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Comparisons of Adopted and Non-Adopted Young Adults' Heterosexual Relationships

Bryan W. Winward
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COMPARISONS OF ADOPTED AND NON-ADOPTED YOUNG ADULTS' HETEROSEXUAL RELATIONSHIPS

by

Bryan W. Winward

A dissertation submitted in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY in Family, Consumer, and Human Development
ABSTRACT

Comparisons of Adopted and Non-adopted Young Adults' Heterosexual Relationships

by

Bryan W. Winward, Doctor of Philosophy
Utah State University, 2005

Major Professor: Dr. Brent C. Miller
Department: Family, Consumer, and Human Development

Adoption has been seen as a good solution for providing each party involved in the traditional adoption (i.e., young birth parents, infants, and infertile couples) with a positive outcome. Adoptions, however, are generally more complex and diverse than supposed. Variables such as age of placement, levels of abuse and neglect, and foster care have been shown to place adopted children at risk for later struggles and challenges. Research studying outcomes of adopted young adults and their formation of heterosexual relations has been very limited.

Most adoption studies have focused their attention on young school-age or teenage children, or on adopted adults trying to find their biological parents. It has only been in the last few years that research has begun to focus attention on adopted youth and young adults and their transition to intimate relationships.

This study uses data collected in Wave III by the National Longitudinal Study of Adolescent Health. The Add Health Wave III sample consisted of 15,170 young adults,
of which 487 were verified as being adopted. Abuse and neglect were looked and in
conjunction with adoption in order to identify potential confounds to explain potential
adoption effects. Adopted and non-adopted groups were compared along with abused and
neglected groups using standardized mean differences, t tests, logistic regression and
polytomous logistic regression in order to determine the effects of adoption and abuse
and neglect on several heterosexual relationship outcome variables.

The present study provides support for four conclusions about comparisons
between adopted and non-adopted young adults' heterosexual relationships. First,
adoption by itself has a small but significant effect upon sex and cohabitation variables,
but has little impact upon violence and satisfaction in relationships. Second, the age at
which a person is adopted seems to have little or no effect upon any of the sex,
cohabitation, relationship violence, or satisfaction variables. Third, a history of abuse and
neglect in childhood has a small but significant effect upon most sex and cohabitation
variables, with a larger effect upon variables dealing with relationship violence and
satisfaction. Fourth, the combination of adoption and abuse shows the largest effects on
all intimate relationship variables.

Findings indicate that adoption does not have as great an impact on relationship
variables as theorized. Abuse and neglect seem to play a much larger role in negative
heterosexual relationship outcomes.

(144 Pages)
ACKNOWLEDGMENTS

Primary thanks for this dissertation and PhD degree should first and foremost go to my wife, Margaret, and children, Samantha, Megan, Joshua, Alexander (Mo), and Brennon. The last two appeared on the scene while it was in process. Margaret has been continually supportive of my desire to further my education and has carried the majority of the household load for three full years. Without her willingness to sacrifice, this degree and this dissertation never would have come to fruition. I love her more than I ever express to her and I hope this dissertation stands as a monument to her. My children have been asked to sacrifice some “Dad time” in the last few years and I appreciate their willingness to “hang on” and “give me just a few more minutes” more times than I can count.

This dissertation never would have been possible if it wasn’t also for the efforts of Dr. Brent Miller. He was willing to take me, train me, watch and direct my efforts. It has been his great ability to read, synthesize, and correct that has taught me the most during this process. His words to me after I turned in my first project will continually ring in my ears: “You need to do this the right way, on time, and without errors.” Brent’s willingness to finance my out-of-state tuition (plus a little) came as an answer to prayer at a time when I thought this degree was doomed for failure before it began.

Members of my committee also deserve more thanks than just acknowledgments on a page can give. All were willing to give time in counsel, reading, responding, and
correcting whenever it was asked or needed. Special thanks to Dr. Maria Norton and Dr. Tim Slocum who were very helpful with the statistics portion of this dissertation. Their advice took a simple project and made it a worthwhile addition to the adoption literature.

I recognize that much of this dissertation and my degree was due to the efforts of countless people who have influenced my life the past three years. I would like to thank all of them. My parents, Bruce and Anita Winward, were willing to read papers, give feedback, and most of all be encouraging when encouragement was needed. They deserve more than thanks for helping me get to where I am.

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I suppose I can finally say, “It was worth it.”

Bryan W. Winward
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CHAPTER I
INTRODUCTION

Throughout history, adoption has been seen as a good solution for providing each party involved in the traditional adoption (i.e., young birth parents, infants, and infertile couples) with a positive outcome. Adoptions however, are generally more complex and diverse than one would be led to believe. Adoptions can be contested and filled with legal entanglements and can include battles over custody. Older age of placement, prior abuse and neglect, and foster care have been shown to place adopted children at risk for later struggles and challenges (Wilson, 2004).

In the past, infants primarily comprised the group of children that were adopted. However, distinct social changes, such as a decline in teenage pregnancy, the acceptance of single parenthood, and the increase in the number of children in foster care, have dramatically shifted the age of adoption away from infancy toward older children, many more of whom have been abused or neglected. These children and those with auditory, visual, mental or physical impairments have special needs and require special attention (Grotevant, Dunbar, Kohler, & Lash Esau, 2000).

Much past adoption research has been conducted by combining all adoptees into a single group to be studied and compared with a non-adopted group on specific outcomes (Miller, et al., 2000a). While effective in studying adoption as a whole, undifferentiated adoption comparisons fail to take into account the recognized association between adopted children’s age at which they were placed for adoption and corresponding psychosocial development.
Lumping all adoptees together fails to take into account the pre-placement history that accompanies those children placed for adoption at older ages. Older placed children typically come from homes where there has been a history of physical or sexual abuse, neglect, rejection and deprivation. Many older adoptees will have experienced a home environment that is filled with danger; unpredictable, extreme, or adverse parenting; and with little love and attention paid to them (Howe, 2001). These children have followed a developmental pathway that places them at increased risk of maladaptation, attachment disorganization, and dissociative disorders (Howe). It has long been a question of those studying adoption as to whether those older placed adoptees with histories of abuse and neglect can recover developmentally if they are taken from the hostile environment and placed in a higher quality caring environment (Howe).

Many studies have examined the effects that adoption may have upon adopted children and adolescents. These studies report that few adopted individuals experience many challenges attributable solely to adoption. Some adopted children and adolescents however, struggle with several issues apparently due to adoption. These children and adolescents have lower self-esteem, suffer from depression, and seek out counseling at a higher rate (Borders, Penny, & Portnoy, 2000). Adopted adolescents are at increased risk of abusing substances, suffering from eating disorders, struggling with learning disabilities, displaying aggressive behavior, becoming delinquent, and exhibiting academic and social deficiencies (Feigelman, 1997). Further, adopted adolescents have lower levels of emotional adjustment (Miller et al., 2000a), and are three times more likely to run away from home than their non-adopted counterparts (Feigelman).
Age of adoption seems to have an impact upon outcomes later in life. Children adopted as infants seem to do as well as non-adopted children physically, cognitively, and educationally when they are compared with families of similar socioeconomic status as their adoptive parents (Howe, 1998). Children adopted as infants do show a small increase in risk of social difficulties which are manifest as poor peer relations, problems with parents at home, and higher referral rates to psychological and psychiatric services (Stams, Juffer, Rispens, & Hoksbergen, 2000). Children adopted as infants also appear to be at a slightly increased risk for developmental impairments in their emotional, behavioral, and social development (Howe).

Abuse and neglect has become an issue in studying individuals and families in America. Abuse and neglect also play a significant role in studying adoption, because many children who are adopted at older ages have experienced some form of abuse and/or neglect. The prevalence of adults reporting some forms of maltreatment (i.e., emotional neglect, physical neglect, physical abuse and sexual abuse) in their childhood ranges from about 30% of all women to over 40% of all men having experienced some form of abuse/neglect early in their lives (Dennerstein, Gutherie, & Alford, 2004; Scher, Forde, McQuaid & Stein, 2004). Abuse and neglect has been shown in numerous studies to have implications on development later in life (Higgins & McCabe, 2000; Ruscio, 2001; Swan & Snow, 2002). Children who are abused and/or neglected show increased risk for adjustment problems (Valle & Silovsky, 2002). These adjustment problems can take the form of increased drug and alcohol abuse (Bevan & Higgins, 2002; Feerick, Haugaard, & Hien, 2002); increased risk of sexual abuse by an intimate partner (Ornduff & Kelsey, 2001); greater chance of being both a perpetrator and a victim of physical
violence in a relationship (Swan & Snow); higher rates of cohabitation; increased risk of walking out on marriages, greater chance of divorce, lower positive perceptions of current romantic relationships, and less likely to be sexually faithful to their intimate partners (Colman & Widom, 2004). Abuse effects seem to have been the focus of the majority of studies, but Colman and Widom found that both emotional and physical neglect in childhood was a significant predictor of relationship difficulties later in life.

Research studying outcomes of adopted adolescents and young adults and their formation of intimate relations has been very limited. Most of the studies have focused only on adopted adults trying to find their biological parents. It has only been in the last few years that research has begun to focus attention on adopted youth and young adults and their transition to intimate relationships.

The purpose of this study is to explore the romantic and intimate relationships of adopted adolescents and young adults. How will difficulties experienced by some adoptees affect their future intimate relationships? What does research say about the transition towards long-term relationships for those who are adopted? And how do they compare to their non-adopted counterparts? What role does abuse and neglect play in the formation and maintenance of romantic relationships? By examining the type and quality of the romantic relationships of adolescents and young adults, this study seeks to provide understanding of an area previously not studied in the field of adoption.

Theoretical Frameworks

Several theories have been used to guide the study of adoption outcomes. Several studies have examined adoption using concepts of attachment, as proposed by John
Bowlby (e.g., Brodzinsky, Smith, & Brodzinsky, 1998; Gallo & Smith, 2001; Watson, 1997). Some have examined adoption through the lens of Erikson’s Psychosocial Theory, seeing adoption as a moderating factor in the transition from adolescent identity formation to young adult intimacy (e.g., Borders et al., 2000; Grotevant et al., 2000).

Brodzinsky et al. used a combination of several theories to form a unique perspective called stress and coping theory to capture the complexities of the adjustment process for adopted individuals. This study will use all of these theories to examine the effects of adoption, as well as the effect of experiences prior to adoption to identify possible explanations for potential outcomes. This is done because each of these theoretical viewpoints examines adoption from a different perspective to explain adoptive differences in relationship formation. Each of the theories can provide information to help explain potential relationship strengths and weaknesses in those who are adopted, placed later in life, and abused or neglected.

Purpose Statement and Research Questions

In 2000, the National Institutes of Health (NIH) determined that the need for up-to-date information on the health and well-being among adopted adolescents merited the funding of a 3-year research project to be conducted in partnership with Utah State University and the University of Minnesota. The present study addresses one of the four aims originally proposed to NIH about the adjustment of those who are adopted. The present study concentrates on the third specific aim, which is concerned with adopted adolescents’ long-term relationship formation and maintenance. These aims were stated as follows:
Aim 1: Analyze adopted/non-adopted adolescent differences moderated by new measures of adoption characteristics and mediated by contextual variables. Child neglect and abuse have serious negative effects on subsequent development. Add Health Waves I and II provided no information about these kinds of adverse children’s experiences, but Add health Wave III survey asked a new series of questions about age at adoptive placement and experiences such as neglect, physical abuse, and sexual abuse. We hypothesize that later age of placement and adverse early experience will predict poorer adjustment and more negative outcomes, but that adoptive family processes and relationships with others outside the family (measured in Add Health Waves I and II) will mediate the relationships between a) adverse early experience and age of adoptive placement and b) adjustment and outcomes in adolescence and young adulthood. Understanding the complex relationships among these variables will provide important information to guide adoption practice and policy.

Aim 2: Analyze transitions to young adult roles for adopted and non-adopted adolescents. Virtually all prior research on adoption outcomes is focused on childhood or adolescence; very little is known about adoptees’ competence in assuming adult roles. Experiences associated with adoption may influence the order and timing of young adult transitions. Based on theory and previous research, we hypothesize that transitions at the beginning of young adulthood are more likely to be off time for adolescents with a history of adverse experiences such as neglect and abuse. For adopted adolescents, this will be most strongly the case for children adopted at older ages with adverse life experiences (e.g. a history of neglect and abuse). Compared to non-adoptees and those adopted as infants, we hypothesize that such adopted persons will be more likely to leave home early; less likely to graduate from high school and to go on to college; less likely to have secure employment; more likely to have (or to cause) unplanned pregnancy and birth.

Aim 3. Analyze heterosexual relationship formation and fertility-related behaviors for adopted and non-adopted adolescents. The relational and sexual overtones of adoption may influence adolescent heterosexual relationship formation and fertility-related behavior. As adopted adolescents develop heterosexual relationships, they must consider the meanings of adoption in the context of competing parental, peer, and societal messages. Heterosexual relationship development may be more difficult for later placed adoptees who have experienced abuse and neglect. These early adverse experiences negatively impact parent-child attachment relationships, which form the basis for later adult attachment relationships. To test this
hypothesis, adolescent relationship indicators contained in Add Health data (e.g. age of dating, early steady dating, number of dating partners) and fertility-related behaviors (e.g. age at first intercourse, frequency of intercourse, number of sexual partners, and use of contraception at first and most recent intercourse) will be compared for early and later placed adopted and non-adopted adolescents, controlling for factors such as age, religiosity, SES, family structure and ethnicity.

Aim 4. Describe adopted adolescents’ knowledge of and contact with their birth parents. Little is known from population-based surveys about adopted adolescents’ contact with their biological parents. Using Add Health home interview data, questions that asked whether or not adolescents knew anything about their birth parents will be analyzed. Analysis also will describe a series of questions about the extent to which adopted adolescents knew about their birth parents’ education; mental and physical disabilities; whether adolescents ever lived with birth parents, how recently, and how long; and recent interactions with their birth parents. These adoptee/birth parent issues can be analyzed early in our continuation research (using Waves I and II); substantial changes might be evident after home leaving, which will have occurred for many in the Wave III sample. These descriptive analyses will provide an informative picture of adopted adolescents knowledge about, and contact with, their birth parents.

The research questions proposed to address these issues are (1) Does adoption affect adolescent and young adult heterosexual relationships? (2) Does age of adoption placement affect adolescent and young adult heterosexual relationships? (3) Do abuse and neglect affect adolescent and young adult heterosexual relationships?
CHAPTER II

REVIEW OF LITERATURE

Few studies have looked at the effects of adoption combined with abuse and neglect on long-term relationships. Many studies, however, have attempted to study adoption and the adjustment of adoptees, to determine if adoptees are at greater risk for maladjustment and psychological distress (Wilson, 2004). The bulk of this literature review concentrates on studies dealing with adoption adjustment, along with the theoretical perspectives dealing with adoption, abuse and neglect, and how they might affect adolescent and young adult relationships. This review also provides the current demographic characteristics of adoption essential to gaining an understanding of adopted persons in the United States.

Current Demographic Characteristics

For the first time, the U.S. Census included the category of adopted son/daughter in the 2000 decennial census. This census has become the principal source of data on adopted children in the entire United States in the past few years (Krieder, 2003). In the year 2000 there were approximately 1.6 million adopted children (not including step-children) under the age of 18, which make up about 2.5% of all children. More girls are adopted in the United States than boys. This may occur for two reasons: First, women in general prefer to adopt girls, and single women more frequently than single men have adopted children. Second, a majority of children available for adoption from other countries are girls. The majority of children that are adopted are white (non-hispanic)
although a higher proportion of adopted children compared to biological children are African American. This higher proportion may be due to a higher number of informal kinship adoptions that take place in the African American community. The proportion of Asians who are adopted is also higher due to the fact that nearly half of all foreign-born adopted children were born in Asian countries (Krieder).

The 2000 census revealed that a higher proportion of adopted than non-adopted children had at least one disability. This was true for both boys and girls. The most common disability reported was difficulty learning, remembering or concentrating. This category includes children who suffer from the effects of maternal drug abuse, fetal alcohol syndrome or other medical conditions affecting a child's mental capabilities. The positive side of this is that adopted children with disabilities tend to live in families that have a higher standard of living than their non-adopted counterparts, which allows them better access to treatment and facilities (Krieder, 2003).

Of the 1.7 million households with adopted children, 82% had just one adopted child while 15% had two and 3% had three or more adopted children. The vast majority of these households were of the same race with only 18% of adoptive households containing members of different races (Krieder, 2003).

**Adoption Adjustment Findings**

Studying adoption adjustment is important for two reasons: First, awareness of increased risk for those involved might allow adopted individuals and families to engage in activities known to reduce the possible risks, as well as making the public aware of potential difficulties prior to adopting (Haugaard, 1998). Second, if adoption is not a risk
factor for all adoptees, then correcting the presumed link between adoption and adjustment difficulties could help influence parenting styles, expectations of both parents and adoptees, and family processes (Haugaard).

Research concerned with the emotional and physical adjustment of adoptees began as early as 1943 (Clothier, 1943). Studies of adoption adjustment continued to be conducted in the 60’s through the 80’s, usually based on clinical samples. Adoptees were often compared to their non-adopted peers to determine the differences between groups. This methodology of using only clinical samples failed to take into account the heterogeneity in the adoption population, and failed to note that the within-group differences of adoptees’ adjustment may be as great or greater than the comparison of all adoptees to a non-adoptive sample (Wilson, 2004). Recently there has been more research focusing on sampling adopted individuals who more accurately represent adoptees outside of clinical settings (Feigelman, Bachrach, Chandra, & Wilson, 1998; Leon, 2002; Levy-Shiff, 2001).

In the only meta-analysis in the adoption adjustment field, Wierzbicki (1993) reviewed 66 published articles that examined the psychological and behavioral adjustment of adopted children. He found that adoptees appear to be over represented in clinical populations. He also noted that non-clinical studies report smaller differences than clinical populations in the adjustment of adoptees compared to those not adopted. A third finding that he reported was that adoptee/non-adoptive differences were most often found for externalizing behavior and academic problems.

In a review of research, Haugaard (1998) examined the risk of adoption on adjustment. He divided the research literature into four general categories: 1) studies
examining the proportion of adopted children and adults in inpatient and outpatient mental health settings; 2) studies examining behavioral and emotional symptomatology among adopted and non-adopted children; 3) cross-sectional studies of the prevalence of behavioral and emotional disorders among non-clinical groups of adopted and non-adopted children, and; 4) longitudinal studies of the development of adopted and non-adopted children.

He found numerous studies that consistently showed higher proportions of adopted children and adults in inpatient and mental health settings. While adoptees represent only about 2% of the general population, the percentage of adoptees in clinical settings ranged from 4% to 22%, with adoptees having a higher proportion (2 to 1) in inpatient rather than outpatient settings. He noted that several studies showed children placed as infants were found in smaller proportions relative to children adopted at an older age in mental health settings. He concluded that these studies support the notion that not only does adoption increase one's risk for the development of adjustment problems, but that adoption may also be a risk factor for more serious mental health problems that result in institutionalization (Haugard, 1998).

In studying the behavioral and emotional symptomatology among the adopted and non-adopted he concluded that no pattern existed in the diagnosis given to adopted and non-adopted children and adolescents in mental health facilities. He found little evidence to support the notion that adoption status is an increased risk for specific mental disorders (Haugard, 1998). In a similar research review that specifically targeted some psychological disorders, Ingersoll (1997) came to different conclusions than Haugard. Ingersoll concluded that there was consistent and strong evidence showing that adopted
children were more likely to be diagnosed with externalizing disorders like attention
deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), or conduct
disorder (CD). Haugaard’s review concentrating mostly on internalizing or mood
disorders might explain the differing findings, as well as the fact that Ingersoll’s review
included some studies not examined by Haugaard.

In reviewing the behavioral and emotional disorders in non-clinical settings,
Haugaard found that there was little or no difference between the adopted and non-
adopted on any of the internalizing disorders such as mood disorders, low self-esteem, or
suicidal behaviors. If differences were found they were considered minor and not
problematic. He found that children from single parent families showed a much higher
risk for these difficulties than adopted children (Haugaard, 1998).

Haugaard’s review of longitudinal studies found that adopted children at age 10-
11 showed higher levels of maladjustment than did the non-adopted group. Comparisons
were mixed at earlier or later developmental stages. Haugaard concluded that consistent
differences between adopted and non-adopted individuals may occur at certain ages and
not at others. He also found that adoptees who were placed in foster care for at least six
months prior to adoption seemed to exhibit more adjustment problems than those who
were not in extended foster care (Haugaard, 1998).

Both Ingersoll (1997) and Haugaard (1998) addressed the concern over the use of
clinical samples in adoption research because adoptive parents play a significant role in
seeking assistance and thus referring their children to mental health treatment facilities.
Adoptive parents may be more used to dealing with professional agencies, and generally
have higher than average incomes and thus more access to treatment facilities, which may
be reasons for the higher rates. Miller, Fan, Christensen, Grotevant, and van Dulmen (2000b) found that adoptive children were over represented in mental health facilities, both because they were referred more by their adoptive parents, as well as having more problems than their non-adopted counterparts.

Each of the preceding reviews point to a slightly or moderately higher risk for adjustment difficulties among adopted children when compared to their non-adoptive counterparts. It is unclear whether these difficulties are due to the experience of adoption per se, and so might be expect to be found among all types of adoptees, or whether these differences are concentrated among a subgroup of adoptees. Each of these explanations could account for the small to moderate average differences found in many adoption studies.

Wilson (2004) reviewed much of the most recent research and concluded that using only adoptive and non-adoptive sample comparisons has flawed much of the adoption research. In examining studies which attempt to differentiate the within-group variations among adoptees it has been found that differences are present not only in the personal characteristics of the adopted child, but also in the circumstances leading up to the adoption. She stated that those who have questions and concerns about adoptee adjustment have to look at both the adoptees’ internal challenges (such as facing family history and dealing with life situations), as well as dealing with the external factors which often times lead up to the adoption (prior abuse or neglect, foster care, age of adoption). Wilson found that disruption rates, behavioral problems and emotional challenges can be linked to age of adoption, and pre-adoptive history. She concluded that only when
variability among adoptees is better understood can more appropriate services and follow up be provided for adoptive individuals and their families.

Adoption and Adjustment Outcomes in Adulthood

As stated earlier there have been few studies that have examined adoptive outcomes in adults, other than research focusing on the search for birth parents. Recent studies have undertaken to identify outcomes of adoption that carry into young adult and adulthood.

Collinshaw, Maughan, and Pickles (1998) studied the long-term implications of infant adoption for psychosocial functioning in adulthood. This study used data from the National Child Development Study (NCDS) because of its unselected sample of adoptees, assessed over an extended period of time, encompassing several periods in adulthood and across a number of life situations. The sample collected data in 1965, 1969, 1975, 1983, and 1993 asking questions most recently about relationships, social class, employment history, home ownership, parenting, relationships, and psychological well-being. This study is limited for adoption because it is based on an adoptive sample born in the late 50s and early 60s that were largely adopted as infants without special needs, thus limiting the effectiveness of generalizing to the present day adoptive population.

This study showed that adopted adult women showed no elevated risk for relationship breakdowns, depressive affect, lack of help seeking behavior for emotional problems or a restricted social support. For men the situation was not quite as positive. Adopted men in the sample showed more employment related difficulties than their non-
adopted peers. Adopted men were more likely to have faced multiple periods of unemployment, and were more likely to have been fired than their non-adopted cohorts. In addition, adopted men did not seem to use social support for help. They were less likely to turn to friends and family for support for personal or emotional difficulties.

In another study of adopted adult adjustment Borders et al. (2000) sent out 157 survey packets to adopted adults associated with a local adoption and foster care facility in North Carolina. Borders et al. asked all of the adopted adults to give a survey packet to a non-adopted friend similar in gender, age, marital status, race/ethnicity, and career. These friends then formed an approximate matched sample which researchers used as a control group to compare to the adopted sample. Results indicated that the adult adoptees reported similar levels of life satisfaction, life purpose, and substance abuse as their non-adopted friends. More adopted adults, however, reported feelings of regret, and problems related to interpersonal connections, depression, and self-esteem. Adult adoptees who had spent time and effort in searching for their birth parents were more likely than the non-searchers to report adjustment difficulties.

Levy-Shiff (2001) used longitudinal data from a sample of 91 Israeli adoptees and 91 Israeli non-adoptees to study adult outcomes. This study collected data from the participants at the age of 18 and again at the age of 28 measuring self-concept, distress, family environment, openness of adoption, age of adoption, and reunion with birth parents. Levy-Shiff found that adoptees are at a higher risk for psychological maladjustment reaching even into adulthood. The adopted adults seemed to have a less coherent and a more negative self-concept than their non-adopted counterparts. They also found that late adoption increased the risk of maladjustment, due to a history of failed
family systems leading to abuse, neglect, or rejection. These later placed adoptees seemed to have resisted attempts to incorporate themselves into new family systems, further disrupting primary relationships. Where adopted children experienced multiple placements or severe abuse there seemed to have been more lasting, long-term effects carrying over into adulthood.

More recently, Burrow, Tubman and Finley (2004) who studied adoption outcomes using Wave I data collected by Add Health, concluded that there were few significant group differences between adopted and non-adopted adolescents as they moved into adulthood. They also found that racial differences between adopted parents and children were not associated with poorer adjustment outcomes later in life. Their study concluded that differences between those adopted and non-adopted could be attributed more to developmental stage and gender rather than adoption status.

In summary, much of the adoption research points to deficiencies in methodology when looking only at clinical samples to study adoptive/non-adoptive differences. With adoptees higher rates of participation in mental health services, the data can be skewed, which renders the data inaccurate. The research also consistently reports differences in adoptees, compared to non-adoptees, when studying externalizing behavior. The research is mixed when looking at internalizing behavior. Some of these adoptive differences may be more pronounced at certain developmental stages and less pronounced at others. Another major finding shows that the pathway to adoption must also be a consideration. Adoptees and adoptive families have been found to be a very heterogeneous group. Factors such as age of adoption and pre-adoptive history of experiences such as abuse
and neglect must be taken into consideration before implications toward adoption can be fully documented.

Theories of Adoption and Intimacy

*Psychosocial Theory/Identity and Intimacy*

According to Grotevant (1997b) seven core issues characterize adoption relationships: loss, rejection, guilt and shame, identity, intimacy, and control. The adoptee, their birthparents, and their adoptive parents, each can experience all of these seven core issues. Because Erik Erikson theorized that the formation of identity is a major factor determining the quality and type of intimate relationships, this review will focus on the concept of identity. There are two types of personal identity: First, the enmeshing of one’s characteristics and personality with the societal influences around them, and second, the permanence/continuity of personality over time (Grotevant).

Erikson theorized that adolescents under normal conditions become anxious and distraught over conflicting social demands. Instincts within the adolescent, combined with seemingly uncontrollable impulses and rapid physical growth, create a sense of identity confusion. Some adolescents deal with the uncertainty of their new self by becoming clannish, demeaning of others, and developing prejudice against those that are different in any way. Adolescents are prone to align themselves with causes or ideologies that give them a sense of values. Some may find a sense of identity through their scholastic or athletic accomplishments. Other adolescents deal with their
transformation by looking to their parents and siblings for a sense of who they are and what they may become (Crain, 2000; Soenens, Duriez, & Goossens, 2005).

Grotevant (1997b) argued that for adopted adolescents the formation of identity is much more complicated than for their non-adopted peers. Their family situations are different and there seems to be much more need for greater focus on their relationships. Adoptees have four parents to be concerned about: A set of biological parents who gave them life, and their adopted parents who provide daily interaction and care. Grotevant et al. (2000) speculated that adopted adolescents might struggle as they look to their adoptive parents and siblings for identity. Adoptive children may have been told that their birth parents, or their adoptive circumstances, were less than desirable, thus forcing adopted children to reconcile within themselves the conflict between their emerging sense of morality and their birth parent’s behavior. Western society also bases notions of kinship ties primarily on blood relationships that may contribute to identity confusion within the adopted adolescent.

Grotevant (1997a) identified three aspects of identity that are of particular importance: self-definition, coherence of personality, and sense of continuity over time. Identity as self-definition is defined as the characteristics one uses to identify oneself and how others recognize individuals within a particular context. Identity as a cohesion of personality refers to various aspects of one’s identity fitting together from different contexts. Third, continuity over time links past, present, and future, across place, contexts, and relationships. Identity is the link between personality, self-awareness, interpersonal relationships, and the context in which all of these are placed. Grotevant et al. (2000) states that the essence of identity is self-in-context.
A person’s identity is not static, but develops over their life course (Meeus, Iedema, Maassen, & Engels, 2005). Grotevant et al. (2000) theorized that adoptive identity is composed of three components: intrapsychic, relationships within family, and relationships in the social world beyond family. The intrapsychic component refers to the mental and emotional processes involved in developing one’s adoptive identity. Most aspects of the adoption experience have been taken out of the control of most adopted individuals and, thus, the greatest task that an adoptee can fulfill on the intrapsychic level is to come to terms with oneself in the context of the family relationships in which one has been placed. This intrapsychic identity task can be complicated for adopted individuals to work through, and yet there is nothing extreme or abnormal that would prevent an adoptee from performing this task. While some adopted individuals spend little time and effort focusing on the fact that they are adopted, others are extremely preoccupied with who they are and why they were placed for adoption. Somewhere in-between these two extremes lies balanced and healthy identity on an intrapsychic level.

Grotevant et al. (2000) stated that another component is the adopted child’s identity within the family. He theorized that the adopted individual’s identity is derived from relational contexts within the adoptive family as well as from perceived traits of the birth family. The typical adoptive family engages the child in an adoption story or narrative that helps to socialize the adoptee to their unique situation. As the child grows older, there comes a time of normal questioning of birthparents’ motives, and the adoptive parents can help the child work through the issues, further developing a solid identity. The older the child gets, the more the adoption becomes visible as physical appearance, abilities, and personality, all form in somewhat different ways from the
adoptive parents. How the family deals with these perceived differences plays a vital role in how the adopted child’s identity is formed.

Some adopted teens sense that their adoptive parents cannot possibly understand what they are going through, because their parents are different in so many ways. This can be especially true for those who have been transracially adopted. Some adopted adolescents wish to gain a greater understanding of their genetic background and history by contacting their birth parents, but they might be prevented from doing so by various obstacles. Watson (1997) found that the infant who is adopted has connections to two different families, one by genetics, ancestry, and birth, and the other by parental nurturing and experience. These conflicting connections can cause anxiety as the adopted teenager struggles to not only build an identity about who they are today, but also where they have come from, and the reasons why they were placed for adoption. These identity issues can cause adolescents to become overly concerned with themselves and focus on who they are, rather than who they are.

Grotevant et al. (2000) stated that the third component is the context outside of the family. Social interactions faced by adoptees play a large role in the development of identity. Sometimes, people in their environment may label adoptees as different solely because of their adopted status. Whether or not adoptees have a clear understanding of the circumstances surrounding their adoption will influence how they handle these social interactions. Adoptees who feel secure about the circumstances surrounding their adoption are more likely to handle the situations in an appropriate manner. Depending on the community’s support, adopted individuals may experience a wide variety of social reactions. They may be received with open arms, or be subjected to mocking and
derision. How the community sees adoption will play a part in how adoptees see themselves. Some adopted individuals may begin to align themselves with groups or situations that don’t fit with their adoptive family. If the adoption is transracial, the adoptee may align him or herself with a different race/ethnic group. This alignment will have an impact on how well, and in which ways, the adopted person’s identity will evolve (Grotevant). How well adopted adolescents can master the developmental task of identity development will be a major factor in how well they will be able to master intimacy and romantic relationships (Crain, 2000).

*Attachment Theory*

Studies using attachment theory to look at adoptive outcomes focus mainly on the organization/quality of the attachment system and its ability to provide an individual a sense of security and belonging in the early formative years. According to attachment theory, infants form an “internal working model, a mental representation of the relationship between self and others, in the process of interacting with its attachment figures” (Bowlby, 1969). The internal working model can be a securely attached relationship model if there is trust between the infant and others, or an insecure attachment where there is uncertainty and a lack of trust felt toward others. Attachment style is reinforced through repeated interactions with the attachment figure and thus is likely to remain relatively unchanged throughout the individual’s life (Bowlby, 1980).

Three styles of attachment have been emphasized, one secure and two insecure styles. Securely attached infants develop a sense of security in themselves and others that allows them to explore their environment (Shi, 2003). As the attachment bond between
the child and its primary caregiver is formed, a partnership between the two develops, which helps the child to gain “felt security.” Felt security aids the child in coping with stress and influences its relationships with others. Beliefs about worthiness and competence within the child are developed as it receives nurturance and support from significant others (Brodzinsky et al., 1998).

The two insecure attachment styles have been labeled as avoidant and anxious/ambivalent. Avoidant attachment is associated with having experienced caregivers who are rejecting or even hostile toward their needs for help and comfort. These infants respond by being seemingly unaffected by the absence of their mothers, and yet display distress through sudden anger and frustration out of proportion or with erratic timing in relation to the current situation. Anxious/ambivalent infant attachment is associated with having mothers who are inconsistent in providing for their infant’s needs. Sometimes, and in some situations, children who are anxious/ambivalent are insensitive or hostile, while at other times they are interfering and overly affectionate. These infants display high distress and are difficult to soothe if there is a withdrawal of the attachment figure (Ainsworth, Blehar, Walters, & Wall, 1978).

Attachment theory proposes that humans are born with an instinctual drive for attachment just as they are born with drives for food and sex. Attachment bonds between a child and parent become the model for future affectional bonds between adults (Watson, 1997). Watson defined bonding as a “significant relationship between two people that happens without knowledge or conscious effort of those involved.” This bonding can come in many forms in a child’s life.
Effects of Adoption on Attachment

Since adoptive parents enter the scene in their child’s life sometime after birth, the child’s attachment to its adoptive parents may not be as secure as that of the child and their birth parents. Age of adoption plays a significant role in the ability of a child to form strong attachment bonds (Brodzinsky et al., 1998). According to Hazan and Shaver (1994) by the sixth or seventh month most infants selectively attach to one person and seek to be close to that individual, protesting any separation. Those who are separated from their emotional caregiver would reveal several emotional reactions. The first reaction would be to protest, which involves emotional outbreaks with a refusal to be comforted. The second reaction is despair, which is expressed as sadness and despondency. The third and final reaction is emotional detachment, which can have lifelong implications, such as distrust and avoidance of intimacy.

Brodzinsky et al. (1998) reported that infants who are adopted in the first few months of life have the ability to form attachments with their adoptive parents that are as secure as those of their non-adopted counterparts. He cited empirical literature that suggests that adopted infants at age two who spent their early lives in institutions, were more clinging and diffuse in their attachments; this led to greater emotional and social problems later in their childhood. He also found that many adopted infants, who were removed from their biological parents at 6 months or older, suffered a variety of social and emotional difficulties that were correlated to some relationship difficulties ten years later. Research suggests, however, that children who are placed in adoptive homes at pre-school age or older can develop a certain level of bonding with their primary adoptive caregiver provided that this relationship remains stable (Brodzinsky).
Impact of Abuse and Neglect on Attachment

Stovall and Dozier (1998) suggested that in order to understand the developmental outcomes that are achieved by adopted and foster children who are abused, one must view them in terms of a “transactional model.” A child’s progress along a developmental pathway is established by the transactions that occur between the child and the environment surrounding the child. In a transactional model the child and the environment both influence the child’s developmental progress. Each child’s pathway is determined by the amount and severity of the abuse, neglect and rejection that is suffered, and the adoptive parent’s reactions to the behavioral consequences of that abuse.

Within an abusive environment, children develop mental processes that help them to identify what is expected of self and others. In abusive environments rules of relationships are formed that help the child to make sense of the world around them. Children who are abused might downplay their negative emotions and presume that protective care is not available in times of need. Some children develop high levels of self-reliance leading to an avoidant attachment pattern. Other children defend themselves against abuse by not acknowledging negative feelings or withdrawing from emotions and deactivating their attachment systems. Such children often develop an insecure or avoidant attachment pattern (Howe & Fearnley, 2003).

Neglecting environments often pose a greater challenge for the child. Parents in neglectful environments tend to respond erratically to the child’s signals of distress. The child can find no consistent relationship between their behavior and the corresponding responses of others. Some neglected children increase their signals of distress in order to
elicit the aid and assistance of their caregivers. Arousal and anger for these children seem to lessen their chances of being neglected or abandoned (Howe & Fearnley, 2003).

For children who find themselves in both abusive and neglectful environments, there is both danger and unpredictability. If the child’s attachment figure is the source of distress and fear, then the child has a difficult time organizing an attachment strategy that increases feelings of “felt security.” They experience corresponding feelings of both escape and approach that cannot be resolved. These children experience their attachment figure as a source of danger and fear as well as a source of affection and reassurance. Because these children cannot organize an attachment strategy to increase feelings of security and affection, their behavior becomes disorganized or disoriented (Fischer-Mamblona, 2000). Children who have disorganized attachment styles are at the greatest risk of developing later behavior and mental health problems (McCormack, Hudson, & Ward, 2002). Children who have parents that are rejecting and abusive often are submissive and guarded in the presence of their parents, but forceful and harassing in relationships with siblings and peers (Howe & Fearnley, 2003).

Children who have attachment disorders often display the behaviors shown in Table 1. When children who have been abused and neglected are taken from their abusive homes and placed for adoption, they take their learned adaptive strategies into their new families. The fearful, aggressive, controlling behaviors developed in their early years place great demands on their new caregivers. Children with avoidant and controlling attachment styles arrive in their new families unprepared to elicit or respond to appropriate caregiving (Stovall & Dozier, 1998). These placements run the risk of
Table 1

Problem Behaviors Linked to Attachment Disorders

<table>
<thead>
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<th>Variable</th>
<th>Description</th>
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| Behavioral                | Lack of Impulse control
                            | Self-destructive behaviors
                            | Destruction of property, including own and others favorite and precious objects
                            | Verbal and Physical Aggression
                            | Stealing (e.g. mother’s purse)
                            | ‘Crazy’ obvious lying
                            | Inappropriate sexual conduct and attitudes
                            | Cruelty to animals
                            | Preoccupation with fire, blood, gore, evil and weapons, often expressed in violent play and drawings
                            | Sleep disturbance
                            | Enuresis and encopresis
                            | Oppositional defiant behaviors
                            | Hyperactivity, restlessness, constant need for stimulation and activity that leads to antisocial behavior
                            | Constant blaming of others
                            | Self-endangerment
| Emotional                 | Intense displays of anger, rage and even violence toward caregivers
                            | Episodes of inconsolable sadness, helplessness, and depression
                            | Inappropriate emotional responses (e.g. laughing in public at someone else’s misfortune)
                            | Marked mood changes
                            | Inappropriate demanding or clingy
                            | Resentment
| Cognitive functioning     | Lack of cause-and-effect thinking (no responsibility for own choices and actions)
                            | Perceive themselves as unwanted, bad, sometimes helpless and sometimes super-naturally and powerfully dangerous
                            | Perceive their carers as unavailable, hostile and unloving
| Social                    | Superficial and charming with strangers
                            | Little eye contact
                            | Poor peer relations
                            | Fight for control over everything
                            | Bossy
                            | Relate to others in a manipulative, controlling and exploitative fashion
                            | Lack of remorse or conscience for harm or hurt caused
| Physical and developmental| Poor personal hygiene and self-neglect
                            | Confusion over own psychological states (get mixed up about being hungry or full, hot or cold, wet or dry)
                            | Abnormal eating patterns (gorging, stealing food, hoarding, refusing to eat)
                            | High pain tolerance/overreaction to minor injury
                            | Dislike of being touched

*Note. Howe & Fearnley, 2003*
replicating earlier experiences by having the efforts of the new caregivers rejected by the adoptee, and the caregivers feeling not needed or pushed away.

Repeatedly rejected new caregivers respond to the adoptee in an increasingly disengaged manner. Such placements are at a high risk of major difficulties and ending up with an adoption disruption (Howe, 2001).

Age of Adoption Placement and Attachment

Recent findings suggest that there is an association between adopted children’s age at placement and their development over the lifespan. As stated earlier, research suggests that there are few developmental risks attributed solely to adoption for children placed as babies. Children adopted as babies seem to do as well as non-adopted children physically, cognitively, and educationally when they are compared to families of similar socioeconomic status as their adoptive parents (Howe, 1998). Children adopted as infants do show a small increase in risk of social difficulties which are manifest as poor peer relations, problems with parents at home, and higher referral rates to psychological and psychiatric services when they are compared to non-adopted infants (Stams, Juffer, & van IJzendoorn, 2002). Children adopted as infants also appear to be at a slight risk for developmental impairments in their emotional, behavioral, and social development (Howe).

Children placed for adoption at older ages tend to have more pronounced impairments in their emotional, behavioral, and social development (Cederblad, Hook, Irhammar & Mercke, 1999; Howe, 1998). Howe (2001) compared adults who had been adopted as infants with those who had been adopted at a later age. He found that adults who had been adopted as infants (before 7 months) evaluated their adoption experience
more positively. When asked if they felt a sense of belonging in their adoptive family
73% of those adopted as infants stated that they felt that they belonged in their adoptive
family compared to only 50% of those who were adopted after the age of 2. He also
found that those who had been adopted after the age of two were almost three times as
likely to report that their adoptive mother did not love them while they were growing up,
and were much more likely as adults to have ceased having contact with their adoptive
mothers. He concluded that the primary attachment figure for an adopted infant would be
the adoptive parents, and that they have similar rates of secure attachment as the general
population. He found that early placement promotes a secure attachment, which leads to
higher levels of social empathy, flexibility, and overall competence.

Howe (2001) studied older placed adoptees and attachment and found that it was
difficult to separate the effects of older adoption from the effects of abuse and neglect.
Howe found that children who join adoptive families after the age of one or two will have
developed some attachment to their biological mother. These children will have
developed patterns of attachment that indicate their adaptations to coping with prior
caregiving. Removing these children from their primary attachment figures elicits a
protest of the separation by the child. These children can have feelings of despair and
eventually emotionally detach from individuals trying to provide them care.

Older placed children with histories of abuse, neglect and rejection may have
developed attachment strategies that do not allow for adults to be a source of safety and
security. Many of these children will have developed levels of detachment, self-reliance
and controlling behaviors that help them to defend themselves against fear and insecurity
that they had experienced in prior caregiving relationships. The combination of being
placed at older ages and being abused and neglected increases the risk of these older placed children becoming emotionally distant and disengaged. This emotional distance from caregivers undermines the ability for others to provide them with a sense of care and protection, which reinforces their beliefs that others are unavailable and strengthens the value of maintaining their insecure attachment strategies as protection. This becomes a self-fulfilling prophecy for the adoptee about the nature of relationships in their lives (Howe, 2001).

Effects of Attachment on Romantic Relationships

Hazan and Shaver (1994) stated that the attachment behavioral system is nearly the same across the life span, only differing in a few ways. By the time a person reaches adulthood they should not be only a recipient of care, but also a giver of care to others. Adults in relationships exhibit both external interactions that can be seen, as well as internal actions having a foundation in beliefs and expectancies. Adults usually do not require the same level of physical contact that is needed by infants to maintain their relationship bond and are usually attaching themselves to peers instead of to an older person.

When there is a disruption in the attachment system (which might occur with an adoption) there is the potential for several key relationship difficulties. These difficulties can be characterized by a lack of confidence that others can provide for an individual’s needs in a reliable responsive way, devoting an immense amount of energy and effort to keep others close by, and exhibiting intense expressions of distress, anger, jealousy, fear, anxiety, and loneliness (Hazan & Shaver, 1994).
Those who have poor attachment as adults tend to see partners as inadequate caregivers, are selfish and don’t attempt to understand their partner’s feelings, exhibit poor communication skills, and have difficulties solving problems without extreme emotional reactions (Hazan & Shaver, 1994). Taken to the extreme, some may begin to avoid intimacy, especially in stressful situations, have pessimistic views about the future of any intimate relationship, and experience high rates of dissolution within their relationships. These individuals avoid self-disclosure, and have difficulties with partners who do self-disclose. As individuals enter into relationships they will find themselves scrutinizing their partners, expecting to see negative, rejecting behavior, and thus find themselves fulfilling their own prophecies (Hazan & Shaver).

Gallo and Smith (2001) commented that adult attachment predicts behaviors, expectancies, and emotions in romantic relationships that parallel the infant-caregiver interaction pattern. This suggests that those adopted in childhood may have a decreased ability to perceive their partners needs; be less likely to find positive traits in their partner; and be self-protective, using distancing strategies to cope with stress. Each of these responses could limit the effectiveness of adopted young adults’ intimate relationships.

A person’s attachment style is most likely to be activated in stressful situations, such as conflict in a romantic relationship. During a conflict each partner may bring their early attachment and relationship models into the present, exhibiting attachment behaviors without being fully aware that they are doing so (Shi, 2003). Partners with secure attachment engage in higher verbal engagement, self-disclosure, mutual understanding and discussion. They are more likely to compromise and are less likely to
withdraw or use verbal aggression (Corcoran & Mallinkrodt, 2000; Creasey, Kershaw, & Boston, 1999).

Anxious/Ambivalent partners are more likely to exert pressure on their partners, try to dominate the conflict resolution, and display high levels of hostility. Anxiety over being abandoned has been linked to blame, threats, physical and verbal aggression, patterns of withdrawal, feelings of hurt and guilt after conflict, and lack of discussion and mutual understanding (Corcoran & Mallinkrodt, 2000; Feeney, Noller, & Callan, 1994). Avoidant partners tend to withdraw from conflict, are less likely to regulate negative moods, and are less likely to engage in compromise. They are also more likely to engage in poor support seeking under stress (Corcoran & Mallinkrodt; Collins & Feeney, 2000).

Stress and Coping Theory

Identity development and attachment theories can provide valuable insights into the nature of the adopted adjustment, but are narrow in their focus by being limited to only psychosocial or attachment processes. The adjustment of adoptees seems to be more complex. Brodzinsky et al. (1998) tried to view adoption adjustment from a variety of different perspectives with emphasis on developmental and contextual factors. The model they presented is labeled stress and coping theory. This theory points out that individuals are placed in situations which can be threatening to them, involving loss, significant challenges, or negative emotions. As individuals try to cope with these difficult situations, stress is likely to be experienced with corresponding negative emotions such as confusion, anger, sadness, anxiety, embarrassment, or shame. Individuals experiencing a stressful event incorporate several coping strategies to help them deal with the situation.
These coping strategies can take the form of redefining the importance of the situation in relation to oneself (cognitive-behavior problem solving); gaining the aid and assistance of others (assistance seeking); avoiding dealing with the stressor (cognitive avoidance); or trying to put themselves as far away from the situation as possible (behavioral avoidance). There is no one coping pattern that can always be linked to positive outcomes; research does show that avoiding the problem leads to an increase in emotional problems (Brodzinsky et al.).

One of the core assumptions of stress and coping theory as it applies to adoption is that adoption is associated with loss, and thus is potentially stressful to a child. This loss can take a variety of forms, from loss of birth parents and family, to the loss of racial, genealogical, and ethnic ties. How children cope with this loss is a predictor of the type of outcomes they may experience over time. Children who use appropriate coping strategies are likely to see their adoption in a neutral or even positive light. In contrast, children who have little or no coping skills will perceive their adoption as more stressful, and negative feelings will be the by-product (Brodzinsky et al., 1998).

When adopted individuals reach adolescence they face many of the same developmental issues as non-adopted adolescents. They are confronted with changes in their physical, mental, emotional and social conditions. For adopted teenagers this poses some unique challenges. As adopted teens try to become comfortable with their new physical identity they are more likely to be challenged by the lack of physical similarity between themselves and their parents. Unlike their non-adopted counterparts, adoptees are unable to look into the faces of siblings and parents and see reflections of themselves. One of the negative coping strategies employed by adoptees involves their formation of
sexual relationships. As adopted adolescents mature and begin to have sexual feelings and experiment with sexual behavior, they find themselves with a dilemma as to which parents to emulate. Adoptive parents often teach the value of restraint in sexual matters, while the birth parents’ sexual behavior led to the adoptees’ existence. Adoptees who are having difficulty coping with their adoptive status can see the sexual experience as a symbolic way to be more like their birth parents and “undo” the adoption (Brodzinsky et al., 1998).

Many internal factors help a child cope with the loss associated with adoption: the child’s mental level, temperament, self-esteem, sense of control, and security in previous relationships. These, combined with contextual variables (such as birth parents mental state, pre-natal difficulties, adverse social and cultural attitudes, level of social support, negative feelings of the adoptive family, and neglect and abuse of the adoptee), are factors which may negatively affect the adopted individual’s coping behavior (see Figure 1). This coping behavior is carried over into a young adult’s life and becomes the method of dealing with stress and conflict in intimate, romantic relationships (Brodzinsky et al., 1998; Johnson & Roloff, 2000).

Summary

In summary, there is nothing about adoption itself that would invariably cause relationship problems for adopted young adults. However, each of the three theories identifies potential difficulties that may be faced as adopted adolescents make the transition to intimacy in their lives. Many adoptees make the transition into long-term intimacy quite well, with few struggles. However, the timing of the adoption, as
well as factors leading up to the adoption (i.e., abuse or neglect) might pose additional challenges to master some normal development skills and abilities. Adoption then may not be the main issue as much as factors related to the adoption.

The three general research questions posed at the end of chapter 1 can be restated more specifically as four testable hypotheses. The first deals with adopted and non-adopted comparisons. The second deals with comparisons between those adopted as infants with those adopted when older. The third deals with comparisons of those who have been abused and those not abused. And the fourth deals with comparisons between those who have been both adopted and abused with those not adopted and not abused.
1. Adopted compared to non-adopted young adults will report
   a. more sexual partners with higher sexual frequency
   b. higher cohabitation rates with more cohabiting partners
   c. more violence in their sexual relationships
   d. higher relationship dissatisfaction.

2. Older adoptees compared to infant adoptees will report
   a. more sexual partners with higher sexual frequency
   b. higher cohabitation rates with more cohabiting partners
   c. more violence in their sexual relationships
   d. higher relationship dissatisfaction.

3. Abused compared to non-abused young adults will report
   a. more sexual partners with higher sexual frequency
   b. higher cohabitation rates with more cohabiting partners
   c. more violence in their sexual relationships
   d. higher relationship dissatisfaction.

4. Individuals who are both adopted and abused compared to non-adopted non-abused will report
   a. more sexual partners with higher sexual frequency
   b. higher cohabitation rates with more cohabiting partners
   c. more violence in their sexual relationships
   d. higher relationship dissatisfaction.
CHAPTER III

METHODS

Data

The National Longitudinal Study of Adolescent Health (Add Health) is a nationally representative study that explores the causes of health-related behaviors of adolescents in grades 7 through 12 and their outcomes in young adulthood. The main focus of the Add Health project is to examine how social contexts (families, friends, peers, schools, neighborhoods, and communities) influence adolescents' health and risk behaviors (Harris et al., 2003). The Add Health project began in 1994 funded by the National Institute of Child Health and Human Development (NICHD) with co-funding from 17 other federal agencies, and has been described as "the largest, most comprehensive survey of adolescents ever undertaken" (Harris et al.). Add Health now consists of three separate waves of data tracking the same group of adolescents along their development. Wave I data were collected between the years 1994-1995. Wave II data collection took place in 1996, and Wave III data were collected in 2001-2002 (Harris et al.).

Add Health Design

Data collection began in 1994 with the selection of a nationally representative sample of male and female adolescents in grades 7 through 12. The primary sampling frame consisted of all of the high schools in the United States, with an 11th grade and at least 30 students. Eighty high schools were selected from a sampling frame of 26,666.
Prior to sampling, schools were sorted by size, school type, census region, level of urbanization, and percent of the school’s population that was white. Of the original 80 schools selected, 52 were eligible and agreed to participate. The remaining 28 schools were replaced by similar high schools matching stratification criteria. When a high school was recruited, its feeder schools with a seventh grade were also identified and selected with a probability proportional to the number of students it sent to the high school. Add Health included 145 middle, junior and high schools in its main sample. Schools varied in size from less than 100 students to more than 3000 students (Harris et al., 2003).

During one class period, on one day, in the 1994-1995 school year, students were asked to complete a 45-minute self-administered questionnaire in class. The questionnaire consisted of questions dealing with the student’s background, parent information, friends, schoolwork and activities, general health status, and health behaviors. From a list of students who completed the in-school questionnaire and school rosters (which included those absent on the day of the questionnaires administration) a random sample of 16,000 adolescents were selected to participate in a 90-minute in-home interview. Add Health refers to this sample of 16,000 as its “core” sample to distinguish it from the “grand” sample that includes oversamples identified from the in-school questionnaire (Harris et al., 2003).

Wave I in-home interviews were conducted late in 1995 and were completed with 80% of those selected. Those who completed the in-home interview form a final core sample of 12,105. The oversampled adolescents included in the Wave I grand sample of 20,745 adolescents included those who were race/ethnic minorities, adolescents with limb disabilities, sibling pairs, and 16 schools where every student was interviewed. A
computer-assisted personal interview technique (CASI) was used to administer the in-home interview to increase the response accuracy to sensitive questions dealing with such items as relationships and sexual behaviors. CASI allowed the students to listen to pre-recorded questions through earphones and enter their answers directly into laptop computers. This technique has been found to minimize potential interview and parental effects on adolescent responses (Turner et al., 1998).

One parent or guardian was asked to be interviewed simultaneously with the adolescent. Parent interviews provided further information about family composition and the adolescent’s health histories. Parent surveys asked demographic and health-related information about the parent or guardian, and general questions about the adolescent respondent. Approximately 83% of the parents participated in the parent survey for a parent sample of 17,125 (Harris et al., 2003).

Wave II data were collected in 1996 from a sample taken from the grand sample of Wave I participants. In Wave II a majority of the 12th-grade respondents were removed from the sample because they exceeded the maximum grade eligibility requirement. There also were no parent interviews conducted during this wave of data collection (Harris et al., 2003).

In 2001 and 2002, Add Health respondents 18 to 26 years old, were re-interviewed in a third wave designed to obtain relationship, marital, childbearing, and educational information. New sections focused on topics more relevant to young adults. Because respondents were older in Wave III, the social environment shaping their experiences were different from those in earlier waves. For many, college or work contexts were likely to be more important. Relationships with romantic partners likely
were more influential as respondents consider and make decisions about cohabitation
and marriage; effects from the family may be less pronounced. Wave III was designed to
provide data on these new aspects of young adult life, allowing researchers to identify the
shifting processes of change over time (Harris et al., 2003).

From the original Wave I grand sample, adequate Wave III data were obtained
from 15,170 respondents, who represent 73% of the original grand sample (see Figure 2)
(Harris et al., 2003). In Wave III, the interviewer administered an in-home interview with
sections containing sensitive questions being asked in a self-administered portion similar
to Wave I. Respondents who agreed also provided a urine/saliva sample to test for certain
STD's and to provide certain genetic markers for the study of sibling pairs. Respondents
received an additional financial incentive for providing these samples. Also new to Wave
III, data were gathered from 1,507 romantic partners to explore the transition of
relationships between adolescence and young adulthood (Harris et al.).

Comparison Groups

In order to adequately study the stated hypotheses, a minimum of six comparison
groups was needed. The main comparison of interest is between adopted and non-adopted
young adults. A non-adopted group needed to be established and divided into two
categories, those who have experienced abuse and neglect, and those who have not
experienced abuse and neglect. In order to identify the effects of adoption and
abuse/neglect, in light of attachment and stress and coping theories, the adopted sample
needed to be divided into four groups. These groups include: (1) An infant adopted group
consisting of those who were adopted before they were seven months old who have not
Figure 2. Add Health Wave III data.
experienced abuse and neglect; (2) An infant adopted group consisting of those who were adopted before they were seven months old who have experienced abuse and neglect; (3) An older adopted group comprising the rest of the adopted sample adopted at 7 months old or later who have not experienced abuse or neglect; and (4) an older adopted group comprising the rest of the adopted sample adopted at 7 months old or later who have experienced abuse and neglect.

The decision to make the division of infant and older adoptees at seven months was made for two reasons. The first is that by the seventh month most infants selectively begin attaching to one person and seek to be close to that individual, protesting any separation (Hazan & Shaver, 1994). Infants who are adopted prior to seven months of age could be expected to more readily form attachments with their adoptive parents, thus avoiding the difficulty of separation, loss and forming new attachments (Brodzinsky et al., 1998). The second reason to divide the adoptive sample at seven months in this sample was that this dividing line formed two groups relatively equal in size. This allowed the data to be analyzed without large sample size differences that could affect the results.

*Adopted Sample*

Because inconsistency of adoption status self-reports among Add Health data sets is a serious concern, identifying the sample of adopted participants required comparisons of self-reports across multiple data sets (Fan et al., 2002). Prior to the Wave III data collection in 2001-2002, adoption status could only be inferred from answers about the kinds of relationships among household members, such as "are you living with your
adoptive parents?" During Wave III data collection, several direct questions were asked about adoption status and experience.

To identify the adopted sample in Add Health Wave III data, without creating an impractical and unwieldy code, the following decision rules were established: (1) The adopted sample was identified by comparing directly the adoption definitions in the in-home interviews of Waves I and III; (2) To resolve inconsistent cases between Waves I and III (i.e., reported to be adopted in one but not the other) the adoption definition of the Wave I parent data was reviewed; (3) If the parent data did not clarify whether a child was or was not adopted, then the adoption definition from the Wave III in-home interview was accepted because the most direct questions were asked in Wave III, and because the respondents were older and more mature at Wave III.

After excluding step-adoptions (child lived with a biological parent), 560 and 530 adopted cases were identified in Wave I and III, respectively, but there were only 383 consistent cases of adopted status between the Wave I and Wave III in-home interviews. Forty-four more inconsistent cases were included as adoptees because the parent’s data about the child’s adoption status concurred with either Wave I or Wave III in-home interview of adolescents. Twenty-five more were included in cases when Wave III reported adoption, and data were missing in either the Wave I interview and/or parent’s data. Thirty more were included when Wave III reported adoption, Wave I data were missing, and the parent items were completed by a relative (grandmother = 17, aunt = 12, uncle = 1). Finally, 5 more participants who reported adoption in Wave III were included in the adopted sample because they were adopted after the Wave I data collection in 1995 (2 cases), or they reported that their parents had informed them about their adoptive
status after Wave I in 1995 (3 cases). The total adopted sample identified through this logic was 487, leaving 14,710 Wave III respondents in the non-adopted group. Table 2 gives the demographics for the adoption sample, showing in greater detail the composition of the Add Health Wave III adoption sample.

*Age at Adoption Placement*

Among those who reported in Wave III that they had ever been adopted, age at adoption placement was first asked in terms of years, and then for those participants who selected "0 years," a follow up question asked about age at adoption in months. The resulting age at adoption variable ranged from 0-11 months, and from 1-17 years of age. In trying to determine the appropriate cut points various ways of dividing the adoption sample were considered. Figures 3-7 show results of the adoption variable divided into five groups and the resulting means on the five sex and cohabitation variables.

These figures show a pattern of small differences, but with non-adopted respondents generally having lowest scores on these variables. Among adoptees, as age of adoption increased the mean scores were larger, except for the 3-6 years of age group, which showed smaller mean scores on each of the variables. This may be due to several factors, including that this group had the smallest number of cases. When simultaneously considering abuse and neglect, dividing the adoption sample into five groups made some groups too small to analyze. Therefore the decision to divide the adoption variable into two categories: an infant category of those adopted at age six months or younger, and an older adopted group that included all of those adopted at 7 months of age or older was kept as originally planned.
### Table 2

**Demographic Characteristics of Add Health Wave III Adoption Sample**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>Mean</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>230</td>
<td>47.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>257</td>
<td>52.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age in 1995 (Wave I)</strong></td>
<td>485</td>
<td></td>
<td>16.07</td>
<td>12-20</td>
</tr>
<tr>
<td><strong>Age in 2002 (Wave III)</strong></td>
<td>487</td>
<td></td>
<td>22.37</td>
<td>18-26</td>
</tr>
<tr>
<td><strong>Placement Age</strong></td>
<td></td>
<td></td>
<td>2.50</td>
<td>0-17</td>
</tr>
<tr>
<td>0-6 mon</td>
<td>243</td>
<td>49.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 mon-2 yrs.</td>
<td>109</td>
<td>22.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-6 yrs.</td>
<td>56</td>
<td>11.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 yrs. +</td>
<td>79</td>
<td>16.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abuse &amp; Neglect Experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>166</td>
<td>34.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>321</td>
<td>65.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adoption Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Adoption</td>
<td>17</td>
<td>3.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transracial Adoption</td>
<td>23</td>
<td>4.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International x Transracial</td>
<td>32</td>
<td>6.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>415</td>
<td>85.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>289</td>
<td>59.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>52</td>
<td>10.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>85</td>
<td>17.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>45</td>
<td>9.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Natives</td>
<td>14</td>
<td>2.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 3. Adopted variable divided five ways, by number of lifetime sexual partners.

Figure 4. Adopted variable divided five ways, by number of lifetime sexual experiences.
Figure 5. Adopted variable divided five ways, by number of sexual partners, previous 12 months.

Figure 6. Adopted variable divided five ways, by ever cohabited.
Figure 7. Adopted variable divided five ways, by number of lifetime cohabitating partners.

The resulting two categories as stated earlier, were chosen based on developmental theory and sample size. According to John Bowlby (1980), 0-6 months is a time of "pre-attachment," and "attachment in the making," while seven months and after is a time of "clearcut attachment" signified by displays of maternal separation anxiety. Therefore, these cut points identify two groups distinguished as infant and older adoptees. It is also seen that dividing the adopted sample this way provides two groups of relatively equal size.

Abuse and Neglect

Wave III respondents were asked the following three questions dealing with abuse and neglect: "Has a parent or caregiver not taken care of your basic needs? (Keeping
clean, providing food, or clothing);” “Has a parent or caregiver slapped, hit, or kicked you?” “Has a parent or caregiver touched you in a sexual way, forced you to touch them in a sexual way, or forced you to have sexual relations?” There were a number of ways these questions could have been used in the analysis. Figures 8-11 show the abuse variable divided into those who reported no abuse, those who reported neglect only, those who reported either physical or sexual abuse, or those who reported both physical and sexual abuse on the four relationship violence variables.

Each of these figures show higher relationship violence for neglect, physical abuse and sexual abuse when compared to those who report no abuse. There are also large sample size differences when comparing the abuse variable in this manner. When the abuse variable is divided four ways and combined with the age of adoption placement variable, several groups had no cases and several had only a few. For these reasons the decision was made to make the abuse variable a dichotomy. Respondents who answered

![Figure 8](attachment:figure8.png)

*Figure 8. Abuse variable divided four ways, by respondent physically violent to partner.*
Figure 9. Abuse variable divided four ways, by respondent forced sex on partner.

Figure 10. Abuse variable divided four ways, by partner violent toward respondent.
Figure 11. Abuse variable divided four ways, by partner forced sex on respondent.

“yes” to any one of the abuse/neglect questions were defined as abused/neglected and those that answered “no” to all three were defined as non-abused. With these distinctions, Table 3 shows the study sample group with corresponding sample sizes.

Measurement

The outcome variables were chosen to provide a picture of young adult sexual behaviors, the formation of long-term relationships, and quality of those relationships.

Sex and Cohabitation Variables

Add Health asked adolescents about their cohabitation experience, as well as specific sexual behavior. In Wave III Add Health asked “Have you ever had vaginal intercourse? (Vaginal intercourse is when a man inserts his penis into a woman’s vagina.)” If the respondent answered “no” to this question they were skipped to another
Table 3

*Study Sample by Adoption Status and Abuse Experience*

<table>
<thead>
<tr>
<th></th>
<th>Non-adopted</th>
<th>Infant adopted</th>
<th>Older adopted</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Abused</td>
<td>8971</td>
<td>183</td>
<td>95</td>
<td>9249</td>
</tr>
<tr>
<td>Abused</td>
<td>4854</td>
<td>54</td>
<td>112</td>
<td>5020</td>
</tr>
<tr>
<td>Total</td>
<td>13825</td>
<td>237</td>
<td>207</td>
<td>14269</td>
</tr>
</tbody>
</table>

section. If the respondent answered “yes” they were then asked, (1) “With how many partners have you ever had vaginal intercourse, even if only once?” (2) “With how many partners have you had vaginal intercourse in the past twelve months?” and (3) “How many times have you had vaginal intercourse in the last twelve months?”

For the question about the total number of lifetime sexual partners, respondents were allowed to enter numbers between 1 and 50. In the Add Health sample 98% of the respondents answered with 30 partners or less. For the remaining 2% of the sample that answered 31–50 partners, their answers were recoded to reflect that they had 30 partners. For the question about the number of sexual partners in the previous 12 months, again respondents were allowed to enter numbers between 1 and 50. With this variable, 99% of the sample answered the question as having 10 partners or less. For the remaining 1% of the sample that had answers ranging from 11-50 partners, their answers were recoded to reflect that they had 10 partners. For the question about the frequency of intercourse in the previous 12 months, respondents were allowed to enter scores between 1 and 900. For this variable 99% of the sample answered with 500 or fewer sexual experiences in the previous 12 months. For the remaining 1% that answered from 501–900 sexual experiences in the previous 12 months, their answers were recoded to reflect a score of
500. All of this was done to eliminate extreme scores that may not have been answered honestly without eliminating these individuals from the sample.

Regarding cohabitation experiences, Add Health respondents were asked “Have you ever lived with someone in a marriage-like relationship for one month or more?” and “With how many people have you lived in such a marriage-like relationship?” Respondents were allowed to respond with numbers ranging from 0-48 and then type in the initials of each of their cohabitating partners. There were no extreme scores with these two cohabitation variables, so no recoding or elimination of extreme scores was necessary.

*Relationship Variables Dealing with Physical and Sexual Violence*

Add Health respondents were asked about violence they had experienced in their relationships, as well as violence in which they were the perpetrators. A factor analysis was performed combining all relationship violence questions asked by Add Health. The results produced two factors. The first factor consisted of variables dealing with physical violence. The second factor included variables dealing with sexual violence. This analysis helped determine the selection of two physical violence variables (one dealing with physical abuse toward partner and one dealing with physical abuse from partner to respondent) and two sexual violence variables (both from and towards partner).

In determining physical violence toward most recent partner three questions were asked: (1) “How often have you threatened your partner with violence, pushed, shoved or thrown something at him or her that could hurt?” (2) “How often have you slapped, hit, or kicked your partner?” and (3) “How often have you caused an injury, such as a sprain,
bruise or cut because of a fight with your partner?” With each question asked, respondents could choose their answers from a scale ranging from zero to six. A score of zero meant that there was no violence in the relationship. A score of one and two represented once or twice respectively. A score of three represented 3-5 times. A score of four represented 6-10 times. A score of five represented 11-20 times. A score of six represented physical violence in the most recent relationship more than 20 times. Each of the answers from the three questions were then added together to form one single variable with scores ranging from 0-18 labeled “Respondent Physical Violence toward Partner.” This score was then divided by three in order to obtain a mean score for the three questions. It is the mean score from answers to these three questions that is reported for this variable.

Physical violence toward the respondent was determined in a similar way. Three questions were asked: (1) “How often has your partner threatened you with violence, pushed, shoved or thrown something at you that could hurt?” (2) “How often has your partner slapped, hit, or kicked you?” and (3) “How often has your partner caused an injury, such as a sprain, bruise or cut because of a fight with you?” The same scale of six answers was used with each of these questions, and responses were handled in a similar way to form a variable labeled “Partner physical violence toward respondent.”

Sexual violence in the relationship was determined by examining two Add Health questions. The first question asked “How often in the past year has your most recent partner insisted on, or made you have sexual relations with them when you didn’t want to?” The second question asked “How often in the past year have you insisted on, or made your most recent partner have sexual relations with you when they didn’t want to?”
The same scale of six answers was used with these questions as were used with the physical violence questions. The scale of six was used to form a variable labeled “Partner sexual violence toward respondent” and “Respondent sexual violence toward partner,” respectively.

When analyzing the relationship violence variables using logistic regression, each variable was changed and recoded to reflect a dichotomous relationship. This new relationship was coded zero for not having experienced the specific abuse or neglect, or coded one if you had experienced the specific abuse or neglect even once.

Relationship Dissatisfaction Variable

Dissatisfaction with the most recent relationship was determined by analyzing the Add Health question “In general how satisfied are you with your relationship with your most recent partner?” This question asked for responses with a Likert scale of one to five, with one being very satisfied and five being very dissatisfied.

Figures 12 through 62 and tables 5 through 21 present the descriptive analysis of the various comparisons that employed the standardized mean difference (SMD) summary statistic. This SMD effect size summary statistic estimates the amount or size of difference between two means. This is done independent of statistical significance testing. SMD is calculated by taking the mean score of one variable and subtracting the mean score of another variable divided by the standard deviation of the second variable. Cohen (1988) suggested that the magnitude of SMDs in the social and behavioral sciences could be interpreted as small (.20), medium (.50), or large (.80). The terms “SMD and “effect size” (ES) will be used interchangeably. SMD comparisons describe
the magnitude of the association between each independent variables and each of several dependent variables.

Analysis Plan

To gather a more comprehensive picture of the relations between outcomes, the following tables also show results from either a $t$ test or logistic regression analysis. The $t$ tests were used to determine if there are significant pair wise differences between the independent variables on several relationship outcome variables. Prior to the study, a significance level of .05 was established as the criterion for obtaining statistical significance.

Logistic regression was used to predict the dichotomous relationship violence variables based upon the independent variables. Statistical significance was calculated and results are given as a $p$ value. The $p$ value provides the probability that the observed values of the dependent variable may be predicted from the observed values of the independent variable. Again, prior to the analysis, a significance level of .05 was established as the criterion for obtaining statistical significance.

Logistic Regression also gives the odds ratio statistic with a corresponding confidence interval that estimates the relative change in odds of violence, for a one-unit increase in the independent variable. An odds ratio of 2.0 means that the odds of being in the highest-coded class of the dependent variable are multiplied by 2.0 when the independent variable increases by 1 unit. An odds ratio with a confidence interval that includes 1.0 would not be considered as having a significant effect.
Polytomous or multinomial logistic regression was used to determine how the independent variables would increase the likelihood of committing abuse, as well as the likelihood of being abused, in three categories or levels of abuse.
CHAPTER IV

RESULTS

Comparison of Adopted and Non-adopted

Figures 12-14 show the mean comparisons for non-adopted compared to adopted individuals for the number of sexual partners reported in their lifetime, the number of sexual partners in the previous 12 months, as well as the number of sexual experiences each respondent reported for the previous 12 months. Each figure showed a higher level of sexual experience among adoptees compared to those not adopted.

Figures 15-16 show the mean comparisons for the variables dealing with cohabitation. Each of these show that those who have been adopted have higher mean scores for having ever cohabited and also had a higher mean number of cohabitating partners in their lifetime.

Table 4 shows the $p$ statistics derived from the $t$ test, along with the effect sizes for the five sex and cohabitation variables. The second to last column on the right shows that each of the five adopted/non-adopted comparisons on sex and cohabitation variables was statistically significant; however, the extremely large sample size may be largely behind the statistical significance levels. The far right column shows that while each of the variables showed an effect of adoption on the sex and cohabitation variables, only two variables, “mean number of sexual partners, lifetime” (E.S. = .25) and “mean number of cohabiting partners, lifetime” (E.S. = .28) reached the magnitude of having an effect size $> .20$. 
Figure 12. Mean comparison adopted/non-adopted, by number of sexual partners, lifetime.

Figure 13. Mean comparison adopted/non-adopted, by number of sexual partners, previous 12 months.
Figure 14. Mean comparison adopted/non-adopted, by number of sexual experiences, previous 12 months.

Figure 15. Mean comparison adopted/non-adopted, by ever cohabited.
Adoption is therefore seen as having a statistically significant effect on the five sex and cohabitation variables, but showing a small SMD on only the two aforementioned variables.

Figures 17-20 show the mean comparisons for the relationship violence variables. Figure 17 deals with the respondent being physically violent toward their partner, while figure 18 deals with the partner being physically violent toward the respondent. Both figures 17 and 18 show that there is a slightly higher score for the adopted compared to non-adopted on the two physical violence variables.

Figures 19-20 deal with sexual violence in the relationship. Figure 19 shows percentages of respondents forcing sexual intercourse on their partner, and figure 20 shows the percentages of the partners forcing sexual intercourse on the respondent.
Table 4

Comparison of Adopted and Non-Adopted on Sex and Cohabitation Outcome Variables

<table>
<thead>
<tr>
<th></th>
<th>Non-Adopted</th>
<th>Adopted</th>
<th>t test</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Mean number of sexual partners, lifetime</td>
<td>12456</td>
<td>6.02</td>
<td>6.42</td>
<td>425</td>
</tr>
<tr>
<td>Mean number of sexual partners, previous 12 months</td>
<td>12514</td>
<td>1.66</td>
<td>1.62</td>
<td>422</td>
</tr>
<tr>
<td>Mean number of sexual experiences, previous 12 months</td>
<td>10149</td>
<td>68.53</td>
<td>90.44</td>
<td>350</td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>14671</td>
<td>0.39</td>
<td>0.49</td>
<td>486</td>
</tr>
<tr>
<td>Mean number of cohabiting partners, lifetime</td>
<td>5759</td>
<td>1.25</td>
<td>0.61</td>
<td>226</td>
</tr>
</tbody>
</table>

Both figures 18 and 19 show that the percentages are slightly smaller in the adopted group when compared to the non-adopted group.

Table 5 shows the odd ratio statistic, the confidence interval and the p value equivalent statistic from the logistic regression. The odds ratio, confidence interval, and p value show that adoption is a significant predictor of only the “partner physically violent toward the respondent” variable. The odds ratio of 1.23 on this variable shows that a person who has been adopted is 1.23 times more likely to be physically violent toward their most recent sexual partner than those who have not been adopted. None of the rest of the relationship violence variables approaches statistical significance.
Figure 17. Mean comparisons adopted/non-adopted, by physically violent toward partner.

Figure 18. Mean comparisons adopted/non-adopted, by partner physically violent toward respondent.
Figure 19. Mean comparisons adopted/non-adopted, by respondent forced sex on partner.

Figure 20. Mean comparisons adopted/non-adopted, by partner forced sex on respondent.
Table 5

Comparison of Adopted and Non-Adopted on Relationship Violence Variables

<table>
<thead>
<tr>
<th></th>
<th>Non-Adopted</th>
<th>Adopted</th>
<th>Logistic Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Physically violent</td>
<td>9926</td>
<td>.35</td>
<td>.75</td>
</tr>
<tr>
<td>toward partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner physically</td>
<td>9926</td>
<td>.35</td>
<td>.79</td>
</tr>
<tr>
<td>violent toward</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forced sex on partner</td>
<td>9935</td>
<td>.10</td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner forced</td>
<td>9919</td>
<td>.20</td>
<td>.77</td>
</tr>
<tr>
<td>sex on respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. M is the mean value of the 0-1 dichotomy for each relationship violence variable and is equivalent to a proportion, e.g. 35% of non-adopted reported having ever been physically violent toward partner.

Figure 21 shows the mean comparison for the level of dissatisfaction in the most recent sexual relationship. Figure 21 shows that there is only a slight mean difference in relationship dissatisfaction in those that are adopted when compared to those non-adopted. Table 6 shows the $t$ test $p$ statistic along with the effect sizes for the dissatisfaction variable. Table 6 shows that the $p$ value for the relationship dissatisfaction level does not reach the level of statistical significance, and the effect size shows no effect of adoption on relationship dissatisfaction.
Figure 21. Mean comparisons adopted/ non-adopted, by relationship dissatisfaction.

Table 6

Comparison Table Adopted/Non-Adopted, Relationship Dissatisfaction

<table>
<thead>
<tr>
<th></th>
<th>Non-adopted</th>
<th>Adopted</th>
<th>t test</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfied with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td>n M SD</td>
<td>n M p</td>
<td>Effect Size</td>
<td></td>
</tr>
<tr>
<td>11356 1.43 .82</td>
<td>101 1.45 .47</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Effect Size Calculated by Mean Adopted - Mean Non-adopted/ SD of Non-Adopted

Comparison by Age of Adoption Placement

Figures 22-24 show the mean comparisons for infant compared to older adoptees on the number of sexual partners in the respondent’s lifetime, the number of sexual partners in the previous 12 months, as well as the number of sexual experiences each
respondent reported for the previous 12 months respectively. Figures 22 and 24 show that the older adoptees have a slightly larger mean number of lifetime sexual partners along with a corresponding larger mean number of sexual experiences. Figure 23 shows that the number of sexual partners in the previous 12 months was slightly less for the older adoptees than for those who were adopted as infants.

Figures 25-26 show the mean comparisons for the variables dealing with cohabitation. Each of these figures show a slightly higher mean for those who were adopted at an older age compared to those adopted as infants both in ever having cohabited, along with having a higher number of cohabiting partners.

Table 7 shows the $p$ statistic derived from the $t$ test, along with the effect sizes for the five sex and cohabitation variables. The second to last column on the right shows that none of the five sex and cohabitation variables on the right were statistically significant.

![Figure 22. Mean comparison, infant and older adoptees, by number of sexual partners, lifetime.](image)
Figure 23. Mean comparison, infant and older adoptees, by number of sexual partners, previous 12 months.

Figure 24. Mean comparison, infant and older adoptees, by number of sexual experiences, previous 12 months.
Figure 25. Mean comparison, infant and older adoptees, by ever cohabited.

Figure 26. Mean comparison, infant and older adoptees, by number of cohabitating partners, lifetime.
Table 7

Comparison of Infant and Older Adopted on Sex and Cohabitation Variables

<table>
<thead>
<tr>
<th></th>
<th>Infant Adopted</th>
<th>Older Adopted</th>
<th>t test</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Mean number of sexual partners, lifetime</td>
<td>217</td>
<td>7.60</td>
<td>7.19</td>
<td>188</td>
</tr>
<tr>
<td>Mean number of sexual partners, previous 12 months</td>
<td>217</td>
<td>1.94</td>
<td>1.94</td>
<td>186</td>
</tr>
<tr>
<td>Mean number of sexual experiences, previous 12 months</td>
<td>181</td>
<td>77.19</td>
<td>105.44</td>
<td>152</td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>246</td>
<td>.43</td>
<td>.50</td>
<td>218</td>
</tr>
<tr>
<td>Mean number of cohabiting partners, lifetime</td>
<td>105</td>
<td>1.38</td>
<td>.70</td>
<td>110</td>
</tr>
</tbody>
</table>

Note. Effect size calculated by mean older adopted - mean infant adopted / SD of infant adopted.

The far right column shows that the effect sizes for age of adoption are very small. Age of adoption seems to have no significant or measurable effect on the five sex and cohabitation variables.

Figures 27-30 show the mean comparisons between infant and older adoptees for the relationship violence variables. Figure 27 deals with the respondent being physically violent toward their partner, while figure 28 deals with the partner being physically violent toward the respondent. Figures 27-28 show that there is a slightly higher mean for those who have been adopted at an older age, when compared to those adopted as infants, on the relationship physical violence variables.
Figure 29 shows there was a lower mean for the older adopted group, compared to the infant adopted group, on the forced sex on partner variable. Figure 30 shows a slightly higher mean in the partner forcing sex upon the respondent variable in the older adoptees compared to the infant adoptees.

Table 8 shows the odd ratio statistic, the confidence interval and the $p$ value statistic from the logistic regression, along with the effect sizes for the four relationship violence variables. The odds ratio, confidence ratio and $p$ value statistic show that age of adoption is not a significant predictor of relationship violence. However, the “partner forced sex on respondent” variable does approach significance and the odds ratio does show a larger increase (1.57) as age of adoption increases. The confidence interval, however, shows that the score of 1 is still within the range of error, leading to the conclusion that the score of 1.57 is not significant. Age of adoption shows no significant difference between infant and older adoptees and seems to have little or no effect upon relationship violence.

![Graph showing mean comparisons](image-url)

*Figure 27. Mean comparison, infant and older adoptees, by physically violent toward partner.*
Figure 28. Mean comparison, infant and older adoptees, by partner physically violent toward respondent.

Figure 29. Mean comparison, infant and older adoptees, by forced sex on partner.
Figure 30. Mean comparison, infant and older adoptees, by partner forced sex on respondent.

Figure 31 shows the mean comparison for the level of dissatisfaction in the most recent sexual relationship. Figure 31 shows that there is only a slightly higher mean in relationship dissatisfaction in the older adoptees compared to the infant adoptees. Table 9 shows the $p$ statistic from the $t$ test along with the effect sizes for the relationship dissatisfaction variable. Table 9 shows that the $p$ value for the relationship dissatisfaction variable ($p = .77$) does not reach the level of statistical significance, and the effect size (SMD = .07) shows little to no effect of age of adoption on relationship dissatisfaction. Age of adoption seems to have little or no effect on relationship dissatisfaction.

Comparison of Non-Abused/Neglected and Abused/Neglected

Figures 32-34 show the mean comparisons for those who reported being abused and/or neglected compared to those not reporting being abused/neglected on the number of sexual partners in the respondent's lifetime, the number of sexual partners in the previous 12 months, as well as the number of sexual experiences each respondent
Table 8

Comparison of Infant and Older Adoptees on Relationship Violence Variables

<table>
<thead>
<tr>
<th></th>
<th>Infant adopted</th>
<th>Oldier adopted</th>
<th>Odds Ratio</th>
<th>Confidence Interval</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Physical violence toward partner</td>
<td>168</td>
<td>.33</td>
<td>.76</td>
<td>132</td>
<td>.40</td>
</tr>
<tr>
<td>Partner physically violent toward respondent</td>
<td>168</td>
<td>.39</td>
<td>.85</td>
<td>132</td>
<td>.41</td>
</tr>
<tr>
<td>Forced sex on partner</td>
<td>168</td>
<td>.07</td>
<td>.56</td>
<td>132</td>
<td>.06</td>
</tr>
<tr>
<td>Partner forced sex on respondent</td>
<td>168</td>
<td>.17</td>
<td>.63</td>
<td>132</td>
<td>.21</td>
</tr>
</tbody>
</table>

Figure 31. Mean comparison, infant and older adoptees, by relationship dissatisfaction.
Table 9

Comparison of Infant and Older Adoptees on Relationship Dissatisfaction Variable

<table>
<thead>
<tr>
<th>Relationship Dissatisfaction</th>
<th>Infant adopted</th>
<th>Older adopted</th>
<th>t test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td></td>
<td>202</td>
<td>1.43</td>
<td>.94</td>
</tr>
</tbody>
</table>

*Note.* Effect Size Calculated by Mean Older Adopted - Mean Infant Adopted / SD of Infant Adopted.

![Figure 32](image.png)

*Figure 32.* Mean comparison abused/neglected and not abused/neglected, by number of lifetime sex partners.
Figure 33. Mean comparison abused/neglected and not abused/neglected, by number of sex partners previous 12 months.

Figure 34. Mean comparison abused/neglected and not abused/neglected, by number of sexual experiences, previous 12 months.
reported in the previous 12 months, respectively. Each of these figures show higher means for each of the three sex variables for those who have been abused/neglected compared to those who have not.

Figures 35-36 show the mean comparisons for the variables dealing with cohabitation. Each of these figures show higher means for those who were abused/neglected compared to those not abused/neglected in both ever having cohabited, and number of cohabiting partners.

Table 10 shows the $p$ statistic derived from the $t$ test, along with the effect sizes for the five sex and cohabitation variables. The second to last column on the right shows that all of the five sex and cohabitation variables reached the level of statistical significance except for number of sexual experiences previous 12 months. The far right column shows that the effect sizes for abuse/neglect are very small with only number of lifetime sexual partners greater than .20. Abuse/Neglect seems to have a statistically significant effect on four of the five sex and cohabitation variables but the effects are considered very small to small in magnitude.

Figures 37-40 show the mean comparisons between non-abused/neglected and abused/neglected for the relationship violence variables. Figure 37 deals with the respondent being physically violent toward their partner, while figure 38 deals with the partner being physically violent toward the respondent. Figures 37-38 show that there is a large mean difference for those who have been abuse/neglected, when compared to those not abused/ neglected, on the relationship physical violence variables. Figure 39 shows there was a large difference in mean scores for the abused/neglected group, compared to
Figure 35. Mean comparison abused/neglected and not abused/neglected, by ever cohabited.

Figure 36. Mean comparison abused/neglected and not abused/neglected, by number of lifetime cohabitation partners.
Table 10

Comparison of Abused/Neglected and Non-Abused/Neglected on Sex and Cohabitation Variables

<table>
<thead>
<tr>
<th></th>
<th>Non-abused/ neglected</th>
<th>Abused/ neglected</th>
<th>t test</th>
<th>p</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of sexual partners, lifetime</td>
<td>n 7821 M 5.62 SD 6.06</td>
<td>n 4364 M 6.80</td>
<td>0.00010</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Mean number of sexual partners, previous 12 months</td>
<td>n 6305 M 1.56 SD 1.50</td>
<td>n 3656 M 1.81</td>
<td>0.00010</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>Mean number of sexual experiences, previous 12 months</td>
<td>n 7850 M 68.20 SD 89.30</td>
<td>n 4373 M 71.04</td>
<td>0.13000</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>n 9245 M 0.37 SD 0.48</td>
<td>n 5026 M 0.44</td>
<td>0.00001</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Mean number of cohabiting partners, lifetime</td>
<td>n 3403 M 1.21 SD 0.54</td>
<td>n 2227 M 1.31</td>
<td>0.00001</td>
<td>0.18</td>
<td></td>
</tr>
</tbody>
</table>

Note. Effect Size Calculated by Mean Abused/Neg. - Mean Non-Abused/Neg. / SD of Non-Abused/Neg.

the not abuse/neglected, on the forced sex on partner variable. Figure 40 shows a large mean difference in the variable partner forcing sex upon the respondent in the abused/neglected compared to the not abused/neglected.

Table 11 shows the odd ratio statistic, the confidence interval, and the p value statistic from the logistic regression. The odds ratio, confidence ratio and p value statistic show that abuse/ neglect is a significant predictor of all of the relationship violence variables. The odds ratio for the violence variables shows that a person who has been abused/neglected is about twice as likely to be both a victim and be a perpetrator of abuse
Figure 37. Mean comparison abused/neglected and not abused/neglected, by physically violent toward partner.

Figure 38. Mean comparison abused/neglected and not abused/neglected, by partner physically violent toward respondent.
Figure 39. Mean comparison abused/neglected and not abused/neglected, by forced sex on partner.

Figure 40. Mean comparison abused/neglected and not abused/neglected, by partner forced sex on respondent.
as those who have not been abused or neglected. The highest odds ratio is the “forced sex on partner” variable, shows that a person who has been abused or neglected is 2.27 times more likely to force sexual relations upon their most recent sexual partner than one who has not been abused or neglected. Abuse/neglect had a statistically significant relationship upon all of the relationship violence variables.

Figure 41 shows the mean comparison for the level of dissatisfaction in the most recent sexual relationship. Figure 40 shows that there is a large mean difference in relationship dissatisfaction in those abused/neglected compared to those not abused/neglected. Table 12 shows the $p$ statistic from the $t$ test along with the effect sizes for the relationship dissatisfaction variable. Table 12 shows that the $p$ value for the relationship dissatisfaction variable (.0001) reaches the level of statistical significance, and the effect size (.24) shows a small effect of abuse/neglect on relationship dissatisfaction. Abuse/neglect seems to have a statistically significant impact on relationship satisfaction. Abuse/neglect has an effect on relationship dissatisfaction that is small in magnitude.

Comparison of Non-Adopted and Non-Abused/Neglected and Adopted and Abused/Neglected

Figures 42-44 show the mean comparisons for those who were both adopted and abused/neglected compared to those not adopted and not abused/neglected on the number of sexual partners in the respondent’s lifetime, the number of sexual partners in the previous 12 months, as well as the number of sexual experiences each respondent reported in the previous 12 months respectively. Each of these figures show a higher
Table 11

Comparison of Abused/Neglected With Non-Abused/Neglected on Relationship Violence Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-abused/neglected</th>
<th>Abused/neglected</th>
<th>Odds ratio</th>
<th>Confidence interval</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physically violent toward partner</td>
<td>6394 .28 .66</td>
<td>3373 .49</td>
<td>1.72</td>
<td>1.61-1.85</td>
<td>.0001</td>
</tr>
<tr>
<td>Partner physically violent toward respondent</td>
<td>6393 .27 .70</td>
<td>3373 .49</td>
<td>1.76</td>
<td>1.64-1.90</td>
<td>.0001</td>
</tr>
<tr>
<td>Forced sex on partner</td>
<td>6400 .07 .45</td>
<td>3382 .16</td>
<td>2.27</td>
<td>1.98-2.61</td>
<td>.0001</td>
</tr>
<tr>
<td>Partner forced sex on respondent</td>
<td>6393 .15 .66</td>
<td>3372 .29</td>
<td>1.88</td>
<td>1.70-2.07</td>
<td>.0001</td>
</tr>
</tbody>
</table>

mean score in each of the three sex variables for those who have been adopted and abused/neglected compared to those who have not.

Figures 45-46 show the mean comparisons for the variables dealing with cohabitation. Each of these figures show higher means for those who were adopted and abused/neglected compared to those not adopted and not abused/neglected in both ever having cohabited, and number of cohabiting partners.

Table 13 shows the p statistic derived from the t test, along with the effect sizes for the five sex and cohabitation variables. The second to last column on the right shows
Figure 41. Mean comparison abused/neglected non-abused/neglected, by relationship dissatisfaction.

Table 12

Comparison of Abused/Neglected and Non-Abused/Neglected on Relationship Dissatisfaction

<table>
<thead>
<tr>
<th></th>
<th>Non-abused/neglected</th>
<th>Abused/neglected</th>
<th>t test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Relationship dissatisfaction</td>
<td>2242</td>
<td>1.37</td>
<td>.76</td>
</tr>
</tbody>
</table>

*Note. Effect Size Calculated by Mean Abused/Neg. - Mean Non-Abused/Neg. / SD of Non-Abused/Neg.*
Figure 42. Mean comparison non-adopted/non-abused adopted/abused, by number of lifetime sexual partners.

Figure 43. Mean comparison non-adopted/non-abused adopted/abused, by number of sexual partners previous 12 months.
Figure 44. Mean comparison non-adopted/non-abused adopted/abused, by number of sexual experiences, previous 12 months.

Figure 45. Mean comparison non-adopted/non-abused adopted/abused, by ever cohabited.
that all of the five sex and cohabitation variables reached the level of statistical significance. The far right column shows that the effect sizes for abuse/neglect are small to moderate. Adoption combined with Abuse/Neglect has a statistically significant effect on all of the five sex and cohabitation variables and the effects sizes are quite substantial.

Figures 47-50 show the mean comparisons between non-adopted and non-abused/neglected and those adopted and abused/neglected for the relationship violence variables. Figure 47 deals with the respondent being physically violent toward their partner, while Figure 48 deals with the partner being physically violent toward the respondent. Figures 47-48 show that there is a large mean difference for those who have been adopted and abused/neglected, when compared to those not adopted and not abused/neglected, on the relationship physical violence variables. Figure 49 shows there was a large difference in mean scores for the adopted and abused/neglected group, compared to
those not adopted and not abused/neglected, on the forced sex on partner variable. Figure 50 shows a large mean difference in the variable partner forcing sex upon the respondent in the adopted and abused/neglected group compared to the not adopted not abused/neglected.

Table 14 shows the odd ratio statistic, the confidence interval and the \( p \) value statistic from the logistic regression. The odds ratio, confidence ratio and \( p \) value statistic show that being adopted and abused is a statistically significant predictor of all of the

Table 13

Comparison of Adopted and Abused/Neglected and Non-Adopted and Non-Abused/Neglected on Relationship Violence

<table>
<thead>
<tr>
<th></th>
<th>Non-adopted non-abused</th>
<th>Adopted/abused</th>
<th>( t ) test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n ) \</td>
<td>( M ) \</td>
<td>( SD ) \</td>
</tr>
<tr>
<td>Mean number of sexual partners, lifetime</td>
<td>6562 \</td>
<td>5.59 \</td>
<td>6.01 \</td>
</tr>
<tr>
<td>Mean number of sexual partners, previous 12 months</td>
<td>6590 \</td>
<td>1.55 \</td>
<td>1.47 \</td>
</tr>
<tr>
<td>Mean number of sexual experiences, lifetime</td>
<td>5331 \</td>
<td>69.67 \</td>
<td>89.05 \</td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>6936 \</td>
<td>0.41 \</td>
<td>0.49 \</td>
</tr>
<tr>
<td>Mean number of cohabiting partners, lifetime</td>
<td>2871 \</td>
<td>1.21 \</td>
<td>0.54 \</td>
</tr>
</tbody>
</table>

Note. Effect Size Calculated by Mean Adopted/Abused - Mean Non-Adopt/Non-Abuse / SD of Non-Adopt/Non-Abuse.
Figure 47. Mean comparison non-adopted/non-abused, adopted/abused, by physically violent toward partner.

Figure 48. Mean comparison non-adopted/non-abused, adopted/abused, by partner physically violent toward respondent.
Figure 49. Mean comparison non-adopted/non-abused, adopted/abused, by forced sex on partner.

Figure 50. Mean comparison non-adopted/non-abused, adopted/abused, by partner forced sex on respondent.
variables relating with relationship violence. The variable forced sex on partner shows
the largest odds ratio with 2.04. This means that the likelihood of a person who has been
adopted and abused forcing sex upon their most recent sexual partner is 2.04 times more
likely than for those who are not adopted and not abused. Each of the relationship
violence variables shows an increased risk of violence in the sexual relationships because
of the experience of adoption and abuse.

Figure 51 shows the mean comparison for those non-adopted and non-abused
compared to those adopted and abused on the variable dealing with dissatisfaction in the
most recent sexual relationship. Figure 51 shows that there is a higher mean in
relationship dissatisfaction for those adopted and abused/neglected compared to those not
adopted and not abused/neglected. Table 15 shows the \( p \) statistic from the \( t \) test along
with the effect sizes for the relationship dissatisfaction variable. Table 15 shows that the
\( p \) value for the relationship dissatisfaction variable (.02) reaches the level of statistical
significance, and the effect size (.28) shows a small effect of abuse/neglect on
relationship dissatisfaction.

The combination of adoption and abuse/neglect seems to have a significant
impact on relationship dissatisfaction. The combination of adoption and abuse/neglect
also has an effect on relationship dissatisfaction that is small in magnitude.

Three-Way Comparisons

The figures and tables in this section show a broader picture of all of the data in the
preceding sections. Each of the figures and tables show three levels of adoption along
with how these interact with two levels of abuse. Each of these figures and tables show
the direct comparison of each independent variable on the dependent relationship variables. In each of the tables only the SMD will be used as a comparison statistic. Due to the large sample sizes, statistically significant differences were found which do not adequately reflect the size or magnitude of these differences. Using the SMD will allow differences to be seen in a more uniform and consistent manner.

Figures 52-54 show the mean comparisons for the three levels of adoption. Each level of adoption is broken down into whether they were abused or not abused, on the variables dealing with sex, number of sexual partners in the respondent’s lifetime, the number of sexual partners in the previous 12 months, as well as the number of sexual experiences each respondent reported in the previous 12 months, respectively.

Table 14

Comparison of Non-Adopted Non-Abused/Neglected and Adopted and Abused/Neglected on Relationship Violence Variables

<table>
<thead>
<tr>
<th></th>
<th>Non-adopted non-abused</th>
<th>Adopted abused</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n  M  SD</td>
<td>n  M  Odds ratio  Confidence interval  p</td>
</tr>
<tr>
<td>Physically violent toward partner</td>
<td>6194 0.27 0.66 99 0.45</td>
<td>1.63 1.21-2.19 0.0001</td>
</tr>
<tr>
<td>Partner physically violent toward respondent</td>
<td>6193 0.26 0.69 99 0.45</td>
<td>1.86 1.39-2.50 0.0001</td>
</tr>
<tr>
<td>Forced sex on partner</td>
<td>6200 0.07 0.45 100 0.17</td>
<td>1.85 1.05-3.27 0.0300</td>
</tr>
<tr>
<td>Partner forced sex on respondent</td>
<td>6194 0.15 0.66 120 0.28</td>
<td>2.04 1.39-2.99 0.0002</td>
</tr>
</tbody>
</table>
Figure 51. Mean comparison non-adopted/non-abused, adopted/abused, by relationship dissatisfaction.

Table 15

Comparison of Non-Adopted Non-Abused/Neglected and Adopted and Abused/Neglected on Relationship Dissatisfaction

<table>
<thead>
<tr>
<th>Dissatisfied with relationship</th>
<th>Non-adopted non-abused</th>
<th>Adopted abused</th>
<th>t test</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>2176</td>
<td>1.37</td>
<td>.76</td>
<td>31</td>
<td>1.58</td>
</tr>
</tbody>
</table>

*Note:* Effect Size Calculated by Mean Adopted/Abused - Mean Non-Adopt/Non-Abuse / SD of Non-Adopt/Non-Abuse.
Each of these figures show differences in all of the three sex variables for those who have been abused/neglected compared to those who have not. These figures also show that older age of adoption does not necessarily identify larger mean scores on these same variables. These figures show that infant adopted individuals who were abused/neglected had the highest mean number of sexual partners both in their lifetime and also in the previous 12 months, while the older adopted and abused/neglected group showed the highest number of sexual experiences.

The non-adopted non-abused/neglected show the lowest means in the two variables dealing with number of sexual partners. The older adopted non-abused/neglected show the lowest scores in the number of sexual experiences.

\[ \text{Figure 52. Mean comparisons, by number of lifetime sexual partners.} \]
Figure 53. Mean comparisons, by number of sexual partners in the previous 12 months.

Figure 54. Mean comparisons, by number of sexual experiences, previous 12 months.
Figures 55-56 show the mean comparisons for the three levels of adoption.

Each level of adoption is broken down into whether they were abused or not abused, on the variables dealing with cohabitation. Figures 55 - 56 show a higher mean in ever having cohabited and the number of cohabitating partners for those who have been abused/neglected compared to those who have not. These figures also show that increasing age of adoption does not necessarily identify larger mean scores on these same variables. These figures show that infant adopted individuals who were abused/neglected had the highest mean in ever having cohabited, while the older adopted and abused group had the highest number of lifetime cohabitation partners. The lowest mean score in each of these figures is the non-adopted not abused group.

Table 16 shows all of the means for each of the six groups (three levels of adoption, two levels of abuse). Table 16 uses the non-adopted and non-abused/neglected group’s mean as a reference group with which to compare all of the other means.

![Figure 55. Mean comparisons, by ever cohabited.](image-url)
**Figure 56.** Mean comparisons, by number of lifetime cohabitating partners.

**Table 16**

*Mean Comparison, Sex and Cohabitation Variables*

<p>| Variables                        | Non-abused | | | | | |
|----------------------------------|------------|---|---|---|---|---|---|</p>
<table>
<thead>
<tr>
<th></th>
<th>Non-adopted</th>
<th>Infant adopted</th>
<th>Older adopted</th>
<th>Non-adopted</th>
<th>Infant adopted</th>
<th>Older adopted</th>
<th>ES₁</th>
<th>ES₂</th>
<th>ES₃</th>
<th>ES₄</th>
<th>ES₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sex partners</td>
<td>5.57 (6.02)</td>
<td>7.33</td>
<td>6.64</td>
<td>6.74</td>
<td>8.72</td>
<td>8.47</td>
<td>0.29</td>
<td>0.18</td>
<td>0.19</td>
<td>0.52</td>
<td>0.48</td>
</tr>
<tr>
<td>Number of sex partners in last 12 mon.</td>
<td>1.56 (1.50)</td>
<td>1.74</td>
<td>1.60</td>
<td>1.78</td>
<td>2.74</td>
<td>2.13</td>
<td>0.12</td>
<td>0.03</td>
<td>0.15</td>
<td>0.79</td>
<td>0.38</td>
</tr>
<tr>
<td>Number of times had sex in last 12 mon.</td>
<td>67.97 (68.75)</td>
<td>77.57</td>
<td>61.51</td>
<td>70.26</td>
<td>78.21</td>
<td>103.59</td>
<td>0.11</td>
<td>-0.07</td>
<td>0.03</td>
<td>0.12</td>
<td>0.40</td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>0.37 (0.48)</td>
<td>0.40</td>
<td>0.51</td>
<td>0.44</td>
<td>0.54</td>
<td>0.51</td>
<td>0.06</td>
<td>0.29</td>
<td>0.15</td>
<td>0.35</td>
<td>0.29</td>
</tr>
<tr>
<td>Number cohabited</td>
<td>1.21 (0.54)</td>
<td>1.33</td>
<td>1.30</td>
<td>1.30</td>
<td>1.52</td>
<td>1.55</td>
<td>0.22</td>
<td>0.17</td>
<td>0.17</td>
<td>0.57</td>
<td>0.63</td>
</tr>
</tbody>
</table>

*Note.* ES₁ = Infant Adopted Non-Abused (Mean) - Non- Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₂ = Older Adopted Non-Abused (Mean) - Non- Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₃ = Non-Adopted Abused (Mean) - Non- Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₄ = Infant Adopted Abused (Mean) - Non- Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₅ = Older Adopted Abused (Mean) - Non- Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
The five columns on the right show the effect sizes for each of the comparison groups on the particular sex and cohabitation variables.

Effect Size column 1 shows that infant adoptees that had not experienced abuse/neglect had a standardized mean difference in both number of sexual partners (.29) and the number of cohabiting partners (.22) that are of sufficient magnitude to be considered small, with the rest of the variables not reaching that level. Column 2 shows that older adoptees that have not experienced abuse/neglect have only one variable, ever cohabited (.29) that reaches the level of having a small effect. Column 3 shows that when comparing the two non-adopted groups, abused and non-abused, none of the effect sizes reaches the level of being considered as having a small effect. Columns 4 and 5 show that both of the adopted and abused groups when compared to the non-adopted non-abused/neglected have small to moderate effects on all of the sex and cohabitation variables with the exception of the number of sex partners in the last 12 months in column 4 which did not reach the level (.12) to be considered as having a small effect.

Table 17 shows all of the means for each of the six groups (3 levels of adoption, 2 levels of abuse). Table 17 uses the non-adopted group's means and standard deviations as reference groups for both those non-abused and abused. The four columns on the right show the effect sizes for each of the comparison groups on the particular sex and cohabitation variables.

Column 1 shows that infant adoptees that have not experienced abuse/neglect show a standardized mean difference in both number of sexual partners (.29) and the number of cohabiting partners (.22) that are of sufficient magnitude to be considered small, with the rest of the variables not reaching that level. Column 2 shows that older
adoptees that have not experienced abuse/neglect have only one variable, ever cohabited (.29) that reaches the level of having a small effect. Column 3 shows that when comparing the abused infant adopted group to the non-adopted/abused group all of the effect sizes except for “number of sexual partners in the previous twelve months” reach the level of being considered as having a small effect. Column 4 shows that the older adopted and abused/neglected group when compared to the non-adopted abused/neglected have small effects on three of the sex and cohabitation variables with the exception in the number of sex partners in the last 12 months and ever cohabited which was higher but did not reach the level of small at (.19) and (.14), respectively.

Table 17

Two-Way Mean Comparison, Sex and Cohabitation Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-abused Non-adopted</th>
<th>Non-abused Infant adopted</th>
<th>Non-abused Older adopted</th>
<th>Abused Non-adopted</th>
<th>Abused Infant adopted</th>
<th>Abused Older adopted</th>
<th>ES₁</th>
<th>ES₂</th>
<th>ES₃</th>
<th>ES₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sex partners, lifetime</td>
<td>5.57 (6.02)</td>
<td>7.33</td>
<td>6.64</td>
<td>6.74 (6.98)</td>
<td>8.72</td>
<td>8.47</td>
<td>0.29</td>
<td>0.18</td>
<td>0.26</td>
<td>0.25</td>
</tr>
<tr>
<td>Number of sex partners, previous 12 months</td>
<td>1.56 (1.50)</td>
<td>1.74</td>
<td>1.60</td>
<td>1.79 (1.75)</td>
<td>2.74</td>
<td>2.13</td>
<td>0.13</td>
<td>0.03</td>
<td>0.54</td>
<td>0.19</td>
</tr>
<tr>
<td>Number of times had sex, previous 12 months</td>
<td>67.97 (88.75)</td>
<td>77.57</td>
<td>61.51</td>
<td>70.26 (93.37)</td>
<td>78.21</td>
<td>103.59</td>
<td>0.11</td>
<td>-0.07</td>
<td>0.09</td>
<td>0.36</td>
</tr>
<tr>
<td>Ever cohabited</td>
<td>0.37 (0.48)</td>
<td>0.40</td>
<td>0.51</td>
<td>0.44 (0.50)</td>
<td>0.54</td>
<td>0.51</td>
<td>0.06</td>
<td>0.29</td>
<td>0.20</td>
<td>0.14</td>
</tr>
<tr>
<td>Number of cohabiting partners</td>
<td>1.21 (0.54)</td>
<td>1.33</td>
<td>1.30</td>
<td>1.30 (0.66)</td>
<td>1.52</td>
<td>1.55</td>
<td>0.22</td>
<td>0.17</td>
<td>0.33</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Note. ES₁ = Infant Adopted Non-Abused (Mean) - Non-adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₂ = Older Adopted Non-Abused (Mean) - Non-adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₃ = Infant Adopted Abused (Mean) - Non-adopted Abused (Mean) / Non-Adopted Abused (SD)
ES₄ = Older Adopted Abused (Mean) - Non-adopted Abused (Mean) / Non-Adopted Abused (SD)
Figures 57-60 show the mean comparisons for the three levels of adoption. Each level of adoption is broken down into whether they were abused or not abused, on the variables dealing with violence in their relationships. Figure 57 deals with the respondent being physically violent within the relationship while Figure 58 deals with the partner being physically violent toward the respondent. Figure 59 deals with the respondent forcing sex upon their partner while figure 60 deals with the partner forcing sex upon the respondent.

Figures 57-58 shows that there is a higher mean in the respondents being physically violent toward their partner as well as partners being physically violent toward the respondents for those who have been abused/neglected compared to those who have not. These figures also show that increasing age of adoption does not necessarily identify larger mean scores on these same variables. These figures show that non-adopted individuals who were abused/neglected had the highest means, while the non-adopted and non-abused/neglected group showed the lowest means.

Figure 59 shows that there is a higher mean for the respondents forcing sex upon their partner for those who have been abused/neglected compared to those who have not, with the exception of the oldest adopted group, which has the lowest mean. This figure also shows that increasing age of adoption does not necessarily identify larger mean scores on these same variables. This figure shows that those adopted as infants who were abused/neglected had the highest means, while the infant adopted and non-abused/neglected group and the older adopted abused/neglected group showed the lowest means.
Figure 57. Mean comparisons, by physically violent toward partner.

<table>
<thead>
<tr>
<th>Physical Violence</th>
<th>Non-Adopted Non-Abused</th>
<th>Non-Adopted Abused</th>
<th>Infant Adopted Non-Abused</th>
<th>Infant Adopted Abused</th>
<th>Older Adopted Non-abused</th>
<th>Older Adopted Abused</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6194</td>
<td>3268</td>
<td>130</td>
<td>33</td>
<td>59</td>
<td>68</td>
</tr>
</tbody>
</table>

Figure 58. Mean comparisons, by partner physically violent toward respondent.
Figure 59. Mean comparisons, by respondent forced sex on partner.

Figure 60. Mean comparisons, by partner forced sex on the respondents.
Figure 60 shows that there is a higher mean for the partners forcing sex on the respondents for those who have been abused/neglected compared to those who have not. This figure also shows that increasing age of adoption does not necessarily identify larger mean scores on these same variables. This figure also shows that those individuals who were adopted as infants who were abused/neglected had the highest means, while the infant adopted and non-abused/neglected group showed the lowest means.

Table 18 shows all of the means for each of the six groups (three levels of adoption, two levels of abuse). Table 18 uses the non-adopted and non-abused/neglected group’s mean and standard deviation as a reference group with which to compare all of the other group’s means. The five columns on the right show the effect sizes for each of the comparison groups on the particular relationship violence variables.

Columns 1 and 2 show that infant and older adoptees that have not experienced abuse/neglect show no variables that are of sufficient magnitude to be considered as having a small effect. Columns 3 and 4 show that when comparing the two non-adopted groups, abused and non-abused, and comparing the infant adopted abused/neglected group to the non-adopted non-abused/neglected groups all of the effect sizes on all relationship violence variables reach the level having a small effect. Column 5 shows that the adopted and abused group compared to the non-adopted non-abused/neglected show small effects on the physical violence variables but show little to no effect on the sexual violence variables.

Table 19 shows all of the means for each of the six groups (three levels of adoption, two levels of abuse). Table 19 uses the non-adopted group’s means and standard deviations as reference groups for both those non-abused and abused. The four
columns on the right show the effect sizes for each of the comparison groups on the particular relationship violence variables. Columns 1 – 4 shows that none of the comparisons reach the level of having a small effect, further reinforcing the findings that adoption has little to no effect upon the relationship violence variables in this study.

Figure 61 shows the mean comparisons for the three levels of adoption, broken down into whether they were abused or not abused, on the variable dealing with dissatisfaction in their relationships. Figure 62 shows the mean comparisons for the two levels of abuse. Each level of abuse is broken down into the three levels of adoption, on the variable dealing with relationship dissatisfaction. Figures 61-62 show that there is

Table 18

**Mean Comparison, Relationship Violence Variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-abused</th>
<th></th>
<th></th>
<th>Abused</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-adopted</td>
<td>Infant</td>
<td>Older</td>
<td>Non-adopted</td>
<td>Infant</td>
<td>Older</td>
</tr>
<tr>
<td>Respondent violent toward partner</td>
<td>M</td>
<td>(SD)</td>
<td>M</td>
<td>M</td>
<td>(SD)</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>0.28</td>
<td>(0.65)</td>
<td>0.32</td>
<td>0.39</td>
<td>0.49</td>
<td>0.45</td>
</tr>
<tr>
<td>Partner violent toward respondent</td>
<td>0.26</td>
<td>(0.69)</td>
<td>0.38</td>
<td>0.37</td>
<td>0.50</td>
<td>0.48</td>
</tr>
<tr>
<td>Respondent forced sexual relations on partner</td>
<td>0.06</td>
<td>(0.45)</td>
<td>0.03</td>
<td>0.10</td>
<td>0.15</td>
<td>0.24</td>
</tr>
<tr>
<td>Partner forced sexual relations on respondent</td>
<td>0.15</td>
<td>(0.66)</td>
<td>0.14</td>
<td>0.20</td>
<td>0.29</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Note. $ES_1$ = Infant Adopted Non-Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
$ES_2$ = Older Adopted Non-Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
$ES_3$ = Non-Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
$ES_4$ = Infant Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
$ES_5$ = Older Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
Table 19

*Two-Way Mean Comparison, Relationship Violence Variables*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-abused</th>
<th></th>
<th></th>
<th></th>
<th>Abused</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>ES₁</th>
<th>ES₂</th>
<th>ES₃</th>
<th>ES₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent violent toward partner</td>
<td>Non-adopted</td>
<td>0.28</td>
<td>0.65</td>
<td>M</td>
<td>Adopted</td>
<td>0.49</td>
<td>0.68</td>
<td>M</td>
<td>0.45</td>
<td>Older</td>
<td>0.44</td>
<td>0.32</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>Partner violent toward respondent</td>
<td>Non-adopted</td>
<td>0.26</td>
<td>0.69</td>
<td>M</td>
<td>Adopted</td>
<td>0.50</td>
<td>0.92</td>
<td>M</td>
<td>0.48</td>
<td>Older</td>
<td>0.47</td>
<td>0.37</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>Respondent forced sexual relations on partner</td>
<td>Non-adopted</td>
<td>0.05</td>
<td>0.45</td>
<td>M</td>
<td>Adopted</td>
<td>0.15</td>
<td>0.72</td>
<td>M</td>
<td>0.24</td>
<td>Older</td>
<td>0.03</td>
<td>0.10</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Partner forced sexual relations on respondent</td>
<td>Non-adopted</td>
<td>0.15</td>
<td>0.66</td>
<td>M</td>
<td>Adopted</td>
<td>0.29</td>
<td>0.91</td>
<td>M</td>
<td>0.20</td>
<td>Older</td>
<td>0.24</td>
<td>0.14</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

Note: ES₁ = Infant Adopted Non-Abused (Mean) - Non-adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₂ = Older Adopted Non-Abused (Mean) - Non-adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
ES₃ = Infant Adopted Abused (Mean) - Non-adopted Abused (Mean) / Non-Adopted Abused (SD)
ES₄ = Older Adopted Abused (Mean) - Non-adopted Abused (Mean) / Non-Adopted Abused (SD)

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*Figure 61.* Mean abuse comparisons, by relationship dissatisfaction.
higher mean in relationship dissatisfaction for those who have been abused/neglected compared to those who have not. These figures also show that older age of adoption does not necessarily identify larger mean scores on these same variables with the older adopted non-abused group having a lower mean than the infant adopted non-abused group. These figures show that those older adopted individuals who were abused/neglected had the highest means, while the non-adopted non-abused/neglected group showed the lowest means.

Table 20 shows all of the means for each of the six groups (3 levels of adoption, 2 levels of abuse). Table 20 uses the non-adopted and non-abused/neglected group's mean and standard deviation as a reference group with which to compare all of the other means. The five columns on the right show the effect sizes for each of the comparison groups on the variable dealing with relationship dissatisfaction. Columns 1 and 2 show that infant and older adoptees that have not experienced abuse/neglect have effects sizes considered
very small. Columns 3 and 4 show that when comparing the two non-adopted groups, abused and non-abused, and comparing the infant adopted abused/neglected group to the non-adopted non-abused/neglected groups both of the effect sizes on all relationship violence variables reach the level having a small effect (.25). Column 5 shows that the adopted and abused group compared to the non-adopted non-abused/neglected also show effects on the relationship dissatisfaction variable that are small (.36).

Polytomous Logistic Regression Analysis

For this analysis the violence variable was recoded to reflect if a person was a victim or a perpetrator of violence in their sexual relationships. A person who was physically abused by their partner, and yet was not abusive in return was labeled as a “victim.” A person who abused their partner, whether or not they had received abuse, was labeled as a “perpetrator.” Those individuals were neither victims or perpetrators were labeled as “healthy.” With this code in place, a logistic regression analysis was

Table 20

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-abused</th>
<th></th>
<th></th>
<th>Abused</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Non-adopted</td>
<td>Infant</td>
<td>Older</td>
<td>Adopted</td>
<td>Infant</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>ES,</td>
<td>ES,</td>
<td>ES,</td>
</tr>
<tr>
<td>Dissatisfied with the relationship</td>
<td>1.37</td>
<td>1.40</td>
<td>1.37</td>
<td>1.55</td>
<td>1.55</td>
<td>1.63</td>
</tr>
</tbody>
</table>

Note. ES, = Infant Adopted Non-Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)  
ES, = Older Adopted Non-Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)  
ES, = Non-Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)  
ES, = Infant Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)  
ES, = Older Adopted Abused (Mean) - Non-Adopted Non-Abused (Mean) / Non-Adopted Non-Abused (SD)
performed to determine the likelihood of a person who was abused or adopted being a victim or a perpetrator of abuse. With this analysis both victim and perpetrator were compared to those coded as healthy and the results are shown in Table 21.

Table 21 shows that the odds of being a victim are 1.66 times higher for those who have been abused than for those experiencing no abuse. This odds ratio is statistically significant ($p < .0001$). The odds of being a victim for those who have been adopted are 1.31 times higher for those adopted compared to those not adopted, but this is not statistically significant ($p = .257$). The odds of being a perpetrator are 1.86 times higher for those who have been abused than for those who have not been abused. This odds ratio is statistically significant ($p < .0001$). The odds of being a perpetrator are only 1.06 higher for those who have been adopted. This odds ratio is not statistically significant ($p = .691$). This analysis leads us to conclude that a history of abuse as a child has a stronger impact both on a person being abused and being abusive in their own intimate relationships than does adoption.

Table 21

<table>
<thead>
<tr>
<th></th>
<th>Behavior: Victim vs. Healthy</th>
<th>Behavior: Perpetrator vs. Healthy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds ratio</td>
<td>95% Confidence interval</td>
</tr>
<tr>
<td>Effect of abuse</td>
<td>1.66</td>
<td>1.39-2.00</td>
</tr>
<tr>
<td>Effect of adoption</td>
<td>1.31</td>
<td>0.82-2.13</td>
</tr>
</tbody>
</table>

*Note: Interaction between adoption and abuse history was non-significant so was removed from the model ($p = .226$ for Victim vs. Healthy and $p = .178$ for Perpetrator vs. Healthy).*
Because little empirical research has explored the relationships of adopted young adults, it was unclear from the outset of this research whether to expect differences between those who were and were not adopted. Previous research suggested that adoptees report more behavioral and psychological difficulties than non-adoptees. The study of relationships is, however, qualitatively different than the study of behavioral or psychological problems. Attachment theory and psychosocial identity theories both imply that adoption could have an effect on relationships.

The present study provides support for four conclusions about comparisons of the sexual relationships between adopted and non-adopted young adults. First, adoption by itself has a small but significant effect upon sex and cohabitation variables, but has little impact upon violence and satisfaction in relationships. Second, the age at which a person is adopted seems to have little or no effect upon any of the sex, cohabitation, relationship violence or satisfaction variables that were investigated in this study. Third, a history of abuse and neglect in childhood has a small but significant effect upon most sex and cohabitation variables, with a larger effect upon variables dealing with relationship violence and satisfaction. Fourth, the combination of adoption and abuse shows the largest effects on all relationship variables.

More detailed findings about each hypothesis are discussed next. Care should be taken when interpreting the implications of these findings about adopted young adults.
Adoptees and adoptive parents should view the implications of this study as providing only one piece of information about adoption and abuse.

In other areas of adoption study, small-to-medium effect sizes have been found showing that, compared to their non-adopted counterparts, adoptees had more ADHD (Simmel, Brooks, Barth, & Hinshaw, 2001), delinquency and aggression (Priel, Melamed-Hass, Besser, & Kantor, 2000), antisocial behavior and school problems (Sharma, McGue, & Benson, 1998), attempted suicide (Slap, Goodman, & Huang, 2001) and mental health counseling (Miller et al., 2000a). Does the same pattern of small-to-medium adoption effects hold for relationships as well?

Hypothesis #1

“Adopted compared to non-adopted young adults will have more sexual partners with higher sexual frequency, higher cohabitation rates with more cohabiting partners, more violence in their sexual relationships, and will report higher relationship dissatisfaction.”

The first hypothesis was designed to describe the effects of adoption on each of the selected relationship variables. This hypothesis addressed one of the central questions underlying the present study: Do adoption/non-adoption differences exist in young adult relationships?

Erickson’s psychosocial theory posits that how well adolescents can master the developmental task of identity development will be a major cause of how well they will master intimacy and romantic relationships (Crain, 2000). Grotevant (1997b) argued that the formation of identity is much more complicated for adopted adolescents than for their
non-adopted peers. Their family situations are different and there seems to be a need for greater focus on relationships. Adoptees have four parents: A set of biological parents, who gave them life, and their adopted parents, who provide daily interaction and care. Grotevant et al. (2000) speculated that adopted adolescents might struggle as they look to their adoptive parents and siblings for identity. They may have been told that their birth parents, or their adoptive circumstances, were less than desirable, thus necessitating the child to reconcile within themselves the conflict between their emerging sense of morality and their birth parents' behavior. Western society also bases notions of kinship ties primarily on blood relationships, which also might contribute to identity confusion within the adopted adolescent.

Relationship differences between adoptees and non-adoptees were expected. Results indicated that adopted and non-adopted adolescents' relationships varied somewhat. Small differences were found on two of the sex and cohabitation variables, both dealing with the number of lifetime partners (sexual and cohabiting) that were reported (ES = .25 and .28, respectively). The other three sex and cohabitation variables, while showing statistically significant differences, did not reach sufficient magnitude to be considered small. Statistical significance ($p < .05$) but small magnitude of differences may be due to the large sample size of the study, rather than actual differences between the groups. There were no differences of sufficient magnitude to even be considered small that were found between adopted and non-adopted young adults on the four variables dealing with relationship violence and the variable dealing with relationship dissatisfaction. Logistic regression analysis showed only one variable “partner physically
violent toward respondent" reached the level of statistical significance \((p = .02)\). This also may be more of an effect of sample size than meaningful group differences.

These findings lead to the conclusion that adoption has a small but statistically significant effect upon sex and cohabitation variables, but has little impact upon violence and satisfaction in relationships.

**Hypothesis #2**

“Older age of placement adoptees compared to infant placed adoptees will have more sexual partners, with higher sexual frequency, higher cohabitation rates with more cohabiting partners, more violence in their sexual relationships, and will report higher relationship dissatisfaction.”

The second hypothesis was designed to see if differences between adopted and non-adopted young adults might be explained by their age of adoption placement. Attachment theory suggests that there could be marked differences between infant and older adoptees in their adult relationships, due to the separation from the primary attachment figure that occurs in an older age adoption compared to an infant adoption. Early childhood separation could cause a disruption in the attachment system, increasing the potential for several key relationship difficulties. These difficulties can be characterized by a lack of confidence that others can provide for an individual’s needs in a reliable responsive way, devoting high amounts of energy and effort to keep others close by, and exhibiting intense expressions of distress, anger, jealousy, fear, anxiety, and loneliness (Hazan & Shaver, 1994).
Those who had insecure attachment in infancy tend to see partners as inadequate caregivers as adults. They are often characterized as being selfish and don’t attempt to understand their partner’s feelings, exhibit poor communication skills, and have difficulties solving problems without extreme emotional reactions (Hazan & Shaver, 1994). Taken to the extreme, some may begin to avoid intimacy, especially in stressful situations, have pessimistic views about the future of any intimate relationship, and experience high rates of dissolution within their relationships. These individuals avoid self-disclosure, and have difficulties with partners who do self-disclose. As individuals enter into relationships they will find themselves scrutinizing their partners, expecting to see negative, rejecting behavior, and thus find themselves fulfilling their own prophecies (Hazan & Shaver).

Results indicated that there were few relationship differences between those adopted as infants and those adopted at older ages. Effect size differences in the variables dealing with sex and cohabitation by age of placement did not reach a sufficient magnitude to be considered as having a small effect. None of the sex and cohabitation variables reached the level of statistical significance. No differences of sufficient magnitude to be considered small were found between infant and older adopted young adults on the four variables dealing with relationship violence and the variable dealing with relationship dissatisfaction. Contrary to expectations, these findings lead to the conclusion that the age at which a person is adopted seems to have little or no effect upon any of the sex, cohabitation, violence or relationship dissatisfaction variables among adopted young adults.
The question arises as to why there were no differences found between the infant and older adoptees on any of the variables. Past research has consistently shown that infant and older adoptees are generally different in small and significant ways. In the course of the research, the first possibility considered was that the study was flawed methodologically or a mistake was made in the analysis. Programming code and analysis commands were carefully checked and rechecked to insure that the sample and data analysis were appropriate and accurate. Upon finding no mistakes in the methods and data analysis, speculation then move to the realm of, substantive explanations for the lack of expected differences.

One explanation is that only a small amount of research has been done on adopted adults. There may be a lessening of the effects of age of adoption as a person grows older and begins to have personal relationships outside of the family they were raised in.

A second explanation concerns the dependent variables in this study: only a small amount of research has been done on the sex, cohabitation, violence and relationship dissatisfaction variables and how they relate to the adoption experience. This study didn’t include many of the traditional variables (depression, suicide, drug abuse, and so forth.) on which past researchers found differences between infant and older adoptees. It is possible that in the realm of relationships there are no real meaningful difference between infant and older adoptees.

Hypothesis #3

“Abused compared to non-abused young adults will have more sexual partners with higher sexual frequency, higher cohabitation rates with more cohabiting partners,
more violence in their sexual relationships, and will report higher relationship
dissatisfaction."

The third hypothesis was designed to describe the effects of abuse and neglect on each of the relationship variables. This hypothesis addressed one of the central questions underlying the present study: Do abused/neglected versus non-abused/neglected differences exist in young adult intimate relationships?

Attachment theory suggests that there will be marked differences between those who are abused compared to those who are not abused. Within an abusive environment, children develop distorted mental processes that help them to identify what is expected of self and others. In abusive environments dysfunctional rules of relationships are formed that help children to make sense of the world around them. Children who are abused might downplay their negative emotions and presume that protective care is not available in times of need (Howe & Fearnley, 2003).

Neglecting environments often pose a great challenge for child development. Parents in neglectful environments tend to respond erratically to children’s signals of distress, so that children find no consistent relationship between their behavior and the responses of others. Neglected children often increase their signals of distress in order to elicit the aid and assistance of their caregivers. Arousal and anger for these children seem to lessen their chances of being neglected or abandoned (Howe & Fearnley, 2003).

Children who find themselves in both abusive and neglectful environments deal with both danger and unpredictability. If children’s attachment figures are the source of distress and fear, then children have a difficult time organizing an attachment strategy that increases feelings of “felt security.” They experience corresponding feelings of both
escape and approach that cannot be resolved. These children experience their attachment figure as a source of danger and fear as well as a source of affection and reassurance. Neglected children cannot organize an attachment strategy to increase feelings of security and affection and their behavior becomes disorganized or disoriented (Fischer-Mamblona, 2000).

Gallo and Smith (2001) commented that adult attachment predicts behaviors, expectancies, and emotions in romantic relationships that parallel the infant-caregiver interaction pattern. This suggests that those adopted after infancy may have a decreased ability to perceive their partners’ needs; be less likely to find positive traits in their partner; and be self-protective, using distancing strategies to cope with stress. Each of these responses could limit the effectiveness of adopted young adults’ intimate relationships.

A person’s attachment style is most likely to be activated in stressful situations, such as conflict in a romantic relationship. During a conflict each partner may bring their early attachment and relationship models into the present, exhibiting attachment behaviors without being fully aware that they are doing so (Shi, 2003). Partners with secure attachment engage in higher verbal engagement, self-disclosure, mutual understanding and discussion. They are more likely to compromise and are less likely to withdraw or use aggression (Corcoran & Mallinckrodt, 2000; Creasey et al., 1999).

Differences were expected between those who reported abuse/neglect in their growing up and those who did not report abuse/neglect. Results indicated that the picture of abused/neglected and non-abused/neglected adolescents’ intimate relationships varied somewhat. A small difference (ES = .20) was found on only one of the sex and
cohabitation variables, dealing with the number of reported lifetime sexual partners.
The other four sex and cohabitation variables, while showing statistical significance, did not reach sufficient magnitude to be considered small. All of the sex and cohabitation variables reached the level of statistical significance ($p < .05$), with the exception of mean number of sexual experiences in the previous 12 months ($p = .13$).

Differences of sufficient magnitude to be considered small were found between abused/neglected and non-abused/neglected groups on all of the four variables dealing with relationship violence (ES $=.20 - .32$) and the variable dealing with relationship dissatisfaction (ES $=.24$). Logistic Regression analysis showed that all of the violence variables reached the level of statistical significance and $t$ test analysis showed that the relationship dissatisfaction variable was also statistically significant.

These findings lead to the conclusion that a history of abuse and neglect in childhood has a small but significant effect upon most sex and cohabitation variables, with a larger effect upon variables dealing with relationship violence and satisfaction.

Hypothesis #4

“Individuals who are both adopted and abused compared to non-adopted non-abused will have more sexual partners with higher sexual frequency, higher cohabitation rates with more cohabiting partners, more violence in their sexual relationships, and will report higher relationship dissatisfaction.”

The fourth hypothesis was designed to describe the effects of the combination of abuse and neglect on each of the relationship variables. Stress and coping theory points out that individuals are placed in situations which can be threatening to them, involving
loss, significant challenges, or negative emotions. As individuals try to cope with these difficult situations, stress is likely to be experienced with corresponding negative emotions such as confusion, anger, sadness, anxiety, embarrassment, or shame. Once individuals identify that they are experiencing a stressful event, they incorporate various coping strategies to help them deal with the situation. These coping strategies can take the form of redefining the importance of the situation in relation to oneself (cognitive-behavior problem solving); gaining the aid and assistance of others (assistance seeking); avoidance of the stressor (cognitive avoidance); or trying to put themselves as far away from the situation as possible (behavioral avoidance). No one coping pattern can always be linked to positive outcomes; research does show that avoiding the problem only leads to an increase in emotional problems (Brodzinsky et al., 1998).

How children cope with this loss is a predictor of the type of outcomes they may experience over time. Children who use appropriate coping strategies are likely to see their adoption in a neutral or even positive light. By contrast, children who have little or no coping skills will perceive their adoption as more stressful, and negative feelings will be the result (Brodzinsky et al., 1998).

Many internal factors help a child cope with the losses associated with adoption: the child’s mental level, temperament, self-esteem, sense of control, and security in previous relationships. These, combined with contextual variables (such as birth parents mental state; pre-natal difficulties; adverse social and cultural attitudes; level of social support; negative feelings of the adoptive family; and neglect and abuse of the adoptee), are factors that may negatively affect the adopted individual’s coping behavior. This coping behavior is carried over into a young adult’s life and becomes the method of
dealing with stress and conflict in intimate, romantic relationships (Brodzinsky et al. 1998). Persons who are both adopted and abused have two major life stressors to deal with. These two stressors would be more difficult to deal with than one or none, and thus would be a greater predictor of negative outcomes.

Differences were anticipated between those adopted and abused compared to those not adopted and not abused. Results indicate that for all of the variables dealing with sex and cohabitation, being adopted and abused shows small to moderate (ES = .32 - .56) effect size differences compared to those non-adopted not abused. Each of these differences was statistically significant. All of the four relationship violence variables also reached the level of having a small effect size (.20 - .28) and each of those also reached the level of being statistically significant. For the relationship dissatisfaction variable there was a small effect size difference (ES = .28) which was statistically significant.

These findings indicate that the combination of adoption and abuse had small to moderate effects on all relationship variables dealing with sex, cohabitation, violence and dissatisfaction.

Summary and Conclusions

Previous empirical research found small-to-medium effect sizes between adopted and non-adopted youth. Adoptees have typically compared less favorably with non-adoptees on various measures of behavior and psychological well-being. It has been questioned whether the observed differences were due to the experience of adoption itself, or were due to other factors (i.e., abuse and neglect) that may have initiated the
adoption. The present study compared adopted and non-adopted individuals, along with individuals who reported abuse/neglect and those not reporting abuse/neglect in their prior experience. The focus of this study was on the types of relationships entered into, as well as the quality of those relationships.

Two patterns emerged from the data analysis. The first was that the experience of adoption seemed to have a larger impact on variables dealing with sex and cohabitation than on those variables dealing with relationship violence and dissatisfaction. These differences were small in magnitude, but significant statistically. The second was that the experience of abuse/neglect seemed to have a larger impact on the variables dealing with violence and relationship dissatisfaction than on those dealing with sex and cohabitation. These differences were both small in magnitude and statistically significant. Comparisons of those who were abused/neglected and adopted with those who were neither, merges these effects, and greater differences both in magnitude and significance were seen across all of the variables studied.

This study provides the field of adoption research some new and significant findings in areas that had not previously been studied. It identifies the need for studying the pathways to adoption in more detail in order to determine the effects of adoption. This study found that abuse and neglect have a stronger effect on some negative relationship outcomes than the experience of adoption. This study has also shown that there needs to be more research done with adult adoptees in order to better understand the long term implications of adoption. This study also delves into the field of adoption and heterosexual relationships, which had previously been unanalyzed by researchers.
Limitations

Young adult relationships are sensitive subjects not often discussed with strangers. When they are discussed, it is often in private with selected friends. Add Health interviewers asked young adults numerous sensitive questions about their romantic and sexual lives. Many respondents' self-reports about personal topics may be inhibited in the presence of strangers. Add Health attempted to minimize these inhibitions by providing laptop computers with headphones so all questions about sensitive topics would be asked and answered privately. Turner et al. (1998) found that asking questions with this method was associated with two to three times higher reporting rates of sensitive behaviors compared to face-to-face interviews or self-report surveys. In spite of this there still may have been some hesitancy on the part of some respondents to answer such sensitive questions.

The Add Health sample is in many ways the best national sample available for studying young adult's health and health related behavior. Despite the strengths of such a large and nationally representative sample, the sample is limited because adoption, abuse, and relationships were not the primary focus of the data collection. There were limitations on the questions that were asked and answered that could have improved the direction and focus of the study. Questions of a more qualitative nature dealing with feelings and attitudes about relationships and about past abuse could have given a clearer focus to the study and helped to determine the reasons for some results.

The overall Add Health sample was representative of the 18- to 26-year old population, which attended high school in the United States, but the adopted sample was
not randomly selected. There were certain groups that Add Health over sampled to obtain a shared environment but non-genetic comparison group for behavior genetic research. The adopted sample, therefore, is best classified as a nonprobability sample since sampling error cannot be estimated.

There are also limitations due to the fact that adopted families are not necessarily similar just because they share the experience of adoption. For example, differences because of two-parent and single-parent families are hidden because all adoptees are grouped together. Different pathways to adoption are also hidden. It is difficult to determine the effects of foster/group homes, private verses public adoptions, as well as transracial or international adoptions.

The size of the adopted sample also limited some data analysis. Having the ability to break the adopted sample into smaller groups may have shown more telling results than just the two adopted groups in this study. Some preliminary data analysis presented in Chapter III showed a decrease in some relationship challenges in the age group 3-6 that was counterintuitive and contrary to the general pattern, but the sample size was too small to do any more detailed analysis. Some planned data analyses were also abandoned due to insufficient sample size.

There might also have been some advantage to removing the neglect portion of the abuse and neglect variable. Preliminary study showed that including neglect might have lessened some of the more dramatic effects of physical and sexual abuse. There was also a large limitation in this study assuming that abuse and neglect took place prior to the adoption. In some cases the abuse and neglect could have taken place after the
adoption, and thus it is unknown what impact abuse after adoption may have upon an
individual when compared to abuse prior to adoption.

Another limitation of this study deals with the phenomena found in studying
relationships, in which some individuals instead of becoming promiscuous in their sexual
and relationship behavior might become isolated and withdrawn from relationships. This
study did not address the issue of having no relationships as a potential issue of those
adopted or abused/neglected.

Future Directions

Future research should continue to use non-clinical adopted samples. The
shortcomings of using clinical samples in the study of adoptees has been well
documented (Feigelman et al., 1998). Large national samples should include questions
dealing in broader detail with the adoption experience. Questions dealing with present
and past family dynamics, pathways to adoption, as well as feelings of adoptees about
their adoption experience would all enhance the study of adoption.

This research also uncovered an unexplained difference in those who were
adopted between 3-6 years of age, when compared to other adopted children. Future
research needs to identify if this difference is real or if it was only a product of a small
sample size or other data anomalies unique to the Add Health sample.

A clearer understanding of the differing pathways to adoption and the effects of
each of those pathways upon the adoption experience is a vital issue in understanding the
complete picture of what it means to be adopted. This study only explored a portion of
that adoptive pathway, and much more research needs to be conducted.
REFERENCES


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PUBLICATIONS

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Miller, B. C., Sage, R., & Winward, B. W. (under review). Teen Childbearing and Public Policy.


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