderated-mediated effect in conditional process model (Chapter 6), only the mediation model was tested that examines the direct and indirect effects of child maltreatment on depression for males and females. When conducting a split model SEM with Mplus, essentially 3 different analytical models are simultaneously analyzed. The overall model is the mediation analysis for the full sample is included to account for measurement and structural components of the SEM (same analytical model as model 1). The second analytical model examines the mediating effects of social support among females only. This analytical model assessed the relationship between child maltreatment, social support, and depression holding constant age, race, and mother's educational level for the females in the sample. The third analytical model assessed the mediating effects of social support among males only, testing the relationship between child maltreatment, social support, and depression holding constant age, race, and mother's educational level for the males in the sample. Figure 4 shows the conceptual model for the split group SEM (control variables are omitted for clarity).

Once these different models were identified, additional constraints were added to ensure that any significant differences between the groups could be identified. The overall measurement and structural model was the same across the groups, as were all item intercepts and residual variances. The intercepts for the latent factors (social support and depression), however, were set to different values for the groups. This step was done to identify the ways in which social support may mediate the link between maltreatment and depression. The factor intercepts for the female model were set at 0 and the factor intercepts for the male model were set to vary. Six indirect paths for each analytical model were tested, assessing the relationship between child maltreatment and social support on depression. In total 12 indirect paths were created, 6 for each

analytical model. In addition, the difference between the main paths were also assessed using a Wald model test in order to specifically identify significant differences across the groups.

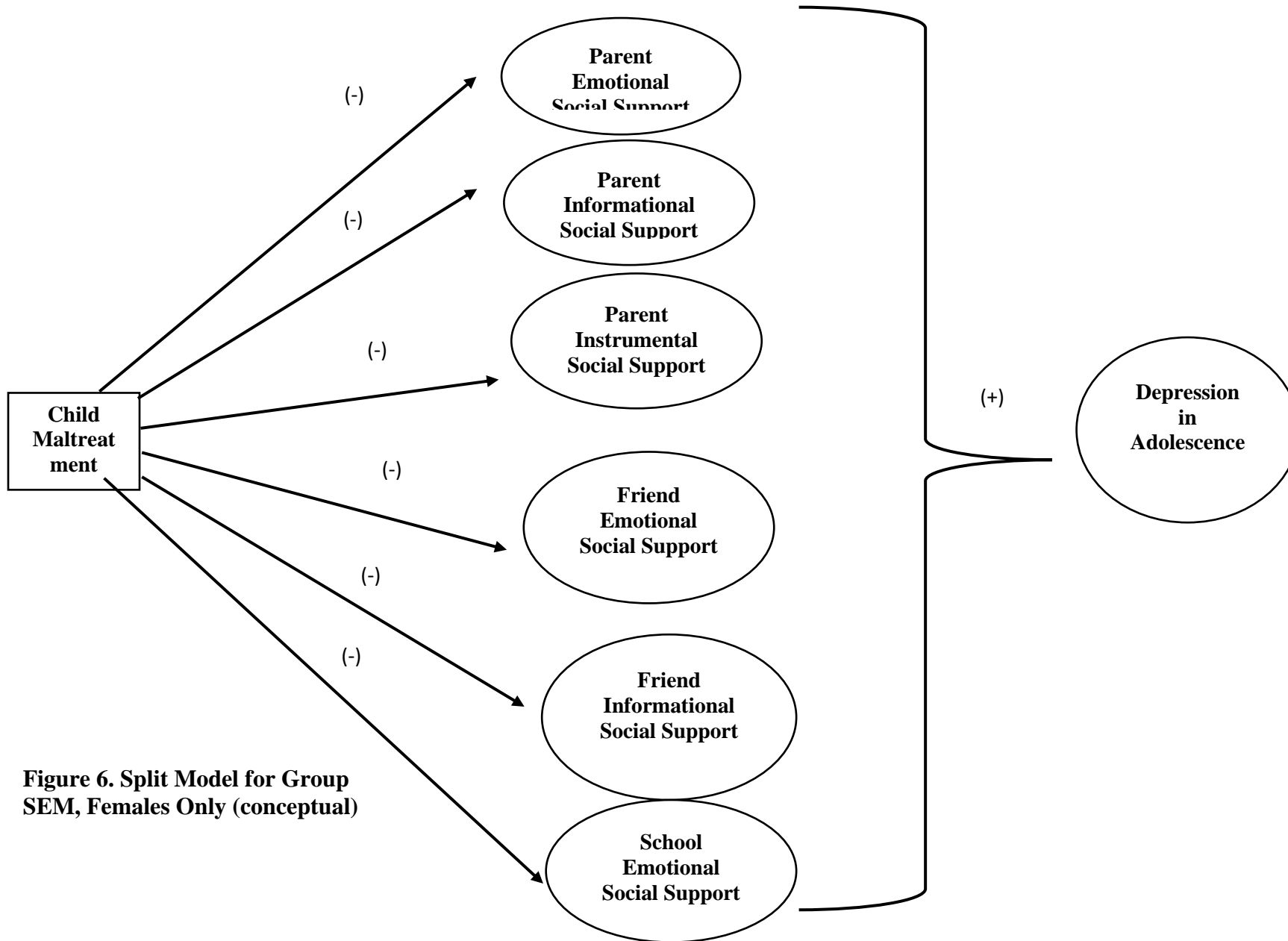


Figure 6. Split Model for Group SEM, Females Only (conceptual)

Results. Two main research questions were the focus of this analysis: Do certain sources of social support more effectively mediate between the number of maltreatment types and levels of self-reported depression based on a person's gender? Do certain types of social support more effectively mediate between the number of maltreatment types and levels of self-reported depression based on a person's gender? It was hypothesized that female victims will be more likely to seek out emotional social support compared to male victims, that this type will be more effective for females, and males will benefit more from instrumental and informational support. The direct effect of the exogenous variables on social support are presented in Tables 12 and 13. Among females, child maltreatment exhibits a significant direct effect on parent instrumental support (see Table 12). For females, higher scores on child maltreatment are associated with higher levels of parental instrumental support. Age is significantly related to both parent instrumental support and friend emotional support. Younger females are more likely to receive instrumental social support from their parents compared to older females, while older females are more likely to receive emotional social support from their friends compared to younger females. In addition, the lower educational level attained by the mother, the more likely that one will report higher levels of friend informational support. Among males, child maltreatment also exhibits a significant direct effect on parent instrumental support (see Table 13). For males, child maltreatment is linked to having lower levels of parental instrumental social support. Race is the only control variable for males that exhibits direct effects on social support. Specifically, for males being non-white increases the likelihood of reporting higher levels of parent emotional support.

There is also no evidence that social support mediates the link between child maltreatment and depression for males or females. The expectation that females will be more likely to report emotional support was also not supported. Further, none of the three emotional social support variables show a significant link to depression among females. Similarly, none of the instrumental or informational support variables were related to depression among males. The hypothesis, however, that certain sources of support will be more effective in preventing depression based on a person's gender was partially supported. As can be seen in Table 14, among females, sources of parental support are significant in preventing depression. Females who report higher levels of parental instrumental are less likely to report depression. For males, however, sources of friend social support were not significant as predicted. In fact, none of the social support variables showed significant links to depression for males. Age was the only variable that exhibited significant results on depression among males; older males are more likely to report depression (See Table 15).

Table 16 shows the results of the Wald test of model fit, which examines whether the differences found between the two groups are significant. As noted, the effect of maltreatment on parent instrumental social support was negative for males and positive for females. The difference in this effect is indeed significantly different between the two groups ($\lambda = -0.022$; $p = 0.025$), indicating that it operates differently for males and females. Also, the Wald test of model fit indicates that the link between parent instrumental support and depression is indeed significantly different for females as compared to males ($\lambda = -0.119$; $p = 0.042$). The results of the third analytical model are presented in Table 12. The red lines represent the significant paths for females and the blue lines represent the significant paths for males.

Table 12. Direct Effects of Exogenous Variables Predicting Social Support- Female Model (n = 6,441)

	Parent emotional		Parent informational		Parent instrumental		Friend emotional		Friend informational		School emotional	
	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.
Child maltreatment	0.010	0.009	0.000	0.007	0.012 [†]	0.007	-0.008	0.015	-0.007	0.008	0.009	0.014
Age	0.010	0.006	-0.002	0.004	-0.009*	0.004	0.013*	0.006	-0.001	0.004	0.002	0.008
Race	0.001	0.007	0.005	0.005	0.004	0.007	0.001	0.011	-	0.015*	0.006	0.011
Mother's education	-0.001	0.005	0.006	0.006	0.001	0.005	0.001	0.011	0.001	0.006	-	0.012

Note: CFI=0.900; RMSEA=0.025; [†] P<.10; * p< .05; ** p<.01; ***p<.001

Table 13. Direct Effects of Exogenous Variables Predicting Social Support- Male Model (n = 7,881)

	Parent emotional		Parent informational		Parent instrumental		Friend emotional		Friend informational		School emotional	
	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.	λ	S.E.
Child maltreatment	0.014	0.009	-0.005	0.007	-0.011 [†]	0.006	-0.012	0.011	-0.016	0.016	0.001	0.015
Age	-0.005	0.005	0.002	0.003	0.004	0.003	0.008	0.006	0.001	0.006	-	0.008
Race	0.012*	0.006	0.006	0.004	0.006	0.004	0.001	0.008	0.000	0.012	0.017	0.012
Mother's education	0.002	0.004	0.002	0.004	0.002	0.004	0.001	0.008	0.000	0.011	-	0.011

Note: CFI=0.900; RMSEA=0.025; [†] p<.10; * p< .05; ** p<.01; ***p<.001

Table 14. Direct Effects Predicting Depression-Female Model

	λ	S.E.
Child Maltreatment	0.004	0.008
<i>Social Support Variables</i>		
Parent emotional	-0.054	0.035
Parent informational	-0.018	0.044
Parent instrumental	-0.084*	0.038
Friend emotional	0.009	0.009
Friend informational	-0.027	0.042
School emotional	0.004	0.011
<i>Indirect Paths</i>		
CM -> FI -> DP	0.000	0.000
CM -> FC -> DP	0.000	0.000
CM -> SE -> DP	0.000	0.000
CM -> PIN -> DP	-0.001	0.001
CM -> PE -> DP	-0.001	0.001
CM -> PI -> DP	0.000	0.000
<i>Control Variables</i>		
Age	0.005	0.004
Race	-0.001	0.007
Mother's education	-0.002	0.006

Note: CFI=0.900; RMSEA=0.025; * p< .05; ** p<.01; ***p<.001; CM= child maltreatment; DP= depression; FI= friend instrumental; FC= friend care; SE= school emotional; PIN= parent instrumental; PE= parent emotional; PI= parent informational

Table 15. Direct Effects Predicting Depression-Male Model

	λ	S.E.
Child Maltreatment	0.005	0.009
<i>Social Support Variables</i>		
Parent emotional	-0.048	0.038
Parent informational	0.033	0.050
Parent instrumental	0.035	0.043
Friend emotional	0.009	0.009
Friend informational	-0.031	0.040
School emotional	0.000	0.012
<i>Indirect Paths</i>		
CM -> FI -> DP	0.000	0.000
CM -> FC -> DP	0.000	0.000
CM -> SE -> DP	0.000	0.000
CM -> PIN -> DP	0.000	0.000
CM -> PE -> DP	-0.001	0.001
CM -> PI -> DP	0.000	0.000
<i>Control Variables</i>		
Age	0.015***	0.004
Race	0.005	0.004
Mother's education	0.003	0.007

Note: CFI=0.900; RMSEA=0.025; * p< .05; ** p<.01; ***p<.001; CM= child maltreatment; DP= depression; FI= friend instrumental; FC= friend care; SE= school emotional; PIN= parent instrumental; PE= parent emotional; PI= parent informational

Table 16. Wald Test of Model Differences Across Groups

	λ	S.E.
Depression on maltreatment	0.001	0.012
Depression on friend care	-0.001	0.013
Depression on friend informational	-0.004	-0.004
Depression on school emotional	-0.004	0.017
Depression on parent instrumental	0.119*	0.058
Depression on parent emotional	0.006	0.051
Depression on parent informational	0.051	0.070
Friend informational on maltreatment	0.001	0.010
School emotional on maltreatment	-0.007	0.021
Parent instrumental on maltreatment	-0.022*	0.010
Parent emotional on maltreatment	0.004	0.012
Parent informational on maltreatment	-0.005	0.009
Friend emotional on maltreatment	-0.008	0.008

Note: $W_n = 17.425$; $df = 13$; $p < 0.1806$; $CFI = 0.900$; $RMSEA = 0.025$

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

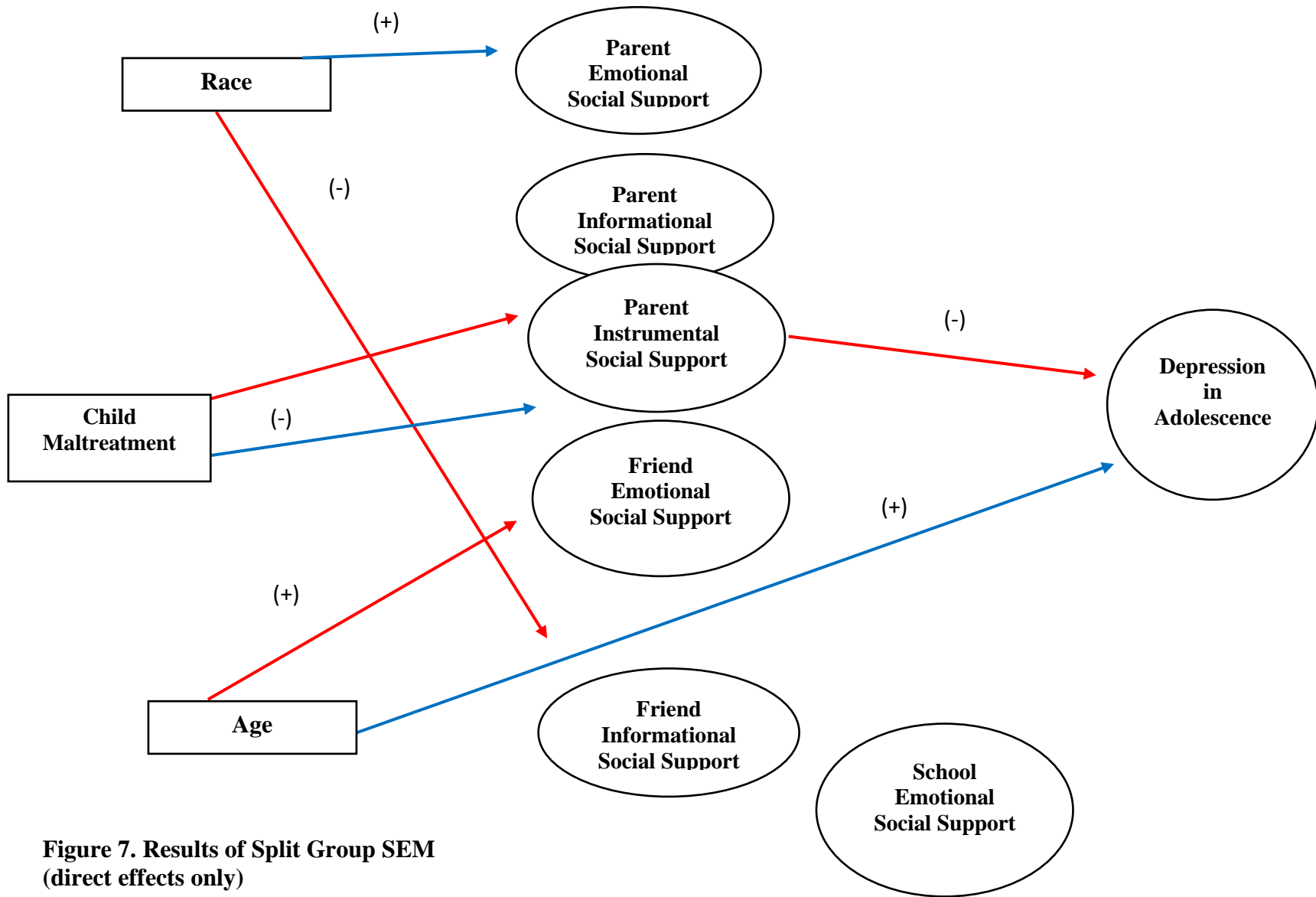


Figure 7. Results of Split Group SEM (direct effects only)

Chapter 8: Discussion

Those exposed to child maltreatment often develop depression as a result of their trauma, but this is not the case for all people. The fact that some people can avoid the negative outcomes associated with child maltreatment indicates that resiliency in the face of victimization is possible. Research shows that the ways in which people cope and the meanings they attach to their experiences greatly effect whether they develop depression as a result of maltreatment (Cooke & Weatington, 2014; Lovallo, 2016). Some research indicates that the availability of social support within interpersonal relationships is an important resiliency factor (Lynskey & Fergusson, 1997; Lovallo, 2016). Several studies show that social support not only can mediate the relationship between maltreatment and depression, it can also buffer against developing depression after exposure to maltreatment. Not all research, however, has found support for social support operating as a mediator or buffer (Merrill, Thomsen, Sinclair, Gold & Milner, 2001; Powers et al., 2009; Runtz & Schallow, 1997; Sperry & Widom, 2013; Tremblay et al., 1999; Yap & Devilly, 2004). The mixed results make it difficult to understand how certain sources and types of support make an impact on depression for those exposed to maltreatment.

The aim of the current study was to explore the ways in which social support, depending on the type and source, can mediate and moderate depression among victims of child maltreatment. In addition, the ways in which gender may influence these relationships was also explored. The current dissertation improves upon the past research by using a nationally representative sample and using analytical tools to account for measurement error. In addition, both mechanisms of how social support may be related to child maltreatment and depression were examined. Although several steps were taken to improve upon past research, overall there was a lack of support for the main mediation and moderation hypotheses. Despite a lack of

support for the main research hypotheses, however, there are five main findings from this research.

First, contrary to work showing that social support acts as mediator or a moderator, results of the current analyses show that social support does not function as either. The expected links between maltreatment, social support, and depression did not emerge from the analysis. Past research that uses the Add Health data to explore similar research questions have found a connection between child maltreatment and depression, but both of these studies focus on abuse and do not include neglect. Because abuse entails more severe behavior, such as physical or psychological trauma, these experiences may be tied to depression in ways that neglect is not. As mentioned earlier, neglect does not always occur deliberately, which may be especially true among families that live in poverty. Therefore, the ways that abuse and neglect can be experienced and perceived differ from each other. These differences could suggest that abuse may be driving the connection to depression and this connection disappears when neglect is included (Dunn, McLaughlin, Slopen, Rosand, & Smoller, 2013; Fletcher, 2009). Since this may be the case, it is not accurate to label experiences of abuse as child maltreatment. Child maltreatment includes *both* neglect and abuse. These past studies (Dunn et al., 2013; Fletcher, 2009) would have benefited by being more precise in defining this key variable. To call experiences of abuse child maltreatment may be incorrect given the differences between neglect and abuse. Future researchers need to take more care when labelling maltreatment, abuse, and neglect.

Also, the Dunn study (2013) does not use the full CES-D measure from the Add Health study, instead limiting it to 9 items instead of 19. It is important to note many of the items used in the CES-D may not logically fit together although they do load on one factor. For example, respondents are asked whether they felt tired and also whether they felt people were unfriendly to them. Therefore, there may be issues with construct validity and future work needs to consider using items that logically fit together. In addition, both the Dunn and Fletcher (2009) studies make no mention of factor analysis or other methods to account for measurement error, which was a careful consideration of the current study given that depression is a latent construct. Dunn also used measures from Wave 4 that assess abuse experiences before the age of 18, unlike the wave 3 measure used in the current study, which ask about experiences before sixth grade. Dunn and colleagues also differentiated between timing of exposure to abuse, accounting for the age range of when these experiences took place; differentiating between childhood, middle childhood, and adolescence. Fletcher, however, used abuse measures from wave 3 but utilized a dichotomous coding scheme unlike the current study which measured child maltreatment as a variety score.

Given the above differences in measurement, it can be argued that the link between maltreatment and depression seems to be highly dependent on the manner in which these variables are conceptualized and operationalized. Although it is generally assumed that higher levels of victimization, especially early in life, will lead to negative mental health outcomes like depression (Cooke & Weathington, 2014; Fergusson et al., 1996; Loyallo, 2016; Lynskey & Fergusson, 1997; Tremblay et al., 1999), the results suggest child maltreatment may not always be linked to depression later in life.

Despite the differences between studies identified above, the current study shows that across the three analytical models exposure to child maltreatment before sixth grade was not significantly related to depression in adolescence. Child maltreatment was also not related to social support during adolescence in any way, with one exception. The exception was seen in the second analytical model (conditional process model) where child maltreatment exhibits a significant direct effect on parent emotional support ($p < .100$). Those who are exposed to multiple forms of child maltreatment report higher levels of parental emotional support. This finding could suggest several things. Either the child disclosed the maltreatment incident to their parents resulting in increased levels of social support or, as a result of the maltreatment, the child sought out increased levels of social support from their parents.

Also, some children may not disclose or actively seek social support, rather the child changes their behavior, which results in increased (or decreased) support. The perpetrators of child maltreatment are more likely to be family members (Finkelhor et al., 2005) than others; thus, this may be why parental emotional social support was linked to maltreatment but had no protective effect against depression. Receiving social support from a family member who is abusive may cancel out any positive effect support has on depression. There is evidence to suggest social support from anti-social sources may not always be protective against negative outcomes (Colvin et al., 2012; Brezina & Azimi, 2017). In addition, if the perpetrator is another family member, then the response to disclosure may not be beneficial. Unfortunately, the identity of the perpetrator could not be determined so it is unknown why this type of social support did not show the expected mediating or moderating effects. Future research needs to explore who the perpetrator is and how the victim-offender relationship influences outcomes of depression among victims of child maltreatment.

Moreover, it is important to note that child maltreatment was a retrospective measure that captured experiences before 6th grade. Social support and depression were both measured when the respondent was in middle school or high school. Thus, the timing of these variables may be another reason why there were little to no relationships between child maltreatment, social support, and depression. There is evidence that suggests that the timing of social support is key to its effectiveness. A meta-analysis of studies that examine social support found that social support served as a stronger predictor of healthy adjustment in studies where the event had occurred more than three years prior than it was for studies with less time elapsed. The authors argue that social support may function as a kind of secondary prevention and emphasize that the timing of it may be crucial in terms of its beneficial effects (Ozer et al., 2003).

The researchers, however, only found this to be the case for PTSD so it is not clear how the timing of social support affects depression. Given that depression can be greatly influenced by lifestyle factors and the family environment (Shiner & Marmorstien, 1998), it is possible that the effects of social support on depression may be more immediate. The social support one receives in one year may not have any lasting effects on depression a year later. Similarly, the levels of social support during or directly following the child maltreatment incident may be more salient in predicting depression over the short term.

Another possible explanation may be that the relationships found in previous research are merely correlational and that victimization does not precede depression. Most of the studies in this area are cross-sectional; therefore, the finding that depression is an outcome of maltreatment may be an artifact of research design. Although depression and maltreatment have been shown to be correlated, it does not mean that depression is a direct result of this type of victimization. The lack of longitudinal designs prevents the understanding of exactly social support is linked to

child maltreatment and depression. This dissertation addresses these past limitations by using longitudinal data. The results suggest that further research is needed to understand the temporal relationship between child maltreatment, social, support, and depression. Future research needs to continue to explore the links between these variables with longitudinal data in order to better understand how timing and measurement dictates and effects the links between maltreatment, social support, and depression.

Another avenue of future research as it concerns child maltreatment lies in plotting the interaction between depression and social support at different values of maltreatment. As mentioned earlier child maltreatment measured as a variety score fits the data the best as compared to using a dichotomous measure of each type. Essentially then, this measure captured experiences of poly-victimization. As evidence shows, those who experience multiple forms of child maltreatment tend to report more severe outcomes (Finkelhor et al., 2007). Therefore, separating out values of maltreatment and examining at which point it shows an interaction with social support may be informative.

A second finding is that, social support was shown to have direct effects on depression, independent of child maltreatment. Most studies centered on victims of child maltreatment focus on exploring the mediating or moderating effects of social support on mental health outcomes (Yap & Devilly, 2004). Less is known about the main effects of social support, but there is reason to believe that social support can exhibit positive benefits on well-being independent of experiencing child maltreatment. The findings of the current study bolster the idea that specific types of social support may only exhibit main effects on depression in certain situations. Higher levels of parental emotional social support and parental instrumental social support both were significantly related to lower levels of depression. Also in the conditional process model,

parental emotional social support had direct effects on depression when child maltreatment is at zero. These findings support decades of past research that show social supports' key role in overall well-being and mental health independent of exposure to trauma (Cohen & Wills; 1985; Lovallo, 2016; Testa et al., 1992; Tremblay et al., 1999). It has been shown that positive reactions from social support providers after one discloses their victimization is related to better psychological adjustment (Testa et al., 1992). Another study that evaluated the mediating role of social support on the adaptation of victims of child sexual abuse instead found evidence of its main effects. Exposure to sexual abuse was not related to social support, but social support did have direct effects on depression outcomes (Tremblay et al., 1999). These findings highlight the importance of examining social support's main effects.

Exploration of main effects, however, is rare. There are few studies examining the main effects of social support on depression, although there is some empirical evidence that demonstrates social supports' main effects on mental health (Cohen & Wills, 1985; Lovallo, 2016; Testa et al., 1992; Tremblay et al., 1999). Although not linked to child maltreatment, understanding the link between social support and depression can still inform our understanding of victimization. Depression is shown to be a risk factor for victimization (Barentt et al., 2005; Schumm et al., 2006), and if social support is related to depression, then support may function more as a distal risk factor for victimization.

Third, the findings show that how social support is conceptualized and operationalized may influence its impact as a mediator or a moderator. Specifically, definitions of social support utilized are often vague and broad, which places the concept of social support in danger of losing its distinctiveness (Cohen & Wills, 1985; Thoits, 1982; 1995). Issues surrounding definitions highlight the need for a guiding framework such as the one Cullen (1994) proposes in order to

measure social support in similar ways across studies. Cullen (1994) explicitly acknowledges that the nature of social support is complex, requiring researchers to make several distinctions when defining the construct. It is important that measures of support capture all of its main dimensions, but researchers usually do not define the concept in a way that accounts for different dimensions of social support, such a type and source.

As Cullen emphasizes (1994), the source and type of social support is important to consider, as each one may have different functions. For this reason, special attention was given to ensuring different types and sources of social support were identified and checked for proper measurement. Most studies only focus on one aspect of social support, which may be why there are a plethora of mixed results in this area. In fact, some researchers argue that the lack of consistency in research findings may stem from inadequacies in conceptualization and operationalization of support (Thoits, 1982). When different types and sources of social support are measured there is no evidence of mediating or moderating effects, but evidence for the direct effects of social support is present. Therefore, other research may be masking the true relationship between maltreatment, social support, and depression.

A lack of consistency in measurement among past research makes it difficult to synthesize information about social support's influence on depression among victims of child maltreatment. Although social support may influence the negative effects of stress on mental health (Cohen & Wills 1985; Thoits, 1985; Hill et al., 2010; Holt & Espelage, 2005; Stice et al., 2004; Yap & Devilly, 2004), the limitations discussed above prevent the identification of specific aspects of support that are related to depression among victims. Therefore, past findings regarding social support's role as a mediator or moderator should be interpreted with some

caution. Assumptions that social support will either act as a buffer to the negative effects of depression and/or a mediator between victimization and depression may be incorrect.

An additional measurement issue should also be considered. The findings of the current study emphasize the need to use sophisticated tools to account for measurement error by utilizing SEM. Although the items used in previous research to measure latent constructs may appear to be valid, most studies do not use research designs that account for measurement error (Hill, Kaplan, French, & Johnson, 2010; Holt & Espelage, 2005; Whiffen & MacIntosh, 2005), and tools like SEM are rarely used in studies that examine child maltreatment, social support, and depression. When SEM is used, the data tend to be cross-sectional with small sample sizes. Also, the way researchers define social support does not account for the complexity of the concept (Lincoln et al., 2003; Merrill et al., 2001; Vranceanu et al., 2007). The variability and ambiguity of measurement and the findings regarding social support, however, highlight the need to continue to use statistical tools like SEM to inform measurement choices. The rare use of SEM is problematic because this statistical tool is best for modeling latent constructs like social support and depression.

For the current dissertation, several steps were taken to identify not only the appropriate social support factors but depression as well. Certain items for depression needed to be cross correlated, and the social support items did not group together as suggested by past research. The process of factor analysis and establishing the measurement model demonstrated that even when previously established psychometric measures are used (i.e., depression), extra steps need to be taken to avoid measurement error. To move this area of research forward, definitions of concepts, especially social support, needs to be clearly delineated into a framework so they stay

consistent across studies. Tools like SEM need to be more widely used to ensure a balance is struck between theoretical and statistical considerations of measurement.

Fourth, the findings from the third analysis examining gender differences are in line with previous research showing a person's gender may influence the effectiveness of social support (Powers et al., 2009; Sperry & Widom, 2013). For both males and females, exposure to maltreatment significantly influences the instrumental social support they receive from their parents. This support includes talking with your mom and dad about school and working on a school project. The effects, however, are different for females and males. Females are more likely than males to receive instrumental social support from their parents. These findings suggest that important differences in the effects of social support may be overlooked among these two groups when they are analyzed together.

The reasons behind these difference in social support effects may relate to the varying ways females and males cope with traumatic experiences. Female victims are more likely than males to talk to others and seek social support. Differences in coping may be why females experience protective benefits of certain types of social support when males do not (Powers et al., 2009). Since maltreatment did occur in early childhood, it is possible that child maltreatment led to problems at school. As such, females may have reached out to their parents for help with school tasks, while males may have been less likely to do so. Given gender difference in coping, females may have sought such help. It is unclear, however, why other forms of parental social support, like informational support that includes talking with your parents about a problem, were not significant. Future research should continue to explore why exposure to maltreatment influences social support differently for males and females. Males and females may also respond

differently to social support from their mother and father therefore, separately examining these sources of support may also be a worthwhile step for future research.

There were also gender difference in how social support relates to depression. Specifically, parental instrumental support was only related to depression among females. For males, none of the social support variables effected depression. These findings may also stem from differences in coping, since males may not seek help after exposure to maltreatment like females do. Because males may not seek out support the same way that females do, their levels of instrumental social support may be so low that they have no influence on depression. Nevertheless, as there was no evidence of a mediating relationship, it is not possible to conclude that the significant link between this type of support and depression among females is influenced by maltreatment.

In general, there seems to be good reason to explore gender differences in social support among victims of maltreatment. The findings of the current study not only support past research on gender differences but highlights the way in which gaps in this area of research can be addressed. There is a need for future research to continue to explore potential gender differences and whether effects of social support are beneficial for male and female victims in the same ways. Also, there may be other forms of social support not measured in the current study that are more relevant to depression. These forms need to be identified by researches and tested for their differential affects for males and females. In addition, other possible negative outcomes should be explored as they may be more relevant for victims of maltreatment. Other mental health outcomes of child maltreatment, like anxiety, may be more closely tied to gender. Differences in levels of social support may also affect the lives of males and females in other areas of their life such as academic and career achievements. In terms of policy, it would be beneficial if male and

females are exposed to programs that teach effective ways to identify and use social support in the environment, while also improving their own skills of providing social support. These programs can be incorporated in school settings when individuals are young. Newly learned skills can then be internalized and transferred to all domains of life and may even help with future negative events, such as victimization.

Fifth, if we are to use Cullen's framework to enhance the research on child maltreatment, social support, and depression it is important that certain things are accounted for. The foundation set by Cullen can be enhanced given the current findings. As mentioned, there is evidence that measuring social support in ways that account for its complexity is valid. If social support was measured as a composite measure, the differences in effects would have not been uncovered. Some of Cullen's assumptions, however, were not supported. Specifically, social support did not seem to lessen the pains of child maltreatment. Given the lack of information regarding the salient forms of social support for crime victims (Yap & Devilly, 2004) this may not be surprising; recall few studies examine the role of social support for crime victims specifically. Therefore, it is possible that other forms of victimization and depression are mediated or moderated by social support, such as physical assault and rape. Depression may be more closely related to serious violent victimization. This is not to say that child maltreatment is not serious, but the majority of victims in the sample were exposed to neglect (non-violent) rather than abuse (violent).

Other forms of mental health outcomes need to also be considered. More focus needs to be given to serious, chronic depression that has been diagnosed by a doctor. The depression items in Add Health are self-reported and could reflect low levels that are easily changeable. This measurement could be why no link between child maltreatment and depression was found

in the current study. Other forms of mental health outcomes, like anxiety and PTSD, that are often associated with child maltreatment also need to be explored. In addition to internalizing outcomes, externalizing behaviors may also be important to explore. There is evidence that social support can lower rates of juvenile delinquency (Boa et al., 2005), and this potential relationship would be worthwhile to explore among child maltreatment victims. Future research needs to test similar pathways using different outcome variables.

Limitations

Although the results of the dissertation are helpful in demonstrating that the measurement and main effects of social support need to be given more attention, it is not without its limitations. The Add Health study was not designed to necessarily capture social support, even though there are measures that meet definitional standards. This limitation in available measures may be the reason why most of the hypotheses regarding the role of social support were not supported. Using measures that were specifically designed to capture social support may yield different results. Also, the timing of some of the variables may have contributed to why the expected results were not found. Respondents were asked about child maltreatment experiences that happened before 6th grade while they were currently in 7th grade or higher. Questions for depression, however, were assessed for the past seven days at the time of the interview. The large time gap between these measures, especially for those who had early experiences of maltreatment, may be the reason why depression and maltreatment were not related in the models. Depression was also a self-reported measure, which may capture current affective states rather than serious clinical depression. Self-reported measures of depression may also not be accurate, especially since it was measured in the last seven days. Respondents may be reporting on emotions that are related to depression but not to the disorder itself.

The current analysis was limited to examining the effects of depression. As mentioned earlier, however, other outcomes may be more relevant to child maltreatment and social support. Not only should more attention be given to other mental health outcomes (i.e. anxiety and PTSD), but externalizing behaviors like drug use and delinquency also need to be explored. Child maltreatment is shown to be related to a whole host of negative outcomes, and there is potential that maltreatment and social support influence other outcomes (Gilbert et al., 2009). Social support was also assessed while respondents were in middle school or high school, so the time gap between this and maltreatment may also explain the little to no relation between the two. Lastly, given that this is a school-based sample, the results cannot be generalized to non-school based populations. It is also possible that those who are exposed to serious child maltreatment are not enrolled in schools, thus not capturing the true nature of the relationships between maltreatment, social support, and depression.

Conclusion

The findings of this dissertation make important contributions to the literature by demonstrating and bolstering the call that the ways in which child maltreatment, social support, and depression are examined need to be nuanced and sophisticated statistical tools need to be used (Sperry & Widom, 2013). Measuring social support in a way that captures its different dimensions is crucial in truly understanding the function it plays for victims of child maltreatment. The findings show that social support is not a singular concept, and the nature of it is broad and complex; thus, several distinctions when studying the construct need to be made. Although social support did not mediate or moderate the link between child maltreatment and depression, it is possible that social support may still serve an important function for victims. In

addition, this research shows that social support has main effects on depression that should be considered more fully.

Importantly, unlike most of the research in this area, steps were taken to account for measurement error through factor analyses and SEM that then uncovered that social support did not function in hypothesized ways. Since most of the previous research does not account for measurement error, these findings may point to fundamental flaws within past studies that may be hindering our understanding about child maltreatment, social support, and depression. Researchers, then, need to carefully construct their measures, consider their latent nature, and ensure proper measurement.

This area of research needs to be built anew, by incorporating a theoretical framework. To date, however, there is no clear framework that can fully account for the ways in which social support may affect negative outcomes among victims of maltreatment. As demonstrated by the current study, Cullen's (1994) framework has limitations as it does not focus on the main effects of social support and its link to victimization. Nevertheless, it could be used as a starting point, but additional theoretical development is needed in order to gain a full understanding of social support's role in victimization. So much of our knowledge surrounding child maltreatment is influenced by the ways we conceptualize and operationalize key concepts. As this current study demonstrates, when a body of research is not guided by theory or a framework it is difficult to truly synthesize and understand what we know. It is possible that social support does indeed matter for the negative outcomes experienced by victims, but more concerted steps need to be taken to empirically demonstrate these links.

Technical Appendix

Table A1. Covariances between Social Support, Depression, Controls, and IV					
	Social Support Items				
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom
Social Support Items					
Close to people at school	1.058				
Feel part of school	0.643	1.084			
Happy to be at school	0.577	0.657	1.264		
Talked life with mom	0.022	0.026	0.000	0.243	
Talked problem with mom	0.007	0.013	0.006	0.078	0.226
Talked school work mom	0.020	0.039	0.024	0.050	0.053
Worked school project mom	0.014	0.022	0.016	0.012	0.019
Talked other school things mom	0.032	0.048	0.037	0.047	0.054
Talked life with dad	0.024	0.029	0.015	0.059	0.015
Talked problem with dad	0.010	0.006	0.002	0.016	0.040
Talked school work dad	0.032	0.037	0.033	0.008	0.003
Worked school project dad	0.011	0.019	0.016	0.003	0.002
Talked other school things dad	0.043	0.058	0.046	0.010	0.006
Mom is warm and loving	0.113	0.131	0.132	0.011	0.028
Good communication mom	0.134	0.160	0.199	0.001	0.028
Good relationship mom	0.125	0.160	0.183	0.017	0.031
Dad is warm and loving	0.084	0.119	0.127	0.007	0.014
Good communication dad	0.083	0.120	0.127	-0.017	-0.006
Good relationship dad	0.087	0.126	0.127	-0.012	0.001
Talk to male friend problem	-0.003	0.000	-0.014	0.054	0.041
Talk to female friend problem	0.010	0.004	-0.014	0.057	0.052
Friends care about you	0.166	0.150	0.128	0.044	0.025
Depression Items					
Bothered by things	0.016	0.011	0.004	0.013	0.013
Poor appetite	0.008	-0.002	-0.024	0.013	0.007
Had the blues	0.008	-0.002	-0.013	0.006	0.006
Felt just as good as others	0.029	-0.009	0.003	0.006	-0.008
Trouble keeping focused	0.006	0.006	-0.004	0.003	-0.002
Felt depressed	0.014	-0.008	-0.024	0.005	-0.003
Too tired to do things	0.019	-0.005	-0.003	0.007	0.004
Felt hopeful about future	0.000	-0.017	-0.010	-0.009	-0.013
Thought life had been failure	0.002	-0.003	0.003	-0.001	-0.008
Felt fearful	0.003	0.006	0.002	-0.007	-0.004
Felt happy	0.020	-0.016	-0.004	0.002	-0.004

Talked less	0.010	0.003	-0.011	0.001	-0.002
Felt lonely	0.014	0.007	0.003	0.002	0.001
People were unfriendly	0.002	-0.018	-0.006	-0.004	-0.003
Enjoyed life	0.017	-0.004	-0.002	-0.005	-0.005
Felt sad	0.005	0.007	-0.006	0.008	0.000
Felt people disliked you	0.008	-0.017	-0.005	-0.003	-0.004
Felt hard to start things	0.014	0.000	-0.006	0.002	0.001
Felt life was not worth living	0.001	-0.010	-0.002	-0.004	-0.003
Controls and IV					
Age	-0.020	-0.009	-0.040	-0.013	-0.010
Race	0.022	0.009	-0.003	-0.001	-0.006
Sex	-0.024	-0.034	-0.022	-0.027	-0.033
Mom education	-0.003	-0.013	-0.028	0.005	0.002
Child maltreatment	0.002	0.008	0.011	-0.005	-0.008

Table A2. Covariances between Social Support, Depression, Controls, and IV					
	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	0.244				
Worked school project mom	0.036	0.106			
Talked other school things mom	0.124	0.042	0.250		
Talked life with dad	0.006	0.003	0.007	0.158	
Talked problem with dad	0.004	0.003	0.007	0.049	0.122
Talked school work dad	0.078	0.018	0.056	0.050	0.041
Worked school project dad	0.014	0.028	.018	0.013	0.014
Talked other school things dad	0.050	0.022	0.091	0.047	0.039
Mom is warm and loving	0.023	0.021	0.041	0.023	0.012
Good communication mom	0.016	0.027	0.033	0.026	0.019
Good relationship mom	0.023	0.023	0.037	0.023	0.013
Dad is warm and loving	0.020	0.013	0.033	-0.005	0.000
Good communication dad	0.015	0.016	0.022	-0.021	-0.008
Good relationship dad	0.015	0.015	0.023	-0.011	0.000

Talk to male friend problem	0.017	0.003	0.020	0.023	0.014
Talk to female friend problem	0.021	0.006	0.024	0.022	0.013
Friends care about you	0.020	0.006	0.021	0.030	0.009
Depression Items					
Bothered by things	0.011	-0.002	-0.010	0.000	0.002
Poor appetite	0.011	0.006	0.008	-0.002	0.000
Had the blues	0.004	-0.001	0.000	0.000	0.002
Felt just as good as others	0.003	-0.003	-0.008	0.005	0.002
Trouble keeping focused	0.003	-0.003	0.004	-0.002	0.000
Felt depressed	-0.001	0.000	-0.001	-0.003	-0.003
Too tired to do things	0.004	0.002	0.007	0.000	0.000
Felt hopeful about future	0.006	-0.003	-0.002	-0.009	-0.008
Thought life had been failure	-0.001	-0.001	-0.003	-0.002	-0.001
Felt fearful	-0.001	-0.001	0.003	-0.008	-0.003
Felt happy	-0.001	-0.002	-0.005	-0.004	0.006
Talked less	0.000	-0.002	0.004	0.000	-0.004
Felt lonely	-0.005	0.001	-0.003	-0.002	0.000
People were unfriendly	0.004	0.004	0.004	-0.003	-0.003
Enjoyed life	0.007	-0.001	-0.005	-0.006	0.001
Felt sad	0.001	0.002	0.002	-0.002	-0.005
Felt people disliked you	0.001	0.000	0.002	-0.001	0.000
Felt hard to start things	0.001	-0.004	0.004	-0.003	0.000
Felt life was not worth living	-0.002	0.001	-0.004	0.000	0.001
Controls and IV					
Age	-0.013	-0.004	0.003	0.004	-0.001
Race	0.013	-0.002	0.006	0.011	0.000
Sex	-0.010	-0.008	-0.015	0.004	0.005
Mom education	0.005	0.003	-0.004	0.007	0.000
Child maltreatment	0.002	0.005	-0.003	-0.003	0.002

Table A3. Covariances between Social Support, Depression, Controls, and IV					
	Social Support Items				
	Talked problem work dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	0.231				
Worked school project dad	0.035	0.070			
Talked other school things dad	0.131	0.038	0.213		
Mom is warm and loving	0.034	0.010	0.043	0.654	
Good communication mom	0.037	0.014	0.046	0.474	1.050
Good relationship mom	0.032	0.010	0.040	0.443	0.720
Dad is warm and loving	-0.037	0.004	-0.015	0.159	0.182
Good communication dad	-0.061	0.004	-0.028	0.124	0.243
Good relationship dad	-0.041	0.003	-0.018	0.133	0.224
Talk to male friend problem	0.007	0.003	0.009	-0.021	-0.057
Talk to female friend problem	0.010	0.004	0.010	-0.023	-0.058
Friends care about you	0.023	0.004	0.030	0.099	0.100
Depression Items					
Bothered by things	0.000	0.001	-0.001	-0.001	-0.016
Poor appetite	-0.001	0.000	-0.003	0.011	0.002
Had the blues	-0.003	-0.003	-0.008	0.003	-0.014
Felt just as good as others	0.003	-0.004	0.002	0.014	-0.005
Trouble keeping focused	0.001	-0.003	-0.002	0.004	-0.013
Felt depressed	-0.005	-0.003	-0.008	-0.002	-0.019
Too tired to do things	0.007	-0.005	0.001	0.004	-0.008
Felt hopeful about future	0.001	-0.005	-0.004	0.006	0.002
Thought life had been failure	-0.002	-0.002	-0.007	-0.001	-0.009
Felt fearful	-0.005	-0.003	-0.004	-0.010	-0.013
Felt happy	0.001	-0.002	-0.005	-0.005	-0.014
Talked less	-0.001	-0.001	-0.004	0.006	0.002

Felt lonely	-0.007	-0.002	-0.008	-0.006	-0.013
People were unfriendly	-0.001	0.002	-0.003	-0.009	-0.018
Enjoyed life	-0.001	0.001	-0.004	-0.008	-0.014
Felt sad	-0.004	-0.001	-0.007	-0.004	-0.026
Felt people disliked you	0.00	-0.001	-0.005	-0.009	-0.018
Felt hard to start things	-0.004	-.003	-0.004	-0.004	0.003
Felt life was not worth living	-0.003	-0.001	-0.005	-0.004	-0.006
Controls and IV					
Age	-0.004	-0.001	-0.002	-0.008	-0.018
Race	0.006	0.001	0.000	-0.005	0.017
Sex	-0.001	-0.002	-0.003	-0.025	-0.011
Mom education	0.005	0.004	-0.003	-0.023	-0.009
Child maltreatment	-0.005	0.000	-0.001	0.009	0.017

Table A4. Covariances between Social Support, Depression, Controls, and IV					
	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	0.790				
Dad is warm and loving	0.171	0.799			
Good communication dad	0.197	0.683	1.050		
Good relationship dad	0.215	0.636	0.825	0.861	
Talk to male friend problem	-0.040	-0.024	-0.045	-0.038	0.247
Talk to female friend problem	-0.040	-0.016	-0.044	-.0037	0.087
Friends care about you	0.090	0.061	0.043	0.048	0.045
Depression Items					
Bothered by things	0.003	0.002	0.000	-0.007	-0.002
Poor appetite	0.002	0.008	0.001	-0.001	0.002
Had the blues	-0.009	-0.001	0.003	-0.003	0.002
Felt just as good as others	0.010	-0.015	-0.031	-0.031	-0.014

Trouble keeping focused	0.001	0.005	0.008	0.000	-0.003
Felt depressed	-0.006	-0.004	-0.007	-0.010	-0.001
Too tired to do things	-0.004	0.001	-0.022	-0.001	-0.002
Felt hopeful about future	0.015	-0.011	0.003	0.001	-0.009
Thought life had been failure	-0.004	-0.005	-0.004	-0.007	-0.003
Felt fearful	-0.011	-0.001	-0.005	-0.007	-0.004
Felt happy	-0.004	-0.010	-0.012	-0.013	-0.003
Talked less	0.004	-0.002	0.002	-0.002	-0.006
Felt lonely	-0.009	-0.012	-0.008	-0.013	0.000
People were unfriendly	-0.010	-0.008	-0.004	-0.010	-0.007
Enjoyed life	0.000	0.007	0.002	-0.001	-0.014
Felt sad	-0.010	-0.007	-0.008	-0.010	0.000
Felt people disliked you	-0.012	-0.009	-0.009	-0.015	-0.006
Felt hard to start things	0.004	-0.003	-0.003	0.004	-0.009
Felt life was not worth living	-0.010	-0.001	-0.004	-0.005	-0.007
Controls and IV					
Age	-0.008	0.024	0.025	0.012	0.002
Race	0.011	0.020	0.012	0.026	-0.013
Sex	-0.017	-0.024	-0.055	-0.007	-0.020
Mom education	-0.011	0.018	0.008	0.020	0.001
Child maltreatment	0.015	0.024	0.025	0.025	-0.008

	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	0.250				
Friends care about you	0.051	0.688			
Depression Items					
Bothered by things	0.008	0.023	0.506		
Poor appetite	0.013	0.009	0.173	0.526	

Had the blues	0.006	0.009	0.233	0.191	0.497
Felt just as good as others	-0.008	0.004	0.113	0.122	0.150
Trouble keeping focused	-0.008	-0.008	0.197	0.158	0.207
Felt depressed	0.006	0.006	0.238	0.188	0.309
Too tired to do things	0.001	0.005	0.152	0.144	0.166
Felt hopeful about future	-0.019	-0.004	0.106	0.084	0.119
Thought life had been failure	-0.002	-0.005	0.106	0.098	0.135
Felt fearful	-0.007	0.006	0.107	0.088	0.132
Felt happy	-0.004	-0.002	0.134	0.127	0.185
Talked less	-0.011	0.018	0.149	0.121	0.157
Felt lonely	0.002	0.010	0.173	0.136	0.235
People were unfriendly	-0.002	0.003	0.098	0.073	0.108
Enjoyed life	-0.005	0.003	0.148	0.125	0.190
Felt sad	0.002	0.007	0.191	0.152	0.246
Felt people disliked you	0.001	-0.001	0.116	0.081	0.134
Felt hard to start things	0.000	0.000	0.112	0.104	0.128
Felt life was not worth living	0.000	-0.004	0.075	0.074	0.110
Controls and IV					
Age	-0.025	-0.003	0.006	0.009	0.023
Race	-0.014	-0.002	-0.010	0.004	0.005
Sex	-0.048	-0.050	-0.022	-0.035	- 0.016
Mom education	0.005	0.003	0.006	0.013	- 0.001
Child maltreatment	-0.003	-0.012	0.007	-0.009	0.006

Table A6. Covariances between Depression, Controls, and IV					
	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	1.013				
Trouble keeping focused	0.084	0.656			
Felt depressed	0.171	0.223	0.539		
Too tired to do things	0.096	0.205	0.197	0.546	
Felt hopeful about future	0.410	0.118	0.163	0.090	0.945
Thought life had been failure	0.125	0.102	0.166	0.103	0.104
Felt fearful	0.077	0.111	0.146	0.095	0.051
Felt happy	0.277	0.133	0.210	0.124	0.292
Talked less	0.120	0.129	0.156	0.113	0.094
Felt lonely	0.129	0.174	0.264	0.152	0.098
People were unfriendly	0.066	0.097	0.119	0.091	0.051
Enjoyed life	0.311	0.143	0.224	0.132	0.321
Felt sad	0.146	0.180	0.302	0.172	0.145
Felt people disliked you	0.125	0.117	0.169	0.110	0.085
Felt hard to start things	0.069	0.200	0.133	0.191	0.063
Felt life was not worth living	0.086	0.069	0.138	0.065	0.072
Controls and IV					
Age	0.032	0.010	0.036	0.033	0.039
Race	0.024	0.010	0.007	0.007	0.010
Sex	0.008	-0.002	-0.014	-0.014	0.032
Mom education	-0.030	0.003	0.001	-0.003	-0.001
Child maltreatment	0.015	0.000	0.010	0.010	0.012

Table A7. Covariances between Depression, Controls, and IV					
	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	0.278				
Felt fearful	0.099	0.324			
Felt happy	0.132	0.091	0.658		
Talked less	0.089	0.093	0.118	0.544	
Felt lonely	0.139	0.139	0.174	0.179	0.493
People were unfriendly	0.067	0.080	0.078	0.076	0.118
Enjoyed life	0.156	0.089	0.380	0.116	0.178
Felt sad	0.143	0.147	0.187	0.1663	0.248
Felt people disliked you	0.108	0.096	0.124	0.099	0.152
Felt hard to start things	0.086	0.095	0.107	0.098	0.128
Felt life was not worth living	0.123	0.071	0.095	0.073	0.110
Controls and IV					
Age	0.044	0.033	0.046	0.035	0.038
Race	0.014	0.017	0.003	0.023	-0.003
Sex	0.009	0.002	0.035	0.018	-0.003
Mom education	0.004	0.006	-0.002	-0.019	0.006
Child maltreatment	-0.005	0.006	-0.012	-0.002	-0.010

Table A8. Covariances between Depression, Controls, and IV					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	0.374				
Enjoyed life	0.087	0.724			
Felt sad	0.121	0.199	0.449		
Felt people disliked you	0.199	0.130	0.158	0.383	
Felt hard to start things	0.088	0.100	0.128	0.100	0.475

Felt life was not worth living	0.061	0.114	0.119	0.092	0.065
Controls and IV					
Age	0.003	0.039	0.012	0.017	0.033
Race	0.009	0.002	-0.008	0.005	-0.001
Sex	0.009	0.018	-0.018	0.003	0.004
Mom education	0.003	-0.002	-0.003	0.010	-0.009
Child maltreatment	-0.005	-0.004	0.009	0.002	0.012

Table A9. Covariances between Depression, Controls, and IV						
	Depression Item, Controls, and IV					
	Felt life was not worth living	Age	Race	Sex	Mom education	Child maltreatment
Depression items						
Felt life was not worth living	0.209					
Controls and IV						
Age	0.021	2.826				
Race	0.005	0.171	1.435			
Sex	0.003	0.124	0.021	0.247		
Mom education	0.001	0.061	-0.002	0.000	1.523	
Child maltreatment	0.000	-0.008	-0.016	-0.008	-0.091	1.031

Table B1. Correlations between Social support, Depression, Controls, and IV					
	Social Support Items				
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom
Social Support Items					
Close to people at school	1.000				
Feel part of school	0.600	1.000			
Happy to be at school	0.499	0.561	1.000		
Talked life with mom	0.043	0.051	0.000	1.000	
Talked problem with mom	0.015	0.026	0.011	0.333	1.000
Talked school work mom	0.038	0.076	0.043	0.205	0.226
Worked school project mom	0.041	0.064	0.042	0.077	0.123
Talked other school things mom	0.061	0.092	0.066	0.192	0.228
Talked life with dad	0.060	0.070	0.034	0.301	0.080
Talked problem with dad	0.028	0.016	0.005	0.094	0.240
Talked school work dad	0.065	0.073	0.060	0.033	0.013
Worked school project dad	0.042	0.071	0.055	0.025	0.020
Talked other school things dad	0.090	0.121	0.088	0.042	0.027
Mom is warm and loving	0.135	0.156	0.145	0.028	0.072
Good communication mom	0.127	0.150	0.172	0.002	0.058
Good relationship mom	0.137	0.173	0.183	0.040	0.072
Dad is warm and loving	0.091	0.128	0.126	0.015	0.034
Good communication dad	0.079	0.112	0.110	-0.033	-0.013
Good relationship dad	0.091	0.131	0.122	-0.025	0.002
Talk to male friend problem	-0.006	0.001	-0.025	0.219	0.174
Talk to female friend problem	0.020	0.008	-0.026	0.232	0.218
Friends care about you	0.195	0.173	0.137	0.107	0.063
Depression Items					
Bothered by things	0.022	0.015	0.005	0.037	0.040
Poor appetite	0.010	-0.002	-0.030	0.035	0.019
Had the blues	0.011	-0.003	-0.017	0.018	0.018
Felt just as good as others	0.028	-0.008	0.002	0.011	-0.016
Trouble keeping focused	0.007	0.007	-0.005	0.007	-0.005
Felt depressed	0.019	-0.010	-0.029	0.013	-0.009
Too tired to do things	0.025	-0.007	-0.003	0.019	0.012
Felt hopeful about future	0.000	-0.017	-0.009	-0.019	-0.027
Thought life had been failure	0.004	-0.005	0.006	-0.005	-0.032
Felt fearful	0.004	0.009	0.003	-0.025	-0.014
Felt happy	0.024	-0.019	-0.004	0.006	-0.010
Talked less	0.013	0.004	-0.014	0.002	-0.007
Felt lonely	0.019	0.009	0.004	0.006	0.004
People were unfriendly	0.004	-0.029	-0.009	-0.014	-0.010
Enjoyed life	0.019	-0.005	-0.002	-0.012	-0.011

Felt sad	0.007	0.010	-0.008	0.023	0.001
Felt people disliked you	0.013	-0.027	-0.007	-0.009	-0.013
Felt hard to start things	0.020	0.000	-0.007	0.005	0.002
Felt life was not worth living	0.002	-0.021	-0.005	-0.016	-0.012
Controls and IV					
Age	-0.012	-0.005	-0.021	-0.016	-0.013
Race	0.018	0.008	-0.002	-0.002	-0.011
Sex	-0.047	-0.066	-0.040	-0.112	-0.138
Mom education	-0.003	-0.010	-0.020	0.009	0.003
Child maltreatment	0.002	0.007	0.009	-0.009	-0.016

	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	1.000				
Worked school project mom	0.223	1.000			
Talked other school things mom	0.503	0.261	1.000		
Talked life with dad	0.030	0.019	0.036	1.000	
Talked problem with dad	0.023	0.030	0.039	0.356	1.000
Talked school work dad	0.330	0.115	0.231	0.263	0.244
Worked school project dad	0.106	0.329	0.133	0.126	0.147
Talked other school things dad	0.220	0.148	0.394	0.254	0.244
Mom is warm and loving	0.058	0.078	0.102	0.073	0.044
Good communication mom	0.031	0.081	0.064	0.064	0.053
Good relationship mom	0.053	0.080	0.083	0.066	0.043
Dad is warm and loving	0.046	0.044	0.073	-0.014	0.000
Good communication dad	0.029	0.049	0.043	-0.051	-0.021
Good relationship dad	0.034	0.049	0.050	-0.029	0.000
Talk to male friend problem	0.070	0.017	0.082	0.118	0.083
Talk to female friend problem	0.083	0.037	0.094	0.112	0.075

Friends care about you	0.048	0.022	0.051	0.089	0.030
Depression Items					
Bothered by things	0.030	-0.008	0.027	-0.001	0.010
Poor appetite	0.030	0.026	0.022	-0.006	0.000
Had the blues	0.012	-0.006	-0.001	0.001	0.009
Felt just as good as others	0.006	-0.008	-0.016	0.012	0.006
Trouble keeping focused	0.007	-0.010	0.010	-0.006	-0.002
Felt depressed	-0.003	0.001	-0.002	-0.010	-0.013
Too tired to do things	0.010	0.006	0.018	0.000	-0.001
Felt hopeful about future	0.011	-0.009	-0.004	-0.022	-0.023
Thought life had been failure	-0.004	-0.003	-0.011	-0.009	-0.006
Felt fearful	-0.003	-0.003	0.010	-0.036	-0.013
Felt happy	-0.003	-0.008	-0.011	-0.011	0.022
Talked less	0.000	-0.010	0.012	0.000	-0.015
Felt lonely	-0.013	0.005	-0.008	-0.008	0.001
People were unfriendly	0.013	0.021	0.014	-0.011	-0.016
Enjoyed life	0.017	-0.002	-0.013	-0.017	0.004
Felt sad	0.003	0.008	0.007	-0.008	-0.021
Felt people disliked you	0.004	0.000	0.006	-0.006	0.001
Felt hard to start things	0.003	-0.018	0.013	-0.010	0.001
Felt life was not worth living	-0.011	0.004	-0.016	0.001	0.003
Controls and IV					
Age	-0.015	-0.007	0.003	0.005	-0.001
Race	0.022	-0.005	0.011	0.023	0.001
Sex	-0.042	-0.048	-0.062	0.020	0.031
Mom education	0.008	0.006	-0.006	0.015	0.000
Child maltreatment	0.004	0.014	-0.006	-0.007	0.005

Table B3. Correlations between Social support, Depression, Controls, and IV					
	Social Support Items				
	Talked problem with dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	1.000				
Worked school project dad	0.273	1.000			
Talked other school things dad	0.589	0.308	1.000		
Mom is warm and loving	0.086	0.048	0.116	1.000	
Good communication mom	0.076	0.052	0.098	0.572	1.000
Good relationship mom	0.075	0.041	0.096	0.616	0.791
Dad is warm and loving	-0.087	0.018	-0.037	0.220	0.199
Good communication dad	-0.123	0.014	-0.060	0.149	0.232
Good relationship dad	-0.093	0.013	-0.042	0.177	0.235
Talk to male friend problem	0.029	0.021	0.039	-0.053	-0.112
Talk to female friend problem	0.043	0.028	0.043	-0.058	-0.114
Friends care about you	0.058	0.020	0.078	0.147	0.117
Depression Items					
Bothered by things	0.000	0.004	-0.003	-0.002	-0.021
Poor appetite	-0.003	0.002	-0.010	0.019	0.002
Had the blues	-0.009	-0.018	-0.025	0.005	-0.019
Felt just as good as others	0.006	-0.015	0.004	0.017	-0.005
Trouble keeping focused	0.002	-0.013	-0.007	0.006	-0.015
Felt depressed	-0.014	-0.014	-0.024	-0.003	-0.025
Too tired to do things	0.020	-0.023	0.004	0.007	-0.010
Felt hopeful about future	0.003	-0.020	-0.008	0.007	0.002
Thought life had been failure	-0.010	-0.015	-0.029	-0.001	-0.016
Felt fearful	-0.017	-0.023	-0.016	-0.022	-0.022
Felt happy	0.002	-0.009	-0.013	-0.008	-0.017

Talked less	-0.002	-0.005	-0.013	0.010	0.003
Felt lonely	-0.022	-0.013	-0.023	-0.010	-0.017
People were unfriendly	-0.004	0.011	-0.011	-0.018	-0.028
Enjoyed life	-0.003	0.005	-0.010	-0.011	-0.016
Felt sad	-0.011	-0.008	-0.024	-0.007	-0.038
Felt people disliked you	0.001	-0.003	-0.016	-0.018	-0.029
Felt hard to start things	-0.013	-0.015	-0.012	-0.006	0.004
Felt life was not worth living	-0.013	-0.006	-0.023	-0.011	-0.012
Controls and IV					
Age	-0.005	-0.003	-0.002	-0.006	-0.011
Race	0.010	0.002	0.000	-0.005	0.014
Sex	-0.004	-0.012	-0.012	-0.062	-0.021
Mom education	0.009	0.011	-0.006	-0.023	-0.007
Child maltreatment	-0.010	0.002	-0.001	0.001	0.016

Table B4. Correlations between Social support, Depression, Controls, and IV					
	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	1.000				
Dad is warm and loving	0.216	1.000			
Good communication dad	0.216	0.746	1.000		
Good relationship dad	0.261	0.766	0.868	1.000	
Talk to male friend problem	-0.090	-0.054	-0.088	-0.083	1.000
Talk to female friend problem	-0.090	-0.036	-0.087	-0.079	0.349
Friends care about you	0.122	0.082	0.051	0.063	0.108
Depression Items					
Bothered by things	0.004	0.003	0.001	-0.011	-0.006
Poor appetite	0.004	0.012	0.001	-0.002	0.006
Had the blues	-0.014	-0.002	0.004	-0.004	0.006
Felt just as good as others	0.012	-0.017	-0.030	-0.033	-0.029
Trouble keeping focused	0.001	0.006	0.009	0.000	-0.008
Felt depressed	-0.009	-0.006	-0.009	-0.015	-0.003

Too tired to do things	-0.005	0.001	-0.003	-0.002	-0.005
Felt hopeful about future	0.017	-0.012	0.003	0.001	-0.020
Thought life had been failure	-0.008	-0.011	-0.008	-0.015	-0.011
Felt fearful	-0.022	-0.002	-0.008	-0.014	-0.014
Felt happy	-0.006	-0.014	-0.014	-0.017	-0.009
Talked less	0.006	-0.003	0.002	-0.003	-0.016
Felt lonely	-0.015	-0.019	-0.011	-0.020	-0.001
People were unfriendly	-0.018	-0.014	-0.006	-0.018	-0.022
Enjoyed life	0.000	0.009	0.003	-0.001	-0.032
Felt sad	-0.017	-0.012	-0.012	-0.016	-0.001
Felt people disliked you	-0.022	-0.016	-0.015	-0.025	-0.021
Felt hard to start things	0.007	-0.005	-0.004	0.006	-0.025
Felt life was not worth living	-0.024	-0.003	-0.008	-0.012	-0.029
Controls and IV					
Age	-0.005	0.016	0.015	0.008	0.002
Race	0.010	0.019	0.010	0.023	-0.022
Sex	-0.038	-0.054	-0.011	-0.016	-0.082
Mom education	-0.010	0.016	0.006	0.017	0.002
Child maltreatment	0.016	0.026	0.024	0.027	-0.015

Table B5. Correlations between Social support, Depression, Controls, and IV					
	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	1.000				
Friends care about you	0.124	1.000			
Depression Items					
Bothered by things	0.021	0.039	1.000		
Poor appetite	0.036	0.015	0.335	1.000	
Had the blues	0.018	0.016	0.464	0.374	1.000
Felt just as good as others	-0.017	0.005	0.158	0.167	0.211
Trouble keeping focused	-0.021	-0.012	0.341	0.268	0.362
Felt depressed	0.017	0.010	0.456	0.352	0.598
Too tired to do things	0.003	0.008	0.289	0.268	0.319
Felt hopeful about future	-0.040	-0.005	0.153	0.119	0.174

Thought life had been failure	-0.009	-0.012	0.283	0.256	0.363
Felt fearful	-0.026	0.013	0.265	0.213	0.329
Felt happy	-0.009	-0.003	0.233	0.215	0.323
Talked less	-0.031	0.030	0.284	0.225	0.302
Felt lonely	0.006	0.016	0.346	0.268	0.474
People were unfriendly	-0.005	-0.006	0.226	0.165	0.250
Enjoyed life	-0.011	0.004	0.244	0.203	0.316
Felt sad	0.007	0.012	0.401	0.312	0.520
Felt people disliked you	0.004	-0.002	0.264	0.180	0.306
Felt hard to start things	-0.001	-0.001	0.228	0.208	0.264
Felt life was not worth living	0.001	-0.011	0.230	0.223	0.342
Controls and IV					
Age	-0.029	-0.002	0.005	0.007	0.020
Race	-0.024	-0.002	-0.012	0.004	0.005
Sex	-0.195	-0.121	-0.063	-0.097	- 0.044
Mom education	0.008	0.003	0.007	0.014	- 0.002
Child maltreatment	-0.006	-0.014	0.010	-0.012	0.008

Table B6. Correlations between Depression, Controls, and IV					
	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	1.000				
Trouble keeping focused	0.103	1.000			
Felt depressed	0.231	0.375	1.000		
Too tired to do things	0.129	0.343	0.364	1.000	
Felt hopeful about future	0.419	0.149	0.228	0.125	1.000
Thought life had been failure	0.236	0.240	0.429	0.264	0.203
Felt fearful	0.134	0.241	0.349	0.227	0.092
Felt happy	0.339	0.203	0.352	0.206	0.370
Talked less	0.161	0.216	0.288	0.207	0.130
Felt lonely	0.183	0.307	0.512	0.292	0.144
People were unfriendly	0.108	0.195	0.266	0.200	0.087
Enjoyed life	0.363	0.207	0.359	0.209	0.389
Felt sad	0.216	0.331	0.614	0.347	0.223
Felt people disliked you	0.201	0.234	0.371	0.242	0.142
Felt hard to start things	0.100	0.358	0.263	0.376	0.094
Felt life was not worth living	0.186	0.186	0.410	0.192	0.163
Controls and IV					
Age	0.019	0.007	0.029	0.027	0.024
Race	0.020	0.010	0.008	0.008	0.008
Sex	0.017	-0.004	-0.039	-0.038	0.067
Mom education	-0.024	0.003	0.001	-0.004	-0.001
Child maltreatment	0.014	0.000	0.014	0.014	0.012

Table B7. Correlations between Depression, Controls, and IV					
	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	1.000				
Felt fearful	0.331	1.000			
Felt happy	0.308	0.198	1.000		
Talked less	0.228	0.220	0.197	1.000	
Felt lonely	0.375	0.347	0.305	0.345	1.000
People were unfriendly	0.207	0.229	0.156	0.168	0.275
Enjoyed life	0.348	0.183	0.550	0.184	0.298
Felt sad	0.406	0.386	0.344	0.330	0.526
Felt people disliked you	0.330	0.273	0.247	0.216	0.349
Felt hard to start things	0.237	0.242	0.191	0.193	0.264
Felt life was not worth living	0.510	0.271	0.256	0.218	0.341
Controls and IV					
Age	0.049	0.034	0.034	0.028	0.032
Race	0.022	0.025	0.003	0.026	-0.004
Sex	0.033	0.008	0.086	0.048	-0.007
Mom education	0.006	0.009	-0.002	-0.021	0.007
Child maltreatment	-0.009	0.011	-0.014	-0.003	-0.014

Table B8. Correlations between Depression, Controls, and IV					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	1.000				
Enjoyed life	0.167	1.000			
Felt sad	0.294	0.348	1.000		
Felt people disliked you	0.526	0.246	0.381	1.000	
Felt hard to start things	0.208	0.170	0.278	0.235	1.000
Felt life was not worth living	0.217	0.293	0.387	0.325	0.207
Controls and IV					
Age	0.003	0.027	0.011	0.016	0.028

Race	0.012	0.002	-0.010	0.006	-0.002
Sex	0.029	0.042	-0.053	0.011	0.011
Mom education	0.004	-0.002	-0.003	0.013	-0.010
Child maltreatment	-0.008	-0.005	0.013	0.004	0.017

Table B9. Correlations for Depression Items, Controls, and IV						
	Depression Items, Controls, and IV					
	Felt life was not worth living	Age	Race	Sex	Mom education	Child maltreatment
Depression Items						
Felt life was not worth living	1.000					
Controls and IV						
Age	0.028	1.000				
Race	0.009	0.085	1.000			
Sex	0.014	0.148	0.035	1.000		
Mom education	0.003	0.029	-0.002	-0.001	1.000	
Child maltreatment	-0.001	-0.005	-0.013	-0.015	-0.073	1.000

Table C1. Covariances between Social Support, Depression, Controls, and IV (Females Only)						
	Social Support Items					
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom	
Social Support Items						
Close to people at school	1.013					
Feel part of school	0.609	1.001				
Happy to be at school	0.570	0.615	1.209			
Talked life with mom	0.024	0.024	0.000	0.250		
Talked problem with mom	0.004	0.012	0.001	0.084	0.243	
Talked school work mom	0.013	0.039	0.026	0.052	0.059	

Worked school project mom	0.012	0.025	0.021	0.010	0.023
Talked other school things mom	0.020	0.046	0.036	0.054	0.062
Talked life with dad	0.021	0.020	0.009	0.056	0.014
Talked problem with dad	0.003	0.002	-0.002	0.014	0.031
Talked school work dad	0.030	0.036	0.034	0.007	0.000
Worked school project dad	0.016	0.023	0.020	0.003	0.002
Talked other school things dad	0.036	0.051	0.047	0.005	0.005
Mom is warm and loving	0.080	0.094	0.080	0.013	0.037
Good communication mom	0.095	0.121	0.147	0.012	0.042
Good relationship mom	0.084	0.126	0.132	0.021	0.047
Dad is warm and loving	0.072	0.094	0.093	0.006	0.023
Good communication dad	0.081	0.101	0.100	-0.023	-0.007
Good relationship dad	0.088	0.109	0.105	-0.014	0.002
Talk to male friend problem	-0.008	-0.005	-0.024	0.063	0.046
Talk to female friend problem	0.006	0.011	-0.005	0.055	0.046
Friends care about you	0.153	0.133	0.098	0.041	0.027
Depression Items					
Bothered by things	0.004	0.002	-0.003	0.008	0.020
Poor appetite	0.002	-0.005	-0.004	0.006	0.004
Had the blues	0.000	-0.015	-0.010	-0.002	-0.001
Felt just as good as others	0.044	-0.007	-0.006	0.006	-0.001
Trouble keeping focused	0.011	0.003	-0.005	0.006	0.003
Felt depressed	0.025	-0.003	-0.009	-0.002	-0.006
Too tired to do things	0.027	-0.009	0.005	0.003	0.003
Felt hopeful about future	0.016	-0.017	-0.008	-0.007	-0.011
Thought life had been failure	-0.001	-0.001	0.013	-0.003	-0.011
Felt fearful	-0.003	0.007	0.005	-0.005	0.000
Felt happy	0.016	-0.013	0.000	0.002	-0.006
Talked less	0.012	-0.013	-0.015	0.002	0.002
Felt lonely	0.017	0.006	0.008	0.000	0.002
People were unfriendly	0.008	-0.021	-0.011	-0.009	-0.002
Enjoyed life	0.017	-0.005	0.002	-0.007	-0.004
Felt sad	0.003	-0.002	-0.009	-0.001	-0.004
Felt people disliked you	0.003	-0.026	-0.019	-0.005	-0.007
Felt hard to start things	0.014	-0.007	0.000	-0.004	0.006
Felt life was not worth living	-0.006	-0.013	-0.001	-0.008	-0.006
Controls and IV					
Age	0.011	0.001	-0.001	-0.012	0.012

Race	-0.004	-0.007	0.007	-0.010	-0.013
Mom education	-0.010	-0.027	-0.022	0.017	0.010
Child maltreatment	0.006	0.017	0.004	-0.007	-0.011

Table C2. Covariances between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	0.240				
Worked school project mom	0.039	0.118			
Talked other school things mom	0.131	0.048	0.249		
Talked life with dad	0.006	0.003	0.008	0.153	
Talked problem with dad	-0.002	0.004	0.001	0.047	0.113
Talked school work dad	0.076	0.021	0.054	0.047	0.034
Worked school project dad	0.015	0.032	0.019	0.014	0.014
Talked other school things dad	0.050	0.026	0.086	0.042	0.035
Mom is warm and loving	0.029	0.023	0.039	0.012	0.009
Good communication mom	0.023	0.033	0.029	0.018	0.016
Good relationship mom	0.031	0.029	0.037	0.014	0.011
Dad is warm and loving	0.028	0.016	0.031	-0.008	-0.002
Good communication dad	0.023	0.022	0.022	-0.028	-0.011
Good relationship dad	0.021	0.022	0.025	-0.019	-0.005
Talk to male friend problem	0.019	0.005	0.025	0.025	0.012
Talk to female friend problem	0.023	0.009	0.028	0.021	0.012
Friends care about you	0.024	0.007	0.023	0.021	0.010
Depression Items					
Bothered by things	0.003	-0.001	0.007	-0.005	0.002
Poor appetite	0.001	0.006	0.001	-0.003	0.004
Had the blues	-0.010	-0.003	-0.009	0.000	0.005
Felt just as good as others	-0.006	-0.006	-0.005	0.003	0.000
Trouble keeping focused	-0.008	-0.007	-0.004	0.000	0.004
Felt depressed	-0.012	-0.001	-0.006	-0.006	-0.003
Too tired to do things	-0.003	0.001	0.002	0.003	-0.001

Felt hopeful about future	0.000	-0.004	-0.004	-0.013	-0.013
Thought life had been failure	-0.004	-0.002	-0.002	-0.003	-0.004
Felt fearful	-0.010	0.001	-0.001	-0.005	0.000
Felt happy	-0.006	-0.006	-0.002	-0.003	0.006
Talked less	0.00	0.001	0.005	0.001	-0.004
Felt lonely	-0.012	0.002	-0.009	-0.005	0.006
People were unfriendly	-0.004	0.001	-0.005	-0.007	-0.005
Enjoyed life	0.000	-0.002	-0.006	-0.006	0.002
Felt sad	-0.009	-0.002	-0.005	0.001	-0.004
Felt people disliked you	-0.010	0.001	-0.007	-0.005	-0.002
Felt hard to start things	-0.001	-0.007	0.004	-0.004	0.001
Felt life was not worth living	-0.008	-0.001	-0.011	-0.005	-0.001
Controls and IV					
Age	-0.018	-0.010	-0.020	0.001	-0.001
Race	0.016	0.003	-0.001	0.012	0.002
Mom education	0.003	-0.002	-0.005	0.008	0.005
Child maltreatment	0.009	0.008	-0.002	0.004	0.012

Table C3. Covariances between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Talked problem with dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	0.231				
Worked school project dad	0.036	0.073			
Talked other school things dad	0.137	0.042	0.215		
Mom is warm and loving	0.031	0.011	0.037	0.554	
Good communication mom	0.037	0.016	0.043	0.409	0.992
Good relationship mom	0.032	0.013	0.038	0.375	0.656
Dad is warm and loving	-0.041	0.001	-0.021	0.130	0.169
Good communication dad	-0.071	0.000	-0.039	0.099	0.229
Good relationship dad	-0.050	0.001	-0.029	0.107	0.219

Talk to male friend problem	0.005	0.002	0.005	-0.033	-0.065
Talk to female friend problem	0.015	0.006	0.014	-0.014	-0.046
Friends care about you	0.027	0.007	0.037	0.089	0.095
Depression Items					
Bothered by things	-0.001	-0.001	-0.001	-0.008	-0.013
Poor appetite	-0.005	0.001	-0.002	0.003	-0.003
Had the blues	-0.007	-0.005	-0.013	-0.012	-0.024
Felt just as good as others	0.005	-0.001	0.004	-0.003	-0.019
Trouble keeping focused	0.006	-0.003	-0.007	0.000	-0.005
Felt depressed	-0.010	-0.006	-0.010	-0.005	-0.010
Too tired to do things	0.005	-0.004	0.002	0.003	0.002
Felt hopeful about future	0.003	-0.001	-0.001	-0.017	-0.015
Thought life had been failure	-0.006	-0.003	-0.009	0.004	-0.003
Felt fearful	-0.006	-0.003	-0.004	-0.014	-0.012
Felt happy	0.005	-0.002	-0.002	-0.013	-0.025
Talked less	0.003	0.002	-0.002	-0.013	-0.025
Felt lonely	-0.010	-0.004	-0.009	-0.002	-0.002
People were unfriendly	-0.001	-0.002	-0.005	-0.002	-0.006
Enjoyed life	0.001	0.002	-0.001	-0.020	-0.014
Felt sad	-0.006	-0.003	-0.011	-0.004	-0.023
Felt people disliked you	-0.002	-0.003	-0.011	-0.012	-0.019
Felt hard to start things	-0.004	-0.005	-0.006	-0.004	0.001
Felt life was not worth living	-0.006	-0.001	-0.007	-0.004	-0.003
Control and IV					
Age	-0.025	-0.013	-0.022	0.032	0.044
Race	0.010	-0.005	-0.011	-0.002	0.010
Mom education	0.002	-0.001	-0.004	-0.015	-0.018
Child maltreatment	0.012	0.005	0.018	-0.002	0.013

Table C4. Covariances between Social Support, Depression, Controls, and IV (Females Only)

	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	0.714				
Dad is warm and loving	0.144	0.728			
Good communication dad	0.173	0.639	1.030		
Good relationship dad	0.194	0.605	0.811	0.847	
Talk to male friend problem	-0.052	-0.031	-0.058	-0.051	0.250
Talk to female friend problem	-0.032	-0.009	-0.033	-0.027	0.082
Friends care about you	0.081	0.053	0.038	0.047	0.039
Depression Items					
Bothered by things	0.010	-0.007	0.000	-0.016	-0.005
Poor appetite	0.009	-0.005	-0.012	-0.017	0.004
Had the blues	-0.010	-0.013	-0.008	-0.013	-0.003
Felt just as good as others	0.012	-0.034	-0.057	-0.051	-0.008
Trouble keeping focused	0.010	-0.011	-0.021	-0.026	-0.005
Felt depressed	0.000	-0.007	-0.011	-0.016	0.000
Too tired to do things	0.004	-0.007	-0.014	-0.020	-0.003
Felt hopeful about future	0.015	-0.022	-0.020	-0.019	-0.009
Thought life had been failure	0.003	-0.001	-0.001	-0.006	0.001
Felt fearful	-0.002	-0.012	-0.014	-0.018	0.004
Felt happy	-0.003	-0.012	-0.023	-0.020	0.003
Talked less	0.007	-0.017	-0.009	-0.012	0.001
Felt lonely	0.004	-0.009	-0.009	-0.015	0.006
People were unfriendly	-0.004	-0.011	-0.010	-0.016	-0.006
Enjoyed life	0.006	-0.010	-0.018	-0.014	-0.008
Felt sad	-0.004	-0.007	-0.013	-0.019	-0.002
Felt people disliked you	-0.012	-0.007	-0.011	-0.016	-0.009
Felt hard to start things	0.003	-0.006	-0.014	-0.011	-0.007
Felt life was not worth living	-0.003	0.003	-0.002	0.001	-0.004
Controls and IV					
Age	0.063	0.006	0.014	0.004	0.010
Race	0.004	0.003	-0.002	0.012	-0.022
Mom education	0.007	0.006	-0.018	0.007	0.005
Child maltreatment	0.002	0.035	0.035	0.034	-0.011

Table C5. Covariances between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	0.235				
Friends care about you	0.059	0.636			
Depression Items					
Bothered by things	-0.001	0.007	0.517		
Poor appetite	0.010	0.004	0.175	0.565	
Had the blues	-0.004	0.001	0.236	0.187	0.512
Felt just as good as others	-0.002	0.011	0.113	0.115	0.150
Trouble keeping focused	-0.009	-0.023	0.207	0.156	0.205
Felt depressed	-0.002	0.003	0.252	0.193	0.318
Too tired to do things	-0.006	0.000	0.165	0.128	0.169
Felt hopeful about future	-0.015	-0.008	0.115	0.080	0.129
Thought life had been failure	-0.006	0.004	0.111	0.086	0.135
Felt fearful	-0.003	0.005	0.109	0.077	0.129
Felt happy	-0.001	0.001	0.143	0.137	0.191
Talked less	-0.002	0.013	0.151	0.122	0.171
Felt lonely	0.000	0.010	0.167	0.137	0.239
People were unfriendly	-0.002	-0.003	0.092	0.059	0.105
Enjoyed life	-0.006	0.006	0.144	0.122	0.191
Felt sad	-0.006	0.003	0.199	0.147	0.255
Felt people disliked you	-0.001	0.003	0.111	0.065	0.131
Felt hard to start things	0.004	-0.004	0.111	0.090	0.129
Felt life was not worth living	-0.002	-0.004	0.070	0.062	0.103
Controls and IV					
Age	-0.021	-0.023	0.010	-0.002	0.016
Race	-0.020	-0.003	-0.015	-0.011	-0.004
Mom education	0.001	-0.006	0.011	0.004	0.001
Child maltreatment	0.001	-0.006	0.011	0.004	0.001

Table C6. Covariances between Depression, Controls, and IV (Females Only)					
	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	0.974				
Trouble keeping focused	0.103	0.629			
Felt depressed	0.176	0.219	0.554		
Too tired to do things	0.096	0.203	0.201	0.569	
Felt hopeful about future	0.400	0.130	0.187	0.093	0.952
Thought life had been failure	0.116	0.086	0.158	0.093	0.094
Felt fearful	0.082	0.105	0.145	0.093	0.046
Felt happy	0.264	0.127	0.218	0.126	0.268
Talked less	0.117	0.119	0.168	0.110	0.105
Felt lonely	0.118	0.170	0.254	0.150	0.092
People were unfriendly	0.058	0.096	0.121	0.089	0.061
Enjoyed life	0.304	0.138	0.225	0.124	0.311
Felt sad	0.148	0.179	0.304	0.168	0.157
Felt people disliked you	0.116	0.111	0.169	0.107	0.092
Felt hard to start things	0.062	0.193	0.125	0.204	0.050
Felt life was not worth living	0.082	0.060	0.132	0.056	0.071
Controls and IV					
Age	-0.007	-0.001	0.033	0.028	0.000
Race	0.023	0.010	0.005	0.004	0.002
Mom education	-0.037	-0.009	0.001	0.001	-0.024
Child maltreatment	0.000	0.003	0.005	0.007	0.022

Table C7. Covariances between Depression, Controls, and IV (Females Only)					
	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	0.264				
Felt fearful	0.095	0.311			
Felt happy	0.125	0.092	0.625		
Talked less	0.091	0.088	0.116	0.533	
Felt lonely	0.130	0.137	0.157	0.179	0.489
People were unfriendly	0.065	0.080	0.071	0.076	0.119
Enjoyed life	0.144	0.085	0.357	0.126	0.177
Felt sad	0.134	0.147	0.184	0.163	0.236
Felt people disliked you	0.101	0.101	0.114	0.095	0.147
Felt hard to start things	0.076	0.096	0.099	0.091	0.126
Felt life was not worth living	0.115	0.071	0.087	0.073	0.107
Controls and IV					
Age	0.009	0.028	0.005	0.018	0.001
Race	0.013	0.005	-0.006	0.025	-0.008
Mom education	-0.008	-0.007	-0.010	-0.019	0.002
Child maltreatment	-0.003	0.006	-0.006	-0.008	-0.005

Table C8. Covariances between Depression, Controls, and IV (Females Only)					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	0.370				
Enjoyed life	0.086	0.684			
Felt sad	0.118	0.198	0.453		
Felt people disliked you	0.201	0.124	0.158	0.388	
Felt hard to start things	0.095	0.092	0.119	0.104	0.478
Felt life was not worth living	0.056	0.105	0.115	0.093	0.058
Controls and IV					
Age	0.000	0.019	0.009	0.003	0.018
Race	-0.003	0.006	-0.009	0.002	-0.013
Mom education	-0.005	-0.015	-0.004	0.008	0.001
Child maltreatment	-0.002	-0.003	0.009	0.008	-0.002

Table C9. Covariances between Depression Items, Controls, and IV (Females Only)					
	Depression Items, Controls, and IV				
	Felt life was not worth living	Age	Race	Mom education	Child maltreatment
Depression Items					
Felt life was not worth living	0.205				
Controls and IV					
Age	0.010	2.578			
Race	-0.001	0.206	1.379		
Mom education	-0.007	0.077	-0.016	1.546	
Child maltreatment	0.001	0.009	-0.018	-0.079	1.036

Table D1. Correlations between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom
Social Support Items					
Close to people at school	1.000				
Feel part of school	0.605	1.000			
Happy to be at school	0.515	0.558	1.000		
Talked life with mom	0.048	0.049	0.000	1.000	
Talked problem with mom	0.007	0.025	0.001	0.342	1.000
Talked school work mom	0.026	0.079	0.048	0.214	0.245
Worked school project mom	0.035	0.072	0.055	0.059	0.138
Talked other school things mom	0.040	0.093	0.065	0.215	0.251
Talked life with dad	0.054	0.052	0.021	0.286	0.073
Talked problem with dad	0.008	0.006	-0.005	0.082	0.187
Talked school work dad	0.062	0.075	0.064	0.029	-0.000
Worked school project dad	0.058	0.084	0.066	0.024	0.015
Talked other school things dad	0.077	0.111	0.093	0.022	0.022
Mom is warm and loving	0.107	0.126	0.097	0.035	0.100
Good communication mom	0.094	0.121	0.135	0.024	0.086
Good relationship mom	0.099	0.149	0.142	0.050	0.112
Dad is warm and loving	0.084	0.110	0.099	0.015	0.054
Good communication dad	0.079	0.100	0.090	-0.045	-0.014
Good relationship dad	0.095	0.118	0.104	-0.031	0.004
Talk to male friend problem	-0.016	-0.010	-0.044	0.253	0.187
Talk to female friend problem	0.013	0.022	-0.010	0.227	0.194
Friends care about you	0.190	0.166	0.111	0.102	0.067
Depression Items					
Bothered by things	0.005	0.002	-0.004	0.023	0.056
Poor appetite	0.002	-0.007	-0.005	0.015	0.012
Had the blues	0.000	-0.021	-0.013	-0.004	-0.002
Felt just as good as others	0.044	-0.008	-0.006	0.013	-0.003
Trouble keeping focused	0.014	0.004	-0.006	0.015	0.007
Felt depressed	0.034	-0.005	-0.012	-0.006	-0.016
Too tired to do things	0.036	-0.012	0.006	0.009	0.009
Felt hopeful about future	0.016	-0.017	-0.007	-0.014	-0.023
Thought life had been failure	-0.001	-0.001	0.023	-0.010	-0.042
Felt fearful	-0.005	0.012	0.008	-0.019	0.000
Felt happy	0.020	-0.016	0.000	0.004	-0.014
Talked less	0.017	-0.018	-0.018	0.007	0.006

Felt lonely	0.024	0.009	0.010	-0.001	0.005
People were unfriendly	0.013	-0.035	-0.017	-0.031	-0.005
Enjoyed life	0.020	-0.006	0.003	-0.016	-0.011
Felt sad	0.004	-0.003	-0.012	-0.002	-0.013
Felt people disliked you	0.005	-0.042	-0.028	-0.016	-0.022
Felt hard to start things	0.021	-0.010	0.000	-0.012	0.018
Felt life was not worth living	-0.012	-0.028	-0.003	-0.035	-0.025
Controls and IV					
Age	0.006	0.000	-0.001	-0.015	0.015
Race	-0.003	-0.006	0.005	-0.017	-0.023
Mom education	-0.008	-0.021	-0.016	0.027	0.017
Child maltreatment	0.006	0.016	0.004	-0.013	-0.021

Table D2. Correlations between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	1.00				
Worked school project mom	0.233	1.000			
Talked other school things mom	0.535	0.280	1.000		
Talked life with dad	0.030	0.022	0.041	1.000	
Talked problem with dad	-0.013	0.033	0.007	0.356	1.000
Talked school work dad	0.324	0.128	0.226	0.248	0.213
Worked school project dad	0.114	0.343	0.142	0.128	0.150
Talked other school things dad	0.219	0.163	0.370	0.234	0.226
Mom is warm and loving	0.078	0.090	0.105	0.042	0.035
Good communication mom	0.047	0.095	0.058	0.047	0.049
Good relationship mom	0.075	0.100	0.088	0.043	0.039
Dad is warm and loving	0.068	0.056	0.072	-0.024	-0.006
Good communication dad	0.046	0.063	0.044	-0.070	-0.032
Good relationship dad	0.046	0.070	0.055	-0.052	-0.017
Talk to male friend problem	0.079	0.031	0.100	0.129	0.069
Talk to female friend problem	0.096	0.055	0.115	0.109	0.073

Friends care about you	0.060	0.025	0.057	0.067	0.036
Depression Items					
Bothered by things	0.008	-0.003	0.018	-0.017	0.009
Poor appetite	0.004	0.022	0.001	-0.011	0.014
Had the blues	-0.027	-0.010	-0.026	-0.001	0.020
Felt just as good as others	-0.013	-0.018	-0.011	0.007	0.001
Trouble keeping focused	-0.020	-0.026	-0.011	0.001	0.016
Felt depressed	-0.033	-0.005	-0.017	-0.019	-0.012
Too tired to do things	-0.008	0.004	0.005	0.010	-0.005
Felt hopeful about future	0.001	-0.013	-0.007	- 0.033	-0.038
Thought life had been failure	-0.015	-0.012	-0.009	-0.016	-0.026
Felt fearful	-0.035	0.005	-0.003	-0.025	-0.002
Felt happy	-0.015	-0.024	-0.005	- 0.008	0.023
Talked less	0.001	0.006	0.014	0.003	-0.017
Felt lonely	-0.036	0.008	-0.027	-0.017	0.025
People were unfriendly	-0.012	0.004	-0.015	-0.029	-0.027
Enjoyed life	0.000	-0.007	-0.014	-0.017	0.006
Felt sad	-0.027	-0.007	-0.016	0.006	-0.016
Felt people disliked you	-0.031	0.003	-0.021	-0.021	-0.012
Felt hard to start things	-0.003	-0.027	0.011	-0.017	0.002
Felt life was not worth living	-0.038	-0.004	-0.047	-0.027	-0.003
Controls and IV					
Age	-0.023	-0.018	-0.025	0.001	-0.002
Race	0.027	0.007	-0.002	0.026	0.006
Mom education	0.004	-0.005	-0.009	0.016	0.012
Child maltreatment	0.018	0.022	-0.003	0.011	0.034

Table D3. Correlations between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Talked problem with dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	1.000				
Worked school project dad	0.281	1.000			
Talked other school things dad	0.615	0.333	1.000		
Mom is warm and loving	0.088	0.053	0.107	1.000	
Good communication mom	0.077	0.061	0.093	0.551	1.000
Good relationship mom	0.078	0.057	0.097	0.597	0.779
Dad is warm and loving	-0.099	0.005	-0.052	0.205	0.198
Good communication dad	-0.146	-0.001	-0.082	0.131	0.226
Good relationship dad	-0.113	0.003	-0.067	0.156	0.239
Talk to male friend problem	0.020	0.011	0.020	-0.089	-0.130
Talk to female friend problem	0.065	0.047	0.063	-0.039	-0.096
Friends care about you	0.071	0.031	0.099	0.150	0.119
Depression Items					
Bothered by things	-0.003	-0.005	-0.003	-0.015	-0.018
Poor appetite	-0.015	0.007	-0.006	0.006	-0.003
Had the blues	-0.021	-0.026	-0.040	-0.022	-0.034
Felt just as good as others	0.011	-0.005	0.009	0.003	-0.019
Trouble keeping focused	0.015	-0.016	-0.020	-0.001	-0.006
Felt depressed	-0.027	-0.028	-0.030	-0.009	-0.014
Too tired to do things	0.013	-0.022	0.007	0.006	0.003
Felt hopeful about future	0.006	-0.005	-0.002	-0.023	-0.016
Thought life had been failure	-0.024	-0.024	-0.037	0.011	-0.006
Felt fearful	-0.022	-0.017	-0.014	-0.034	-0.022
Felt happy	0.013	-0.008	-0.006	-0.021	-0.031
Talked less	0.008	0.010	-0.005	0.004	0.004
Felt lonely	-0.029	-0.021	-0.029	-0.004	-0.003
People were unfriendly	-0.002	-0.012	-0.018	-0.004	-0.010
Enjoyed life	0.001	0.009	-0.002	-0.033	-0.017
Felt sad	-0.019	-0.015	-0.035	-0.008	-0.034

Felt people disliked you	-0.006	-0.015	-0.038	-0.025	-0.031
Felt hard to start things	-0.013	-0.026	-0.018	-0.008	-0.002
Felt life was not worth living	-0.029	-0.011	-0.033	-0.012	-0.007
Controls and IV					
Age	-0.033	-0.030	-0.029	0.027	0.027
Race	0.017	-0.015	-0.020	-0.002	0.009
Mom education	0.003	-0.003	-0.008	-0.017	-0.014
Child maltreatment	0.024	0.016	0.038	-0.002	0.013

Table D4. Correlations between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	1.000				
Dad is warm and loving	0.200	1.000			
Good communication dad	0.201	0.738	1.000		
Good relationship dad	0.249	0.770	0.868	1.000	
Talk to male friend problem	-0.122	-0.074	-0.115	-0.110	1.000
Talk to female friend problem	-0.078	-0.023	-0.068	-0.060	0.337
Friends care about you	0.120	0.078	0.047	0.064	0.098
Depression Items					
Bothered by things	0.016	-0.011	0.000	-0.024	-0.015
Poor appetite	0.015	-0.008	-0.015	-0.025	0.009
Had the blues	-0.016	-0.022	-0.011	-0.020	-0.008
Felt just as good as others	0.014	-0.041	-0.057	-0.056	-0.017
Trouble keeping focused	0.014	-0.016	-0.026	-0.035	-0.011
Felt depressed	0.000	-0.010	-0.014	-0.024	0.001
Too tired to do things	0.006	-0.011	-0.019	-0.029	-0.009
Felt hopeful about future	0.018	-0.027	-0.020	-0.021	-0.018
Thought life had been failure	0.007	-0.003	-0.002	-0.014	0.004
Felt fearful	-0.005	-0.025	-0.024	-0.035	0.014
Felt happy	-0.005	-0.018	-0.029	-0.028	0.008
Talked less	0.011	-0.028	-0.012	-0.018	0.003
Felt lonely	0.007	-0.015	-0.012	-0.024	0.017
People were unfriendly	-0.007	-0.022	-0.017	-0.028	-0.020
Enjoyed life	0.009	-0.014	-0.021	-0.018	-0.019

Felt sad	-0.007	-0.012	-0.019	-0.031	-0.007
Felt people disliked you	-0.022	-0.014	-0.017	-0.027	-0.028
Felt hard to start things	0.004	-0.011	-0.020	-0.018	-0.020
Felt life was not worth living	-0.008	0.008	-0.005	0.003	-0.016
Controls and IV					
Age	0.047	0.004	0.008	0.002	0.013
Race	0.004	0.003	-0.002	0.011	-0.038
Mom education	0.007	0.006	-0.014	0.006	0.008
Child maltreatment	0.002	0.040	0.034	0.037	-0.021

Table D5. Correlations between Social Support, Depression, Controls, and IV (Females Only)					
	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	1.000				
Friends care about you	0.152	1.000			
Depression Items					
Bothered by things	-0.003	0.013	1.000		
Poor appetite	0.026	0.007	0.325	1.000	
Had the blues	-0.011	0.001	0.458	0.348	1.000
Felt just as good as others	-0.004	0.014	0.159	0.155	0.212
Trouble keeping focused	-0.023	-0.036	0.364	0.261	0.361
Felt depressed	-0.007	0.005	0.472	0.346	0.597
Too tired to do things	-0.016	0.000	0.304	0.225	0.313
Felt hopeful about future	-0.032	-0.011	0.163	0.109	0.184
Thought life had been failure	-0.023	0.009	0.300	0.223	0.366
Felt fearful	-0.010	0.012	0.273	0.183	0.324
Felt happy	-0.002	0.002	0.252	0.231	0.337
Talked less	-0.005	0.022	0.287	0.222	0.327
Felt lonely	0.000	0.018	0.333	0.261	0.478
People were unfriendly	-0.007	-0.007	0.211	0.130	0.242
Enjoyed life	-0.015	0.009	0.241	0.196	0.322
Felt sad	-0.018	0.005	0.412	0.290	0.529
Felt people disliked you	-0.005	-0.006	0.247	0.138	0.293
Felt hard to start things	0.013	-0.007	0.224	0.173	0.261
Felt life was not worth living	-0.009	-0.010	0.215	0.181	0.319
Controls and IV					
Age	-0.027	-0.018	0.009	-0.001	0.014
Race	-0.035	-0.004	-0.018	-0.013	-0.005
Mom education	0.002	-0.006	0.013	0.004	0.002
Child maltreatment	-0.007	-0.015	0.006	-0.020	0.014

	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	1.000				
Trouble keeping focused	0.131	1.000			
Felt depressed	0.239	0.371	1.000		
Too tired to do things	0.129	0.340	0.357	1.000	
Felt hopeful about future	0.415	0.168	0.257	0.127	1.000
Thought life had been failure	0.228	0.211	0.413	0.239	0.187
Felt fearful	0.149	0.237	0.349	0.221	0.084
Felt happy	0.338	0.203	0.371	0.211	0.348
Talked less	0.163	0.205	0.310	0.200	0.148
Felt lonely	0.171	0.306	0.488	0.285	0.134
People were unfriendly	0.097	0.199	0.267	0.194	0.103
Enjoyed life	0.372	0.210	0.365	0.199	0.385
Felt sad	0.222	0.335	0.608	0.331	0.239
Felt people disliked you	0.189	0.225	0.365	0.227	0.152
Felt hard to start things	0.090	0.353	0.243	0.391	0.074
Felt life was not worth living	0.183	0.166	0.393	0.163	0.161
Controls and IV					
Age	-0.004	0.000	0.027	0.023	0.000
Race	0.020	0.011	0.006	0.004	0.002
Mom education	-0.030	-0.009	0.001	0.001	-0.019
Child maltreatment	0.000	0.003	0.007	0.010	0.022

	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	1.000				
Felt fearful	1.000				
Felt happy	0.307	0.209	1.000		
Talked less	0.242	0.217	0.201	1.000	
Felt lonely	0.362	0.351	0.284	0.350	1.000
People were unfriendly	0.209	0.237	0.147	0.171	0.280
Enjoyed life	0.339	0.185	0.546	0.208	0.306
Felt sad	0.389	0.391	0.347	0.331	0.503

Felt people disliked you	0.316	0.290	0.231	0.209	0.336
Felt hard to start things	0.214	0.248	0.181	0.180	0.261
Felt life was not worth living	0.492	0.282	0.243	0.221	0.337
Controls and IV					
Age	0.011	0.031	0.004	0.015	0.001
Race	0.022	0.007	-0.007	0.030	-0.010
Mom education	-0.012	-0.010	-0.010	-0.021	0.003
Child maltreatment	-0.006	0.011	-0.007	- 0.011	-0.007

Table D8. Correlations between Depression, Controls, and IV (Females Only)					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	1.000				
Enjoyed life	0.171	1.000			
Felt sad	0.289	0.356	1.000		
Felt people disliked you	0.531	0.241	0.377	1.000	
Felt hard to start things	0.225	0.161	0.256	0.241	1.000
Felt life was not worth living	0.205	0.280	0.377	0.328	0.185
Controls and IV					
Age	0.000	0.015	0.009	0.003	0.016
Race	-0.004	0.006	-0.012	0.002	-0.016
Mom education	-0.006	-0.015	-0.005	0.010	0.001
Child maltreatment	-0.003	-0.004	0.013	0.013	-0.002

Table D9. Covariances for Depression Items, Controls, and IV (Females Only)					
	Depression Items, Controls, and IV				
	Felt life was not worth living	Age	Race	Mom education	Child maltreatment
Depression Items					
Felt life was not worth living	1.000				
Controls and IV					
Age	0.014	1.000			
Race	-0.002	0.109	1.000		
Mom education	-0.012	0.039	-0.011	1.000	
Child maltreatment	0.002	0.006	-0.015	-0.062	1.000

Table E1. Covariances between Social support, Depression, Controls, and IV (Males Only)					
	Social Support Items				
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom
Social Support Items					
Close to people at school	1.090				
Feel part of school	0.664	1.142			
Happy to be at school	0.015	0.021	-0.005	0.233	
Talked life with mom	0.024	0.024	0.000	0.250	
Talked problem with mom	0.005	0.005	0.005	0.067	0.204
Talked school work mom	0.023	0.037	0.021	0.046	0.046
Worked school project mom	0.013	0.017	0.010	0.012	0.014
Talked other school things mom	0.038	0.046	0.036	0.039	0.044
Talked life with dad	0.028	0.037	0.020	0.062	0.017
Talked problem with dad	0.017	0.010	0.005	0.019	0.048
Talked school work dad	0.033	0.037	0.032	0.008	0.005
Worked school project dad	0.008	0.017	0.014	0.003	0.003
Talked other school things dad	0.048	0.063	0.044	0.013	0.006
Mom is warm and loving	0.135	0.155	0.170	0.005	0.015
Good communication mom	0.163	0.188	0.238	-0.010	0.014
Good relationship mom	0.155	0.183	0.221	0.011	0.014
Dad is warm and loving	0.088	0.134	0.149	0.002	0.002
Good communication dad	0.085	0.133	0.147	-0.013	-0.007

Good relationship dad	0.084	0.139	0.144	-0.011	-0.002
Talk to male friend problem	-0.002	0.000	-0.009	0.042	0.032
Talk to female friend problem	0.005	-0.013	-0.030	0.050	0.045
Friends care about you	0.168	0.150	0.143	0.037	0.012
Depression Items					
Bothered by things	0.023	0.015	0.007	0.013	0.000
Poor appetite	0.006	-0.009	-0.054	0.013	-0.001
Had the blues	0.012	0.006	-0.020	0.012	0.009
Felt just as good as others	0.014	-0.008	0.015	0.006	-0.012
Trouble keeping focused	-0.001	0.007	-0.005	-0.001	-0.008
Felt depressed	-0.003	-0.017	-0.043	0.009	-0.004
Too tired to do things	0.006	-0.005	-0.014	0.007	0.001
Felt hopeful about future	-0.012	-0.009	-0.006	-0.004	-0.004
Thought life had been failure	0.007	-0.003	-0.005	0.002	-0.003
Felt fearful	0.009	0.004	0.000	-0.009	-0.008
Felt happy	0.032	-0.010	-0.001	0.012	0.008
Talked less	0.010	0.025	-0.005	0.003	-0.002
Felt lonely	0.010	0.006	-0.003	0.005	0.000
People were unfriendly	-0.003	-0.011	0.001	0.004	-0.003
Enjoyed life	0.020	0.002	-0.002	0.001	0.000
Felt sad	0.004	0.011	-0.006	0.012	0.000
Felt people disliked you	0.014	-0.007	0.012	0.001	0.000
Felt hard to start things	0.014	0.008	-0.011	0.008	-0.005
Felt life was not worth living	0.008	-0.006	-0.002	0.002	0.001
Controls and IV					
Age	-0.023	0.014	-0.051	0.010	0.002
Race	0.047	0.028	-0.008	0.009	0.005
Mom education	0.002	-0.003	-0.034	-0.004	-0.005
Child maltreatment	-0.003	-0.001	0.015	-0.005	-0.007

Table E2. Covariances between Social support, Depression, Controls, and IV (Males Only)

	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	0.246				
Worked school project mom	0.032	0.095			
Talked other school things mom	0.118	0.037	0.249		
Talked life with dad	0.006	0.002	0.007	0.162	
Talked problem with dad	0.009	0.003	0.012	0.051	0.128
Talked school work dad	0.080	0.015	0.057	0.053	0.046
Worked school project dad	0.013	0.025	0.016	0.013	0.014
Talked other school things dad	0.050	0.019	0.095	0.050	0.043
Mom is warm and loving	0.017	0.017	0.040	0.033	0.016
Good communication mom	0.009	0.022	0.035	0.033	0.021
Good relationship mom	0.015	0.018	0.035	0.031	0.016
Dad is warm and loving	0.012	0.008	0.032	-0.002	0.003
Good communication dad	0.008	0.011	0.021	-0.015	-0.005
Good relationship dad	0.010	0.008	0.021	-0.004	0.004
Talk to male friend problem	0.014	-0.001	0.014	0.023	0.018
Talk to female friend problem	0.015	0.001	0.015	0.025	0.016
Friends care about you	0.013	0.002	0.015	0.038	0.010
Depression Items					
Bothered by things	0.017	-0.005	0.010	0.005	0.004
Poor appetite	0.018	0.004	0.012	0.001	-0.002
Had the blues	0.018	-0.002	0.008	0.002	0.000
Felt just as good as others	0.015	0.001	-0.010	0.007	0.004
Trouble keeping focused	0.014	0.002	0.013	-0.004	-0.005
Felt depressed	0.011	0.001	0.004	0.001	-0.003
Too tired to do things	0.010	0.001	0.010	-0.003	0.001
Felt hopeful about future	0.014	0.000	0.004	-0.005	-0.003
Thought life had been failure	0.003	0.001	-0.003	0.000	0.002
Felt fearful	0.009	-0.003	0.007	-0.011	-0.005
Felt happy	0.007	0.004	-0.004	-0.006	0.004
Talked less	0.002	-0.005	0.006	-0.001	-0.004
Felt lonely	0.004	0.000	0.003	0.001	-0.006
People were unfriendly	0.013	0.008	0.015	0.002	-0.002
Enjoyed life	0.016	0.002	-0.003	-0.006	0.000

Felt sad	0.011	0.004	0.009	-0.006	-0.005
Felt people disliked you	0.013	-0.001	0.011	0.003	0.003
Felt hard to start things	0.004	-0.001	0.005	-0.001	0.000
Felt life was not worth living	0.004	0.002	0.004	0.006	0.001
Controls and IV					
Age	0.001	0.008	0.035	0.002	-0.005
Race	0.013	-0.005	0.015	0.010	-0.002
Mom education	0.007	0.006	-0.003	0.007	-0.004
Child maltreatment	-0.004	0.002	-0.005	-0.009	-0.006

Table E3. Covariances between Social support, Depression, Controls, and IV (Males Only)					
	Social Support Items				
	Talked problem with dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	0.230				
Worked school project dad	0.033	0.068			
Talked other school things dad	0.125	0.034	0.211		
Mom is warm and loving	0.035	0.010	0.048	0.730	
Good communication mom	0.038	0.012	0.049	0.524	1.096
Good relationship mom	0.032	0.007	0.040	0.494	0.770
Dad is warm and loving	-0.035	0.007	-0.011	0.178	0.191
Good communication dad	-0.052	0.007	-0.020	0.142	0.254
Good relationship dad	-0.035	0.005	-0.009	0.152	0.227
Talk to male friend problem	0.008	0.004	0.012	-0.016	-0.052
Talk to female friend problem	0.006	0.001	0.005	-0.040	-0.072
Friends care about you	0.019	0.002	0.023	0.097	0.100
Depression Items					
Bothered by things	0.001	0.002	-0.002	0.003	-0.021
Poor appetite	0.003	-0.001	-0.006	0.013	0.003
Had the blues	0.001	-0.002	-0.003	0.016	-0.004
Felt just as good as others	0.001	-0.006	-0.001	0.034	0.008

Trouble keeping focused	-0.004	-0.002	0.003	0.006	-0.023
Felt depressed	0.000	0.000	-0.006	-0.001	-0.029
Too tired to do things	0.010	-0.005	0.000	0.003	-0.020
Felt hopeful about future	0.000	-0.009	-0.006	0.037	0.023
Thought life had been failure	0.001	-0.001	-0.005	-0.003	-0.014
Felt fearful	-0.003	-0.004	-0.005	-0.005	-0.014
Felt happy	-0.005	-0.002	-0.007	0.010	0.001
Talked less	-0.004	-0.004	-0.007	0.013	0.001
Felt lonely	-0.005	-0.001	-0.006	-0.010	-0.025
People were unfriendly	-0.002	0.006	-0.001	-0.015	-0.031
Enjoyed life	-0.003	0.000	-0.007	0.011	-0.014
Felt sad	-0.001	0.000	-0.003	-0.007	-0.032
Felt people disliked you	0.002	0.001	0.003	-0.004	-0.017
Felt hard to start things	-0.004	0.000	-0.002	-0.002	0.008
Felt life was not worth living	0.001	0.000	-0.003	-0.003	-0.009
Controls and IV					
Age	0.013	0.009	0.017	-0.017	-0.058
Race	0.002	0.005	0.009	-0.004	0.025
Mom education	0.008	0.007	-0.002	-0.029	-0.002
Child maltreatment	-0.019	-0.003	-0.016	0.016	0.019

Table E4. Covariances between Social support, Depression, Controls, and IV (Males Only)

	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	0.848				
Dad is warm and loving	0.190	0.852			
Good communication dad	0.215	0.717	1.065		
Good relationship dad	0.232	0.659	0.836	0.871	
Talk to male friend problem	-0.033	-0.022	-0.035	-0.029	0.242
Talk to female friend problem	-0.052	-0.030	-0.055	-0.047	0.084
Friends care about you	0.091	0.058	0.045	0.046	0.042
Depression Items					
Bothered by things	-0.009	0.006	0.000	0.001	-0.002
Poor appetite	-0.011	0.015	0.015	0.015	-0.005
Had the blues	-0.010	0.008	0.013	0.007	0.005
Felt just as good as others	0.008	0.009	-0.001	-0.007	-0.019
Trouble keeping focused	-0.012	0.021	0.041	0.029	-0.002
Felt depressed	-0.015	-0.003	-0.003	-0.003	-0.005
Too tired to do things	-0.014	0.007	0.012	0.020	-0.002
Felt hopeful about future	0.018	0.010	0.029	0.025	-0.004
Thought life had been failure	-0.010	-0.008	-0.007	-0.007	-0.005
Felt fearful	-0.021	0.011	0.005	0.005	-0.012
Felt happy	-0.001	-0.002	0.002	-0.002	-0.004
Talked less	0.003	0.019	0.015	0.011	-0.010
Felt lonely	-0.024	-0.015	-0.006	-0.010	-0.007
People were unfriendly	-0.016	-0.002	0.005	-0.003	-0.006
Enjoyed life	-0.005	0.028	0.025	0.014	-0.017
Felt sad	-0.020	-0.012	-0.003	-0.001	-0.001
Felt people disliked you	-0.012	-0.011	-0.007	-0.013	-0.003
Felt hard to start things	0.006	0.002	0.011	0.022	-0.010
Felt life was not worth living	-0.017	-0.006	-0.005	-0.012	-0.009
Controls and IV					
Age	-0.049	0.061	0.039	0.025	0.013
Race	0.019	0.038	0.024	0.038	-0.002
Mom education	-0.026	0.028	0.029	0.030	-0.002
Child maltreatment	0.024	0.014	0.017	0.017	-0.007

Table E5. Covariances between Social support, Depression, Controls, and IV (Males Only)					
	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	0.245				
Friends care about you	0.028	0.711			
Depression Items					
Bothered by things	0.008	0.030	0.489		
Poor appetite	0.002	-0.001	0.163	0.472	
Had the blues	0.011	0.011	0.226	0.191	0.478
Felt just as good as others	-0.011	0.001	0.116	0.132	0.151
Trouble keeping focused	-0.008	0.008	0.184	0.159	0.208
Felt depressed	0.010	0.003	0.219	0.177	0.298
Too tired to do things	0.003	0.004	0.135	0.157	0.161
Felt hopeful about future	-0.010	0.013	0.102	0.098	0.113
Thought life had been failure	0.005	-0.012	0.102	0.113	0.136
Felt fearful	-0.012	0.007	0.105	0.102	0.136
Felt happy	0.007	0.009	0.131	0.125	0.183
Talked less	-0.015	0.031	0.151	0.125	0.144
Felt lonely	0.004	0.007	0.179	0.135	0.229
People were unfriendly	0.003	0.001	0.107	0.092	0.112
Enjoyed life	0.004	0.007	0.156	0.135	0.191
Felt sad	0.004	0.003	0.179	0.152	0.234
Felt people disliked you	0.006	0.002	0.123	0.100	0.137
Felt hard to start things	-0.004	0.005	0.113	0.121	0.128
Felt life was not worth living	0.004	-0.004	0.081	0.089	0.118
Controls and IV					
Age	0.016	0.057	0.024	0.057	0.049
Race	-0.002	0.007	-0.002	0.025	0.016
Mom education	0.008	0.009	0.002	0.023	-0.004
Child maltreatment	-0.006	-0.014	0.009	-0.005	0.000

Table E6. Covariances between Depression, Controls, and IV (Males Only)					
	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	1.057				
Trouble keeping focused	0.063	0.686			
Felt depressed	0.166	0.228	0.521		
Too tired to do things	0.096	0.207	0.192	0.518	
Felt hopeful about future	0.419	0.104	0.140	0.090	0.927
Thought life had been failure	0.136	0.121	0.176	0.116	0.113
Felt fearful	0.071	0.118	0.148	0.098	0.056
Felt happy	0.289	0.141	0.204	0.125	0.309
Talked less	0.122	0.141	0.145	0.118	0.075
Felt lonely	0.142	0.180	0.275	0.153	0.106
People were unfriendly	0.075	0.098	0.119	0.093	0.038
Enjoyed life	0.318	0.148	0.226	0.142	0.329
Felt sad	0.145	0.181	0.298	0.174	0.137
Felt people disliked you	0.134	0.124	0.169	0.115	0.076
Felt hard to start things	0.078	0.207	0.143	0.177	0.076
Felt life was not worth living	0.090	0.080	0.144	0.075	0.073
Controls and IV					
Age	0.065	0.025	0.055	0.054	0.052
Race	0.022	0.007	0.011	0.014	0.010
Mom education	-0.020	0.015	0.002	-0.008	0.027
Child maltreatment	0.032	-0.001	0.016	0.013	0.003

Table E7. Covariances between Depression, Controls, and IV (Males Only)					
	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	0.292				
Felt fearful	0.104	0.340			
Felt happy	0.137	0.090	0.686		
Talked less	0.085	0.097	0.114	0.555	
Felt lonely	0.149	0.141	0.193	0.179	0.498
People were unfriendly	0.067	0.079	0.083	0.075	0.117
Enjoyed life	0.168	0.093	0.399	0.102	0.179

Felt sad	0.155	0.149	0.196	0.166	0.260
Felt people disliked you	0.115	0.091	0.135	0.103	0.158
Felt hard to start things	0.097	0.094	0.115	0.106	0.129
Felt life was not worth living	0.132	0.070	0.102	0.073	0.113
Controls and IV					
Age	0.073	0.034	0.055	0.035	0.080
Race	0.013	0.031	0.006	0.018	0.003
Mom education	0.019	0.022	0.008	-0.019	0.013
Child maltreatment	-0.007	0.006	-0.016	0.006	-0.015

Table E8. Covariances between Depression, Controls, and IV (Males Only)					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	0.379				
Enjoyed life	0.087	0.767			
Felt sad	0.125	0.202	0.443		
Felt people disliked you	0.197	0.135	0.159	0.377	
Felt hard to start things	0.079	0.107	0.140	0.096	0.471
Felt life was not worth living	0.065	0.124	0.123	0.091	0.073
Controls and IV					
Age	-0.002	0.043	0.034	0.029	0.044
Race	0.019	-0.005	-0.003	0.006	0.011
Mom education	0.012	0.014	-0.001	0.015	-0.020
Child maltreatment	-0.007	-0.003	0.008	-0.004	0.028

Table E9. Covariances between Depression Items, Controls, and IV (Males Only)

	Depression Items, Controls, and IV				
	Felt life was not worth living	Age	Race	Mom education	Child maltreatment
Depression Items					
Felt life was not worth living	0.213				
Controls and IV					
Age	0.030	2.913			
Race	0.010	0.124	1.476		
Mom education	0.012	0.048	0.008	1.504	
Child maltreatment	-0.002	-0.015	-0.013	-0.101	1.027

Table F1. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)

	Social Support Items				
	Close to people at school	Feel part of school	Happy to be at school	Talked life with mom	Talked problem with mom
Social Support Items					
Close to people at school	1.000				
Feel part of school	0.595	1.000			
Happy to be at school	0.485	0.561	1.000		
Talked life with mom	0.030	0.041	-0.008	1.000	
Talked problem with mom	0.010	0.011	0.010	0.306	1.000
Talked school work mom	0.045	0.070	0.037	0.192	0.204
Worked school project mom	0.042	0.052	0.029	0.084	0.098
Talked other school things mom	0.073	0.085	0.062	0.163	0.197
Talked life with dad	0.066	0.086	0.044	0.321	0.094
Talked problem with dad	0.046	0.027	0.013	0.110	0.298
Talked school work dad	0.067	0.072	0.058	0.035	0.025
Worked school project dad	0.028	0.060	0.046	0.024	0.021
Talked other school things dad	0.100	0.128	0.084	0.057	0.028
Mom is warm and loving	0.151	0.170	0.174	0.012	0.038
Good communication mom	0.149	0.168	0.199	-0.020	0.030
Good relationship mom	0.162	0.186	0.210	0.025	0.033
Dad is warm and loving	0.092	0.135	0.142	0.005	0.004
Good communication dad	0.079	0.121	0.125	-0.026	-0.015
Good relationship dad	0.086	0.139	0.135	-0.025	-0.005
Talk to male friend problem	-0.004	-0.001	-0.016	0.177	0.145

Talk to female friend problem	0.009	-0.025	-0.053	0.208	0.200
Friends care about you	0.190	0.167	0.149	0.090	0.031
Depression Items					
Bothered by things	0.032	0.020	0.009	0.038	-0.001
Poor appetite	0.009	-0.012	-0.069	0.038	-0.002
Had the blues	0.017	0.008	-0.026	0.036	0.030
Felt just as good as others	0.013	-0.007	0.012	0.013	-0.027
Trouble keeping focused	-0.001	0.007	-0.005	-0.004	-0.021
Felt depressed	-0.004	-0.021	-0.052	0.027	-0.014
Too tired to do things	0.008	-0.006	-0.017	0.021	0.002
Felt hopeful about future	-0.012	-0.008	-0.005	-0.008	-0.010
Thought life had been failure	0.013	-0.005	-0.009	0.008	-0.012
Felt fearful	0.014	0.007	0.000	-0.030	-0.031
Felt happy	0.036	-0.011	-0.001	0.029	0.021
Talked less	0.013	0.032	-0.006	0.008	-0.007
Felt lonely	0.013	0.007	-0.004	0.014	0.000
People were unfriendly	-0.004	-0.017	0.002	0.012	-0.009
Enjoyed life	0.021	0.002	-0.002	0.003	0.000
Felt sad	0.006	0.016	-0.008	0.039	0.000
Felt people disliked you	0.021	-0.010	0.017	0.002	0.000
Felt hard to start things	0.019	0.011	-0.015	0.025	-0.016
Felt life was not worth living	0.017	-0.011	-0.004	0.009	0.006
Controls and IV					
Age	-0.013	0.008	-0.026	0.012	0.002
Race	0.037	0.022	-0.006	0.016	0.009
Mom education	0.002	-0.002	-0.024	-0.007	-0.010
Child maltreatment	-0.003	-0.001	0.013	-0.009	-0.016

Table F2. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)					
	Social Support Items				
	Talked school work mom	Worked school project mom	Talked other school things mom	Talked life with dad	Talked school work dad
Social Support Items					
Talked school work mom	1.00				
Worked school project mom	0.211	1.000			
Talked other school things mom	0.476	0.241	1.000		
Talked life with dad	0.032	0.019	0.034	1.000	

Talked problem with dad	0.053	0.031	0.066	0.356	1.000
Talked school work dad	0.336	0.103	0.236	0.275	0.269
Worked school project dad	0.099	0.315	0.125	0.124	0.145
Talked other school things dad	0.220	0.133	0.414	0.271	0.259
Mom is warm and loving	0.040	0.065	0.095	0.096	0.053
Good communication mom	0.018	0.067	0.067	0.078	0.057
Good relationship mom	0.034	0.062	0.076	0.084	0.048
Dad is warm and loving	0.027	0.029	0.068	-0.004	0.008
Good communication dad	0.015	0.035	0.041	-0.036	-0.013
Good relationship dad	0.022	0.029	0.045	-0.011	0.013
Talk to male friend problem	0.057	-0.003	0.059	0.114	0.099
Talk to female friend problem	0.061	0.005	0.059	0.126	0.089
Friends care about you	0.032	0.009	0.035	0.111	0.033
Depression Items					
Bothered by things	0.050	-0.021	0.029	0.018	0.014
Poor appetite	0.053	0.019	0.034	0.004	-0.009
Had the blues	0.052	-0.007	0.022	0.006	0.001
Felt just as good as others	0.029	0.005	-0.019	0.018	0.011
Trouble keeping focused	0.035	0.008	0.031	-0.012	-0.017
Felt depressed	0.029	0.003	0.010	0.003	-0.012
Too tired to do things	0.029	0.006	0.029	-0.010	0.004
Felt hopeful about future	0.030	0.002	0.008	-0.012	-0.009
Thought life had been failure	0.011	0.009	-0.010	-0.002	0.010
Felt fearful	0.031	-0.014	0.023	-0.047	-0.024
Felt happy	0.016	0.017	-0.010	-0.017	0.015
Talked less	0.005	-0.023	0.016	-0.004	-0.014
Felt lonely	0.011	-0.001	0.010	.003	-0.023
People were unfriendly	0.043	0.044	0.049	0.008	-0.008
Enjoyed life	0.038	0.006	-0.007	-0.017	0.001
Felt sad	0.032	0.018	0.026	-0.021	-0.021
Felt people disliked you	0.044	-0.004	0.037	0.011	0.015
Felt hard to start things	0.011	-0.004	0.015	-0.005	-0.001
Felt life was not worth living	0.018	0.012	0.019	0.031	0.009
Controls and IV					
Age	0.001	0.015	0.041	0.004	-0.008
Race	0.022	-0.012	0.025	0.019	-0.005
Mom education	0.011	0.017	-0.004	0.014	-0.008
Child maltreatment	-0.009	0.006	-0.010	-0.021	-0.016

Table F3. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)

	Social Support Items				
	Talked problem with dad	Worked school project dad	Talked other school things dad	Mom is warm and loving	Good communication mom
Social Support Items					
Talked school work dad	1.000				
Worked school project dad	0.267	1.000			
Talked other school things dad	0.568	0.287	1.000		
Mom is warm and loving	0.085	0.044	0.123	1.000	
Good communication mom	0.075	0.044	0.102	0.586	1.000
Good relationship mom	0.072	0.027	0.095	0.628	0.799
Dad is warm and loving	-0.078	0.028	-0.026	0.226	0.198
Good communication dad	-0.105	0.026	-0.042	0.161	0.235
Good relationship dad	-0.077	0.021	-0.022	0.191	0.232
Talk to male friend problem	0.036	0.028	0.052	-0.037	-0.101
Talk to female friend problem	0.026	0.010	0.024	-0.094	-0.138
Friends care about you	0.047	0.009	0.060	0.135	0.113
Depression Items					
Bothered by things	0.002	0.012	-0.006	0.006	-0.028
Poor appetite	0.010	-0.007	-0.019	0.022	0.004
Had the blues	0.004	-0.013	-0.010	0.027	-0.005
Felt just as good as others	0.001	-0.024	-0.001	0.038	0.008
Trouble keeping focused	-0.011	-0.010	0.008	0.009	-0.027
Felt depressed	0.000	0.000	-0.019	-0.002	-0.039
Too tired to do things	0.029	-0.025	-0.001	0.004	-0.027
Felt hopeful about future	0.000	-0.036	-0.013	0.045	0.023
Thought life had been failure	0.004	-0.005	-0.021	-0.007	-0.025
Felt fearful	-0.011	-0.029	-0.018	-0.010	-0.023
Felt happy	-0.011	-0.009	-0.018	0.014	0.001

Talked less	-0.012	-0.019	-0.020	0.021	0.002
Felt lonely	-0.014	-0.005	-0.018	-0.017	-0.034
People were unfriendly	-0.006	0.038	-0.003	-0.028	-0.048
Enjoyed life	-0.008	0.002	-0.018	0.014	-0.015
Felt sad	-0.004	0.000	-0.011	-0.012	-0.046
Felt people disliked you	0.008	0.009	0.010	-0.009	-0.027
Felt hard to start things	-0.012	0.000	-0.006	-0.004	0.011
Felt life was not worth living	0.003	-0.002	-0.013	-0.008	-0.018
Controls and IV					
Age	0.016	0.021	0.021	-0.012	-0.033
Race	0.004	0.017	0.016	-0.004	0.019
Mom education	-0.023	0.025	0.023	0.026	-0.003
Child maltreatment	-0.038	-0.011	-0.034	0.019	0.018

Table F4. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)

	Social Support Items				
	Good relationship mom	Dad is warm and loving	Good communication dad	Good relationship dad	Talk to male friend problem
Social Support Items					
Good relationship mom	1.000				
Dad is warm and loving	0.223	1.000			
Good communication dad	0.227	0.753	1.000		
Good relationship dad	0.270	0.765	0.868	1.000	
Talk to male friend problem	-0.072	-0.048	-0.069	-0.064	1.000
Talk to female friend problem	-0.114	-0.066	-0.108	-0.103	0.344
Friends care about you	0.117	0.074	0.052	0.059	0.101
Depression Items					
Bothered by things	-0.014	0.010	-0.001	0.002	-0.005
Poor appetite	-0.017	0.024	0.020	0.024	-0.015
Had the blues	-0.016	0.012	0.018	0.012	0.016
Felt just as good as others	0.009	0.010	-0.001	-0.008	-0.037
Trouble keeping focused	-0.015	0.028	0.048	0.037	-0.005
Felt depressed	-0.023	-0.005	-0.004	-0.005	-0.015

Too tired to do things	-0.021	0.011	0.016	0.029	-0.006
Felt hopeful about future	0.021	0.011	0.029	0.027	-0.008
Thought life had been failure	-0.020	-0.016	-0.012	-0.014	-0.020
Felt fearful	-0.040	0.020	0.009	0.010	-0.043
Felt happy	-0.001	-0.003	0.003	-0.002	-0.011
Talked less	0.004	0.027	0.019	0.016	-0.028
Felt lonely	-0.037	-0.024	-0.008	-0.015	-0.020
People were unfriendly	-0.028	-0.003	0.008	-0.006	-0.018
Enjoyed life	-0.006	0.035	0.028	0.017	-0.039
Felt sad	-0.032	-0.019	-0.004	-0.002	-0.003
Felt people disliked you	-0.020	-0.019	-0.011	-0.023	-0.009
Felt hard to start things	0.009	0.004	0.015	0.035	-0.030
Felt life was not worth living	-0.040	-0.013	-0.010	-0.028	-0.038
Controls and IV					
Age	-0.031	0.039	0.022	0.016	0.015
Race	0.017	0.034	0.019	0.033	-0.004
Mom education	-0.023	0.025	0.023	0.026	-0.003
Child maltreatment	0.025	0.015	0.016	0.018	-0.013

Table F5. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)

	Social Support and Depression Items				
	Talk to female friend problem	Friends care about you	Bothered by things	Poor appetite	Had the blues
Social Support Items					
Talk to female friend problem	1.000				
Friends care about you	0.067	1.000			
Depression Items					
Bothered by things	0.023	0.050	1.000		
Poor appetite	0.007	-0.002	0.339	1.000	
Had the blues	0.033	0.019	0.467	0.402	1.000
Felt just as good as others	-0.022	0.001	0.161	0.187	0.213
Trouble keeping focused	-0.020	0.011	0.317	0.280	0.364
Felt depressed	0.027	0.005	0.435	0.357	0.597
Too tired to do things	0.009	0.007	0.268	0.318	0.324
Felt hopeful about future	-0.020	0.016	0.151	0.148	0.170
Thought life had been failure	0.018	-0.026	0.270	0.306	0.363
Felt fearful	-0.040	0.013	0.258	0.254	0.336
Felt happy	0.017	0.013	0.225	0.220	0.319
Talked less	-0.040	0.050	0.290	0.244	0.280
Felt lonely	0.011	0.012	0.362	0.278	0.470
People were unfriendly	0.008	0.003	0.248	0.217	0.263
Enjoyed life	0.009	0.010	0.255	0.224	0.315
Felt sad	0.013	0.005	0.384	0.333	0.508

Felt people disliked you	0.019	0.004	0.286	0.238	0.324
Felt hard to start things	-0.012	0.008	0.236	0.257	0.269
Felt life was not worth living	0.018	-0.010	0.252	0.280	0.371
Controls and IV					
Age	0.019	0.040	0.020	0.048	0.042
Race	-0.004	0.007	-0.002	0.030	0.019
Mom education	0.013	0.009	0.002	0.027	-0.005
Child maltreatment	-0.011	-0.017	0.012	-0.007	0.000

Table F6. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)					
	Depression Items				
	Felt just as good as others	Trouble keeping focused	Felt depressed	Too tired to do things	Felt hopeful about future
Depression Items					
Felt just as good as others	1.000				
Trouble keeping focused	0.075	1.000			
Felt depressed	0.224	0.381	1.000		
Too tired to do things	0.130	0.347	0.370	1.000	
Felt hopeful about future	0.424	0.130	0.201	0.129	1.000
Thought life had been failure	0.244	0.271	0.451	0.297	0.217
Felt fearful	0.119	0.245	0.352	0.235	0.100
Felt happy	0.339	0.206	0.342	0.210	0.388
Talked less	0.159	0.228	0.269	0.219	0.105
Felt lonely	0.195	0.307	0.541	0.302	0.156
People were unfriendly	0.119	0.192	0.267	0.211	0.064
Enjoyed life	0.353	0.204	0.357	0.225	0.390
Felt sad	0.212	0.329	0.621	0.363	0.215
Felt people disliked you	0.213	0.243	0.380	0.260	0.129
Felt hard to start things	0.110	0.364	0.288	0.359	0.116
Felt life was not worth living	0.189	0.208	0.432	0.227	0.164
Controls and IV					
Age	0.037	0.018	0.044	0.044	0.031
Race	0.018	0.007	0.012	0.016	0.008
Mom education	-0.016	0.015	0.002	-0.009	0.023
Child maltreatment	0.030	-0.001	0.022	0.018	0.003

Table F7. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)

	Depression Items				
	Thought life had been failure	Felt fearful	Felt happy	Talked less	Felt lonely
Depression Items					
Thought life had been failure	1.000				
Felt fearful	0.329	1.000			
Felt happy	0.306	0.186	1.000		
Talked less	0.211	0.224	0.185	1.000	
Felt lonely	0.391	0.342	0.330	0.341	1.000
People were unfriendly	0.203	0.221	0.162	0.163	0.270
Enjoyed life	0.355	0.182	0.551	0.156	0.290
Felt sad	0.430	0.383	0.355	0.335	0.553
Felt people disliked you	0.346	0.255	0.265	0.224	0.364
Felt hard to start things	0.262	0.235	0.202	0.207	0.267
Felt life was not worth living	0.530	0.260	0.268	0.213	0.346
Controls and IV					
Age	0.079	0.034	0.039	0.027	0.067
Race	0.020	0.044	0.006	0.019	0.004
Mom education	0.028	0.031	0.008	-0.021	0.015
Child maltreatment	-0.012	0.010	-0.020	0.008	-0.022

Table F8. Correlations between Social Support, Depression Items, Controls, and IV (Males Only)					
	Depression Items				
	People were unfriendly	Enjoyed life	Felt sad	Felt people disliked you	Felt hard to start things
Depression Items					
People were unfriendly	1.000				
Enjoyed life	0.161	1.000			
Felt sad	0.305	0.346	1.000		
Felt people disliked you	0.521	0.252	0.389	1.000	
Felt hard to start things	0.188	0.179	0.306	0.227	1.000
Felt life was not worth living	0.230	0.306	0.401	0.322	0.231
Controls and IV					
Age	-0.001	0.029	0.030	0.028	0.037
Race	0.026	-0.005	-0.004	0.009	0.013
Mom education	0.016	0.013	-0.001	0.020	-0.024
Child maltreatment	-0.012	-0.004	0.012	-0.006	0.040

Table F9. Correlations for Depression Items, Controls, and IV (Males Only)					
	Depression Items, Controls, and IV				
	Felt life was not worth living	Age	Race	Mom education	Child maltreatment
Depression Items					
Felt life was not worth living	1.000				
Controls and IV					
Age	0.038	1.000			
Race	0.019	0.060	1.000		
Mom education	0.020	0.023	0.006	1.000	
Child maltreatment	-0.004	-0.009	-0.011	-0.081	1.000

Table G. Covariances for Latent Variables					
	Depression	Friend Informational Social Support	School Emotional Social Support	Mom Instrumental Social Support	Dad Instrumental Social Support
Depression	0.167				
Friend Informational Social Support	-0.001	0.087	0.558		
School Emotional Social Support	0.001	-0.001	0.558		
Mom Instrumental Social Support	-0.002	0.014	0.037	0.136	
Dad Instrumental Social Support	-0.002	0.014	0.037	0.069	0.130
Parent Instrumental Social Support	-0.002	0.014	0.037	0.069	0.069
Mom Emotional Social Support	-0.005	-0.029	0.092	0.014	0.014
Dad Emotional Social Support	-0.005	-0.029	0.092	0.014	0.014
Parent Emotional Social Support	-0.005	-0.029	0.092	0.014	0.014
Mom Informational Social Support	0.000	0.036	0.017	0.030	0.030
Dad Informational Social Support	0.000	0.036	0.017	0.030	0.030
Parent Informational Social Support	0.000	0.036	0.017	0.030	0.030

Table H. Covariances for Latent Variables					
	Parent Instrumental Social Support	Mom Emotional Social Support	Dad Emotional Social Support	Parent Emotional Social Support	Mom Informational Social Support
Parent Instrumental Social Support	0.069				
Mom Emotional Social Support	0.014	0.284			
Dad Emotional Social Support	0.014	0.113	0.539		
Parent Emotional Social Support	0.014	0.113	0.113	0.113	
Mom Informational Social Support	0.030	0.008	0.008	0.008	0.081
Dad Informational Social Support	0.030	0.008	0.008	0.008	0.041
Parent Informational Social Support	0.030	0.008	0.008	0.008	0.081

Table I. Covariances for Latent Variables		
	Dad Informational Social Support	Parent Informational Social Support
Dad Informational Social Support	0.081	
Parent Informational Social Support	0.041	0.041

	Depression	Friend Informational Social Support	School Emotional Social Support	Mom Instrumental Social Support	Dad Instrumental Social Support
Depression	1.000				
Friend Informational Social Support	-0.004	1.000			
School Emotional Social Support	0.002	-0.004	1.000		
Mom Instrumental Social Support	-0.012	0.126	0.135	1.00	
Dad Instrumental Social Support	-0.012	0.126	0.138	0.519	1.000
Parent Instrumental Social Support	-0.017	0.177	0.190	0.713	0.728
Mom Emotional Social Support	-0.021	-0.187	0.232	0.069	0.071
Dad Emotional Social Support	-0.016	-0.136	0.168	0.050	0.051
Parent Emotional Social Support	-0.034	-0.297	0.368	0.110	0.112
Mom Informational Social Support	-0.001	0.435	0.080	0.288	0.294
Dad Informational Social Support	-0.001	0.433	0.079	0.287	0.293
Parent Informational Social Support	-0.002	0.611	0.112	0.405	0.413

Table K. Correlations for Latent Variables					
	Parent Instrumental Social Support	Mom Emotional Social Support	Dad Emotional Social Support	Parent Emotional Social Support	Mom Informational Social Support
Parent Instrumental Social Support	1.000				
Mom Emotional Social Support	0.097	1.000			
Dad Emotional Social Support	0.071	0.289	1.000		
Parent Emotional Social Support	0.154	0.631	0.458	1.000	
Mom Informational Social Support	0.404	0.055	0.040	0.087	1.000
Dad Informational Social Support	0.402	0.055	0.040	0.086	0.505
Parent Informational Social Support	0.568	0.077	0.056	0.122	0.712

Table L. Covariances for Latent Variables		
	Dad Informational Social Support	Parent Informational Social Support
Dad Informational Social Support	1.000	
Parent Informational Social Support	0.709	1.000

	None	One	Two	Three	Four	Mean	S.D.
Child Maltreatment (number of types)	6702	4300	2242	689	389	0.87	1.02
	Mean	S.D.	Range				
Age	16.00	1.68	11-21				
Race	1.98	1.19	1-4				
Gender	0.55	0.50	0-1				
Mom's education level	2.50	1.24	1-5				

	Never (0)	Sometimes (1)	A lot of the time (2)	Most of the time (3)	Mean	S.D.
Bothered by things	6030	3919	765	212	0.56	0.71
Poor appetite	6683	3239	776	229	0.50	0.72
Had the blues	7516	2481	673	247	0.42	0.71
Felt just as good as others	3923	3605	2185	1210	1.06	1.00
Trouble keeping focused	4133	4881	1470	444	0.84	0.81
Felt depressed	6634	3249	750	296	0.52	0.74
Too tired to do things	4444	5019	1182	285	0.75	0.75
Felt hopeful about future	3278	3806	2697	1138	1.15	0.97
Thought life had been failure	9075	1460	290	96	0.21	0.52
Felt fearful	7953	2599	281	92	0.31	0.56
Felt happy	3877	4604	2137	313	0.90	0.81
Talked less	5664	4176	837	252	0.60	0.73
Felt lonely	7006	3044	645	235	0.46	0.70
People were unfriendly	7155	3259	392	124	0.40	0.62
Enjoyed life	4937	3718	1874	400	0.79	0.85
Felt sad	5713	4438	580	199	0.57	0.68
Felt people disliked you	7283	3120	374	151	0.39	0.62
Felt hard to start things	5198	4720	855	156	0.63	0.69
Felt life was not worth living	9699	954	161	107	0.15	0.46

Table O. Descriptives for Parent Emotional Social Support Indicators							
	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)	Mean	S.D.
Mom is warm and loving	156	388	868	5372	7509	4.38	0.81
Dad is warm and loving	214	504	1223	4349	8007	4.36	0.89
Good relationship mom	216	579	898	5241	7366	4.33	0.88
Good relationship dad	232	699	955	4285	8123	4.35	0.92
Good communication mom	364	1077	1398	5578	5883	4.09	1.02
Good communication dad	296	1034	1211	4259	7494	4.23	1.02

	No (0)	Yes (1)	Mean	S.D.
Worked on school project mom	12525	1781	0.12	0.33
Worked on school project dad	13184	1119	0.78	0.27
Talked about school work mom	5866	8440	0.59	0.49
Talked about school work dad	9055	5248	0.37	0.48
Talked about other things in school mom	7185	7121	0.50	0.50
Talked about other things in school dad	9840	4463	0.31	0.46

	No (0)	Yes (1)	Mean	S.D.
Talked about life with mom	8325	5981	0.42	0.49
Talked about life with dad	11537	2766	0.19	0.39
Talked about problem with mom	9365	4941	0.34	0.48
Talked about problem with dad	12255	2048	0.14	0.35

	Not at all (1)	Very little (2)	Somewhat (3)	Quite a bit (4)	Very much (5)	Me an	S.D .
Friends care about you	99	317	2091	5954	5767	4.1 9	0.8 2

	No (0)	Yes (1)	Mean	S.D.
Talk to male friend problem	7825	6493	0.45	0.50
Talk to female friend problem	6937	7379	0.51	0.50

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)	Mean	S.D.
Feel close to people at school	494	1349	2886	6553	3020	3.71	1.01
Feel like part of school	507	1310	2136	6564	3784	3.82	1.03
Feel happy to be at school	774	1452	2528	5798	3754	3.72	1.12

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Vita

Andia Minoos Azimi was born in Anchorage, Alaska on March 26th, 1987. She attended Georgia State University for her undergraduate and graduate studies. She received her B.S. degree, Summa cum laude, in criminal justice in 2011. In 2013, she received her M.S. in criminology and criminal justice, and in 2018, she received her Ph.D. in criminology and criminal justice. Currently, Andia is an assistant professor in the Department of Criminal Justice and Criminology at Sam Houston State University. Her research centers around victimization, with a focus on children and adolescents. She is especially interested in victimization that occurs early in life and its associated negative outcomes. She is also interested in violent victimization that occurs on college campuses or among college students. Her scholarly work has been published in peer-reviewed journals, including the *Journal of Interpersonal Violence*, *Deviant Behavior*, *Drug and Alcohol Review*, *Violence and Victims*, and the *Journal of School Violence*. In addition to her scholarly research, she teaches undergraduate courses on ethics in criminal justice and the correctional system.