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The Relationship between Child Abuse and Adult Attachment Styles

by

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Abstract

All forms of child abuse are associated with a variety of short- and long-term negative effects. In particular, adult victims of child abuse have been known to experience more insecure forms of attachment to significant others in adulthood (McCarthy & Taylor, 1999; Muller, Lemieux, & Sicoli, 2001). It was hypothesized that particular forms of child abuse would be associated with particular forms of insecure attachment in adulthood and that adult attachment style would act as a mediator between child abuse history and negative outcomes. Five hundred fifty-two female and 294 male university student completed questionnaires on their child abuse history, adult attachment style, self-esteem, current psychological symptoms and a number of demographic variables. Regression analyses, ANCOVA's and bootstrapping mediation analyses were completed. Physical abuse was associated with attachment avoidance and psychological maltreatment was associated with attachment anxiety. Some support was also found for associations between neglect and physical abuse with attachment anxiety. Sexual abuse was not associated with either attachment avoidance or attachment anxiety. Social support, as a control variable, was also found to be an important predictor of attachment avoidance and attachment anxiety. While it was hypothesized that there would be differences between high and low severity sexual and physical abuse on adult attachment anxiety, no statistically significant differences were found. Both attachment avoidance and attachment anxiety were found to partially mediate the relationships between child abuse and psychological symptoms and child abuse and self-esteem. These findings provide more detailed information regarding the importance of adult attachment in the area of child abuse and implications for the support and treatment of child abuse victims. One's child abuse history can provide important information regarding one's attachment tendencies in adulthood impacting important adult relationships

including the therapy relationship.

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North American child protection authorities receive millions of reports of child abuse and neglect on a yearly basis (Runyon, Kenny, Berry, Deblinger, & Brown, 2006). While not all of these reports are substantiated, there are many other cases left unreported (Runyon et al., 2006). It has been estimated that almost three million children are being abused or neglected today in the United States alone (Crosson-Tower, 2005). In a study of cases reported to child welfare agencies in Canada, researchers found 26,692 cases of physical abuse, 3,736 cases of sexual abuse, 38,789 cases of neglect, 16,020 cases of emotional abuse, and 19,787 cases of multiple forms of abuse over a three month sampling period (Trocmé et al., 2005). A significant number of children and their families are affected by child abuse making research in this area vitally important. Increased knowledge can be used to reduce prevalence rates of child abuse and aid victims, perpetrators, and families in their recovery process.

The current work attempted to hypothesize and understand how types of child abuse might be related to attachment styles in adulthood. As will be described later, adult attachment is an important indicator of intimate relationship style and quality. Because child abuse is an important, though negative, relational experience, it is likely that these variables will interact and affect each other in important ways. This project adds to the knowledge base about adult victims of child abuse and their recovery process, particularly in forming healthy, supportive, and enjoyable adult relationships. The introductory section will begin with a brief overview of the different types of abuse followed by an overview of attachment theory and definitions of attachment terms relevant to this project. Next, the current literature discussing the relationship between abuse and attachment will be presented followed by a summary of the hypotheses relating child abuse to adult attachment styles.

Child Maltreatment

Physical Abuse

Physical abuse is generally defined as the non-accidental injury of a child inflicted by a caregiver (Crosson-Tower, 2005). However, there are some difficulties associated with this definition of physical abuse. It is often hard to distinguish physical abuse from extreme discipline (Kolko, 2002). Cultures vary in their tolerance of the use of physical discipline and this affects what is included and excluded as cases of physical abuse (Crosson-Tower, 2005). These variations in definition are, however, difficult to measure and distinguish. Therefore, the broad definition stated initially will be used for this project. Physical abuse is thought to affect hundreds of thousands of children annually (Kolko, 2002). Severity of physical abuse is generally measured by the seriousness of the physical injuries sustained by the child. Injuries range from mild bruising to broken bones, skull fractures, and even fatalities (Kolko, 2002).

Physical abuse is associated with a number of risk factors and both short- and long-term effects. Factors that place children at risk for physical abuse include low maternal involvement, early separation from their mother, perinatal difficulties, maternal sociopathology, young maternal age, parental experience of affective, somatic, and behavioural distress, unrealistic expectations of children's conduct and capabilities by parents (Kolko, 2002), low social support, caregiver mental illness, and caregiver substance abuse (Wekerle, Wall, Leung, & Trocmé, 2007). In addition, in a national sample, caretaker emotional disturbance and violence between caretakers were associated with increased risk of physical abuse of the children (Palusci, Smith, & Paneth, 2005). Short-term consequences of physical abuse include the injuries, such as fractures sustained from the abuse (Hoskote, Martin, Hormbrey, & Burns, 2003), decreased enjoyment in play, low self-esteem, oppositional behaviour, verbal inhibition, depression

(Crosson-Tower, 2005), cognitive or intellectual deficits, social skill deficits, post-traumatic stress disorder (PTSD) and other psychiatric disorders (Kolko, 2002), heightened aggressive and related externalizing behaviours (Manly, Kim, Rogosch, & Cicchetti, 2001), anxiety, risk-taking behaviour, and suicidal behaviour (Finzi, Har-Even, Shnit, & Weizman, 2002). Long-term consequences of physical abuse include difficulty trusting others, low self-esteem, anxiety, physical problems, anger, internalization of aggression, depression, interpersonal difficulties, and substance abuse (Crosson-Tower, 2005). A study using a large national sample found that adults who had been physically abused as children were more likely than non-abused adults to have acquired a mental condition in adulthood, use alcohol daily, and use a variety of substances (Thompson, Kingree, & Desai, 2004).

Child Sexual Abuse

Child sexual abuse can be loosely defined as the use of a child for the sexual gratification of an adult (Crosson-Tower, 2005). However, research studies, laws, and institutions differ in the specific characteristics which define an act as child sexual abuse. Elements in many of these definitions include a minimum age of consent for the child and a minimum age difference or a degree of power over the child. The use of force is not usually required, as children under a given age, depending on the jurisdiction, cannot give consent to a sexual act. For the purposes of this project and in consultation with the literature, child sexual abuse will be defined as the exploitation, involvement, or exposure of the child to age-inappropriate sexual behaviour by older or more powerful peers or adults (Runyon et al., 2006). Because of discrepancies in definitions and the high likelihood of underreporting, the prevalence rates of child sexual abuse are thought to be underestimated (Berliner & Elliot, 2002; Crosson-Tower, 2005). An epidemiological study of 21 countries (Finkelhor, 1994) found rates of child sexual abuse

between 7% and 36% for women and between 3% and 29% for men. The rates of child sexual abuse in Canada were found to be 18% for women and 8% for men (Finkelhor, 1994). A more recent review estimated rates of child sexual abuse to be 12% to 53% for girls and 3% to 16% for boys (Doll, Doenig, & Purcell, 2004).

Child sexual abuse has been associated with a number of risk factors and short- and long-term effects. Some identified risk factors include family isolation, children being unsupervised, marital discord, family dysfunction, presence of a stepfather (Crosson-Tower, 2005), low maternal involvement, early separation from one's mother, perinatal difficulties, maternal socio-pathology, young maternal age (Kolko, 2002), and caregiver engagement in antisocial activities (Wekerle et al., 2007). Short-term effects include post-trauma effects, increased sexual behaviour, interpersonal problems (Berliner & Elliott, 2002), low self-esteem, depression, anxiety (Romano & De Luca, 2001), problematic externalizing behaviours (Manly et al., 2001), difficulties in school, suicidal risk, pregnancy risk, disordered eating, and substance use (Chandy, Blum, & Resnick, 1996a, 1996b). A study, using a large adolescent sample, found sexually abused adolescents had significantly higher rates of hurting themselves deliberately, attempting suicide, and suffering from depression than non-abused adolescents (Martin, Bergen, Richardson, Roeger, & Allison, 2004). Effects in adulthood include difficulty trusting others, anger, self-abusive tendencies, interpersonal difficulties, substance abuse, sexual difficulties (Crosson-Tower, 2005), low self-esteem, depression, high rates of emotional immaturity, difficulty maintaining long-term relationships (Doxey, Jensen, & Jensen, 1997), sexuality problems (Browning, 2002; Lisak, 1994; Noll, Trickett, & Putnam, 2003), difficulties parenting (Banyard, 1997), revictimization (Purcell, Malow, Dolezal, & Carballo-Diéguez, 2004; Rich, Combs-Lane, Resnick, & Kilpatrick, 2004), and higher rates of psychiatric symptomatology than

in the general population (Callahan, Price, & Hilsenroth, 2003).

Psychological Maltreatment

The term psychological maltreatment is the current favoured term for emotional and other psychological abuse. The term psychological is used instead of emotional so that all types of non-physical or non-sexual abuse, such as cognitive maltreatment, can be included under the same term (Hart, Brassard, Binggeli, & Davidson, 2002). The term maltreatment is used to incorporate both aspects of psychological abuse and psychological neglect (Hart et al., 2002). However, other researchers prefer to study psychological abuse and neglect separately (Crosson-Tower, 2005). The American Professional Society on Abuse of Children (1995 as cited by Hart et al., 2002) defines psychological maltreatment as a repeated pattern or extreme incidents of caregiver behaviour that convey to a child that he/she is worthless, flawed, unloved, unwanted, endangered, or only of value in meeting another's needs. While the definition may appear clear, isolating this type of behaviour is very difficult, as a causal link between a parent's behaviour and harm to the child must be shown (Crosson-Tower, 2005). None the less, psychological maltreatment is considered the most prevalent form of abuse, with one third of the adult population experiencing some form and 10% to 15% experiencing the most severe and chronic forms of psychological maltreatment in their lifetime (Hart et al., 2002).[1] A report from the United States cited 138,000 reported cases of emotional maltreatment from 50 states in 1997 (McDonald & Associates, 1999 as cited in Erickson & Egeland, 2002). Subtle graduations in parental behaviour make it difficult to decide if abuse has taken place except in extreme cases (Twaite & Rodrequez-Srednicki, 2004b). However, psychological maltreatment has been found to range from ignoring and giving little positive feedback to belittling and denigrating to tying up, confining for long periods of time, and threatening physical or sexual abuse (Twaite &

[1] These statistics include both psychological abuse and neglect.

Rodrequez-Srednicki, 2004b).

Current research suggests psychological maltreatment underlies or contributes to the lasting effects of all other types of abuse (Crosson-Tower, 2005; Hart et al., 2002). Risk factors for this type of abuse include societal views where parenting is considered unrewarding and unimportant; family disruption; marital discord; outside stressors such as poverty, unemployment, mobility, and isolation; perception of the child as difficult; unrealistic expectations of children by parents; parental alcoholism; parental mental illness; poor parental role models (Crosson-Tower, 2005); and parental experience of child abuse (Twaite & Rodrequez-Srednicki, 2004b). Some short-term effects include depression, suicidal behaviour, sleep disturbances, behaviour problems, attention-seeking behaviour (Crosson-Tower, 2005), interpersonal difficulties, learning difficulties, physical health problems (Hart et al., 2002), anxiety, withdrawal (Twaite & Rodrequez-Srednicki, 2004b), aggression (Manly et al., 2001), low self-esteem and autonomy, and posttraumatic stress symptoms (Schneider, Ross, Grahma, & Zielinski, 2005). Many of these negative effects are thought to be devastating and long lasting. Long-term effects include problems with interpersonal thoughts, feelings, and behaviours; social competency deficits and antisocial functioning; emotional difficulties; learning difficulties; physical health problems (Hart et al., 2002); anger; depressive symptoms (Harper & Arias, 2004); anxiety; somatic symptoms; and posttraumatic stress symptoms (Sperus, Yehunda, Wong, Halligan, Seremetis, 2003). A study analyzing the long-term effects of parental verbal aggression found higher rates of depression, low self-esteem, and interpersonal insensitivity in the high verbal aggression group compared to the low verbal aggression group (Morimoto & Sharma, 2004).

Neglect

Neglect differs from other forms of abuse, as it is considered an act of omission as opposed to an act of commission (Crosson-Tower, 2005; Erickson & Egeland, 2002). Various types of neglect have been identified. The most common forms include physical, educational, emotional, and medical neglect (Erickson & Egeland, 2002). Generally, neglect can be defined as parental failure to meet the basic human needs of their children (Crosson-Tower, 2005). Similar to psychological maltreatment, identifying cases of neglect can be difficult, as defining the threshold of inadequate care is not straightforward (Tanner & Turney, 2003). Neglect is often characterized as an overall low level of care given by parents (Tanner & Turney, 2003) and not easily identified by specific incidents (Hildyard & Wolfe, 2002). When separated from psychological maltreatment, neglect is the most common type of reported maltreatment. Because of difficulties in identifying cases and the lack of visible scars, actual rates of neglect are likely much higher than those reported (Erickson & Egeland, 2002). A 1997 report from the United States cited 1,242,000 reported cases of neglect (McDonald & Associates, 1999 as cited in Erickson & Egeland, 2002). Cases of neglect range in their severity, as parents will provide different levels of minimal to no care for their children. For example, mild cases of neglect could involve the child missing occasional meals, missing several medical appointments, and not being kept clean. A severe case of neglect could involve the child being malnourished, disabled due to lack of medical attention, and leaving the child unsupervised for more than 12 hours (Barnett, Manly, & Cicchetti, 1993).

Neglect is associated with a number of risk factors and short- and long- term sequelea. Factors that place children at risk for neglect include low maternal involvement, early separation from their mother, perinatal difficulties, young maternal age (Kolko, 2002), lack of parenting

knowledge, high parental stress (Erickson & Egeland, 2002), maternal history of neglect (Lounds, Borkowski, & Whitman, 2006), low social support, caregiver engagement in antisocial activities, caregiver mental illness, caregiver substance abuse, and a large number of socio-economic disadvantage indicators (Wekerle et al., 2007). The most severe outcome for neglect is the nonorganic failure to thrive syndrome, which can lead to infancy death (Crosson-Tower, 2005). The effects of neglect can be fatal at other times of development as well, due to inadequate physical protection, nutrition, or health care (Erickson & Egeland, 2002). Other short-term effects of neglect include abnormally low growth, poor motor skills, delays in language development, malnutrition, flat affect or extreme passivity, academic difficulties, lack of internalized standards to guide decision-making, teen pregnancy (Crosson-Tower, 2005), low enthusiasm, non-compliance, dependence on adults, poor impulse control (Erickson & Egeland, 2002), difficulty regulating emotions, poor coping abilities (Hildyard & Wolfe, 2002), social isolation or withdrawal (Hildyard & Wolfe, 2002; Williamson, Borduin, & Howe, 1991), aggressive behaviour, acting out, and problems with social adaptation (Lounds et al., 2006). Long-term effects of neglect include difficulty trusting others, low self-esteem, impaired parenting abilities, effects of impaired development, interpersonal difficulties, substance abuse (Crosson-Tower, 2005), cognitive deficits, criminal behaviour, personality disorders (Hildyard & Wolfe, 2002), symptoms of depression and anxiety, somatic symptoms, and posttraumatic stress symptoms (Spertus et al., 2003).

All forms of child abuse are associated with short- and long-term effects. Some of the consequences of child abuse are unique to the type of abuse experienced; however, many of the effects of child abuse are similar across the different types. In general, all types of child abuse are associated with a variety of mental health and relationship difficulties. In particular, many

child abuse victims appear to develop a lack of trust in others and often a negative view of themselves.

Attachment Theory

Current conceptions of attachment are based on the work of John Bowlby and those who have since contributed to his attachment theory. Bowlby (1969) advocated that attachment is an instinctual system of behaviours or a biological drive, which ensures children remain in close contact with their mothers. Examples of attachment behaviours include sucking, clinging, following, crying, and smiling. These attachment behaviours elicit attention and caregiving behaviours from the caregiver. The function of this attachment drive is to ensure the safety of the child, as close proximity allows the mother to protect the child from predators and other dangers (Bowlby, 1969). A secure attachment also allows for the attachment figure or caregiver to act as a "secure base" from which children can explore and learn about their environment in times of safety (Hart et al., 2002). Bowlby (1969) stated that attachment evolves in stages over time. In particular, he found that preference for the primary caregiver or attachment figure appears by the end of the first year and the drive to remain in close proximity to the attachment figure continues into the third year.

Mary Ainsworth was the first to describe patterns or styles of attachment in childhood. This was done through the study of children in her experimental system called the Strange Situation, where children experienced repeated separations and reunifications with their caregiver (Seifert & Hoffnung, 1997). Current research supports the existence of four attachment styles (Crittenden & Ainsworth, 1989). First, children with secure attachments experience sensitive and responsive caregiving. These children display positive affect in interactions with their caregivers, cry little, are easily reassured and comforted (Crittenden &

Ainsworth, 1989), and pursue play and exploration when they feel safe (Carlson, Cicchetti, Barnett, & Braunwald, 1989). Second, children with anxious/ambivalent attachments experience withdrawn and uninvolved caregiving. These children express heightened responsiveness to fear-eliciting cues leading to an increase in attachment behaviours and a decrease in play and exploration (Carlson et al., 1989). Anxious/ambivalent children are difficult to soothe as attachment behaviours are mingled with anger (Crittenden & Ainsworth, 1989). Third, children with anxious/avoidant attachments experience caregivers who are inaccessible, unresponsive, or inappropriately responsive and who are typically more rejecting and angry than caregivers of anxious/ambivalent children. Anxious/avoidant children display little distress when separated from their caregivers and avoid their caregivers upon reunion, using minimal proximity seeking behaviours (Crittenden & Ainsworth, 1989). Last, children with disorganized/disoriented attachments may experience caregiving that was once consistent but became inconsistent, or caregiving that is consistent and severely distorted. These children may show all types of behaviour typical of other insecure attachment styles (Crittenden & Ainsworth, 1989) or unusual behaviours such as freezing and hand flapping (Carlson & Sroufe, 1995). The caregivers may be both a source of fear and reassurance. Disorganized/disoriented children thus experience extreme conflict in their emotional response to their caregivers, which interferes with their ability to develop a coherent strategy of behaviour (Carlson & Sroufe, 1995).

The type of attachment developed during the very early years of life is believed to have an effect on later social interactions and beliefs about the self. Bowlby (1969) stated these early attachment experiences influenced the development of internal working models, which would affect later interpersonal perceptions, attitudes, and expectations. Research over the past 20 years has supported the stability of attachment styles over time (Bartholomew & Shaver, 1998;

Shapiro & Levendosky, 1999). Children internalize information gleaned from interactions with their caregivers, which inform the nature of their relationships in adulthood (Muller, Sicoli, & Lemieux, 2000). Information about relationships is thought to be internalized through the development of internal working models of the self and the other (Crittenden & Ainsworth, 1989). Children who experience consistent parenting develop positive working models, secure attachments, and a healthy capacity for intimacy in adulthood (Swanson & Mallinckrodt, 2001). Children who experience inadequate parenting develop at least one negative working model, an insecure attachment style, and experience more interpersonal difficulties in adulthood (Swanson & Mallinckrodt, 2001). These internal working models, while modifiable, are generally resistant to change (Hazan & Shaver, 1994).

Theorists have extended the research with children to hypothesize that intimate relationships in adulthood are also attachment relationships and elicit attachment processes. The biological function of a romantic attachment relationship is to assure procreation and the long-term commitment of two adults to care for the children (Shaver, Hazan, & Bradshaw, 1988). Both the childhood and adult attachment relationships are thought to be governed by the same biological system (Fraley & Shaver, 2000). This can be seen in the similarities in behaviours and interactions in the two sets of relationships. For example, both children and romantic partners feel a sense of safety and security in the presence of their attachment figure (Fraley & Shaver, 2000). However, it is also understood that the two types of relationships also have unique components. Shaver and associates (Shaver et al., 1988) have suggested that romantic relationships can be understood as the interaction of three behavioural systems: attachment, caregiving, and sexuality. The attachment system is the first to develop and plays an important role in the development of internal working models of self and other. The subsequent caregiving

and sexuality systems depend on the working models developed by the initial attachment system. Therefore, the function of all three systems is influenced by the first attachment relationship in infancy (Shaver et al., 1988).

A number of researchers have developed specific theories and associated measurement tools of adult romantic attachment. Bartholomew and various associates have developed and researched a system of adult attachment styles based on the theory of internal working models of self and other. Research has shown that a two-dimensional model best fits the data regarding adult romantic attachment styles (Brennan, Clark, & Shaver, 1998). Individuals can be classified as being high or low on both dimensions of model of self and model of other, resulting in four categories (Bartholomew & Shaver, 1998). The model of self refers to the degree to which a person has an internalized sense of self-worth versus feelings of anxiety and uncertainty of one's lovability. The model of other refers to the degree to which others are expected to be available and supportive. It is associated with a tendency to seek out or avoid closeness in relationships (Bartholomew & Shaver, 1998). High or low ratings on each of the two dimensions results in four categories: secure, preoccupied, fearful, and dismissing.

However, Fraley and Shaver (2000) have noted a number of limitations to the Bartholomew conceptualization of adult attachment. Firstly, questionnaire items used to assess these dimensions seem to focus on rejection and comfort with depending on others rather than specific models of self and other. Secondly, using model of self and other requires that preoccupied individuals have a positive model of others, which is inconsistent with the empirical literature. Most importantly, Fraley and Shaver (2000) noted that framing individual differences in adult attachment in terms of model of self and other requires complex abstractions of one's relationships. Attachment behaviours are noted in infants and nonhumans who do not have such

sophisticated representations of themselves or others. Therefore, conceptualizing attachment in terms of model of self and other may not be the best approach to attachment theory, assuming that early attachment is connected to and consistent with adult attachment.

In response to these concerns, Brennan and colleagues (Brennan et al., 1998) suggested that it may more appropriate to refer to the dimension of negative model of self as anxiety and the negative model of other as avoidance. The anxiety dimension refers to individuals' sensitivity to detecting and perceiving threats to their security or cues of rejection (Fraley & Shaver, 2000). The avoidance dimension refers to individual differences in behaviour toward possible attachment figures. In the face of stressful situations, individuals will seek contact and support or withdraw from others to handle the threat alone (Fraley & Shaver, 2000). The terms and definitions of anxiety and avoidance are better able to match the empirical literature and the questionnaires developed to assess adult romantic attachment.

As with the Bartholomew model, the two-dimensional structure creates four quadrants of attachment styles, similar to the quadrants described for infant attachment (Figure 1). Low levels of anxiety and avoidance result in a secure attachment style. These individuals are not overly sensitive to threats of rejection and use attachment figures for comfort and support. High levels of anxiety and low levels of avoidance result in a preoccupied attachment style. These individuals may be highly sensitive to cues of rejection while at the same time desiring closeness to and dependence on others. Low levels of anxiety and high levels of avoidance result in a dismissing-avoidant attachment style. These individuals are not overly sensitive to fears of rejection but avoid using others as sources of comfort and support. High levels of anxiety and high levels of avoidance result in a fearful-avoidant attachment style. These individuals experience both a high sensitivity to cues of rejection and avoidance of others for comfort and

support.

The Brennan model of attachment combines the strengths of a two-dimensional model with the extensive review of the empirical literature in naming and defining its dimensions. It appears to be the model of choice in describing adult romantic attachment. Therefore, the current research project used this model to aid in its understanding of the outcomes of child abuse in adulthood. Adult attachment was measured by levels of avoidance and anxiety with its corresponding quadrants of attachment styles.

Child Maltreatment and Attachment Theory

Research in the area of child maltreatment and adult attachment styles began approximately 20 years ago. Compared to other areas of psychological inquiry, this area continues to have much room for additional exploration. With the exception of child sexual abuse, the focus of child abuse and attachment research has been primarily on child attachment styles as opposed to adult attachment styles. A number of studies have also been completed combining multiple types of child abuse into one group and comparing them to a non-abused sample. Previous studies completed and relevant to the question at hand will be presented according to type of child maltreatment. This will include studies on child attachment styles where studies on adult attachment styles are absent. To begin, studies focusing on attachment style and child abuse victims, as a combined group, will be examined.

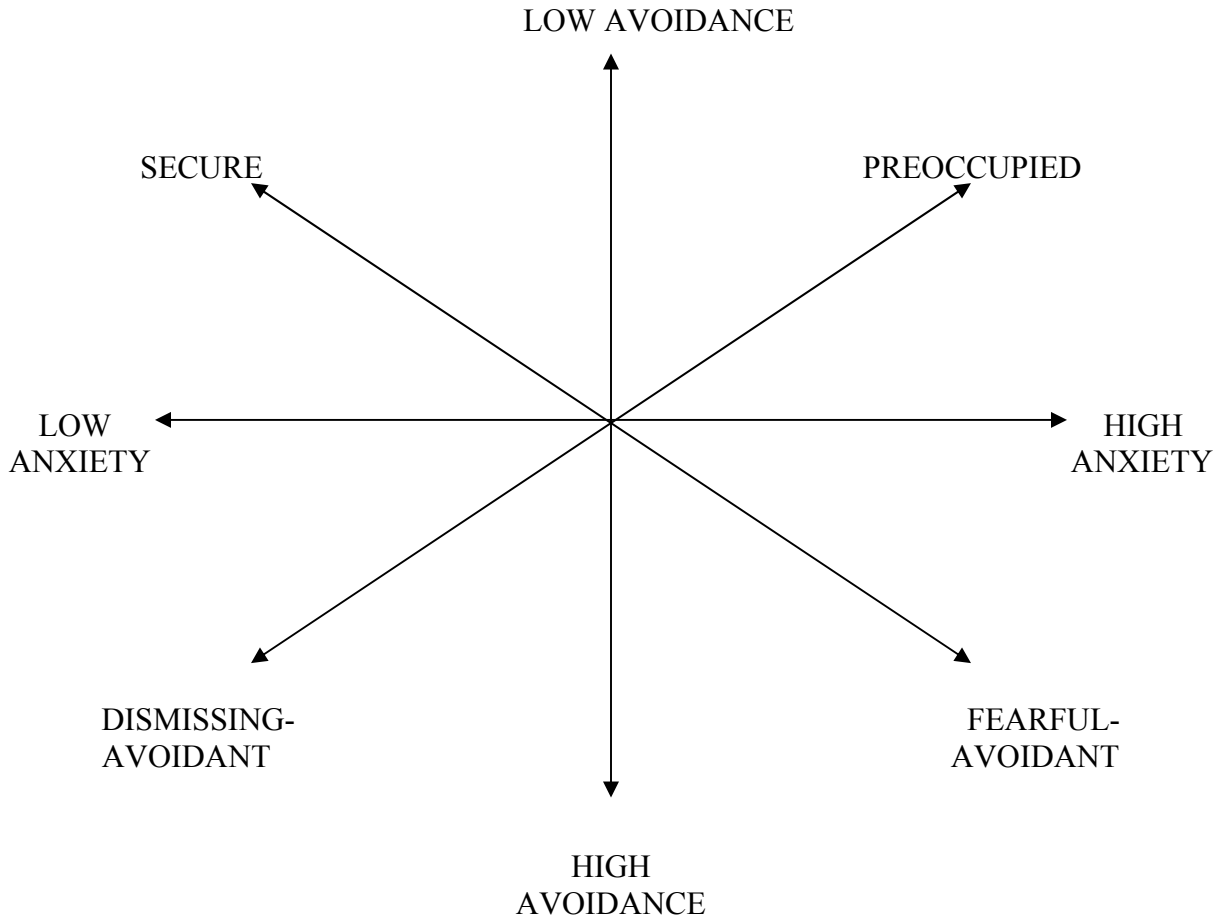

Figure 1. From "Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions," by R.C. Fraley and P.R. Shaver, 2000, *Review of General Psychology, 4(2),* 132-154. Copyright 2000 by the American Psychological Association.

As has already been stated, it has been found that those who have experienced child maltreatment tend to have difficulties in their adult relationships. For example, physical, sexual, and emotional abuse have been related to negative functioning in adult love relationships (McCarthy & Taylor, 1999). Undergraduate student victims of verbal, physical, and sexual abuse were found to use more insults and physical violence in their relationships with their romantic partners than non-abused participants (Styron & Janoff-Bulman, 1997). These disruptions in relationships point to the possible existence of insecure attachment styles in maltreated individuals. In fact, this has been supported in a number of studies comparing abused with non-abused children and adult participants. Consistently, participants who experienced abuse show more insecure attachment styles than participants who had not experienced abuse (Carlson et al., 1989; Cicchetti, 1991; McCarthy & Taylor, 1999; Muller, Lemieux, & Sicoli, 2001; Muller, Sicoli, & Lemieux, 2000; Shapiro & Levendosky, 1999; Styron & Janoff-Bulman, 1997).

Early studies looking at the relationship between child maltreatment and attachment styles in childhood have found the maltreatment group more likely to show an insecure attachment style than the non-maltreated group. Crittenden (1988) summarized her work, published in three studies of almost 300 maltreatment families and clinical observations of several hundred more, in a paper outlining five patterns of families. In the family pattern of abusing and neglecting families, Crittenden found children displayed a mixture of wariness and anger towards their mother, and chronic anxiety, due to an inability to predict their caretakers' behaviour. Carlson et al. (1989) found 12 to 16 month old physically abused, emotionally abused, or neglected children were less likely to have a secure attachment than the non-abused children. More specifically, they found 81.8% of their 22 maltreated children were classified as

having a disorganized/disoriented attachment while 52.4% of their 21 comparison children were classified as having a secure attachment. In a longitudinal study comparing physically abused, physically neglected, or emotionally maltreated children with non-maltreated controls, Cicchetti (1991) found that at 30, 36, and 48 months, the maltreated children were less likely to be secure than the non-maltreated children. The maltreated group showed high rates of disorganized and mixed insecure attachment styles indicating confusion in the children's ability to have a coherent pattern of behaviour with their attachment figure. As well, the maltreated children showed low stability in their secure attachments and high stability in their insecure attachments over time while the non-maltreated children displayed the opposite pattern.

A meta-analysis of studies using maltreated children under 48 months of age found that maltreated children were significantly more likely to have an insecure attachment than control children (Baer & Martinez, 2006). These results were based on eight studies conducted between 1988 and 2005. The analysis of these studies found that there was an 80% greater odds of having an insecure rather than secure attachment style in the maltreated sample, while only a 36% greater odds of an insecure as opposed to secure attachment style in the control group.

Studies assessing the attachment styles of previously abused adults have found similar results. In a study of university undergraduate participants, Styron and Janoff-Bulman (1997) found significantly higher rates of insecure attachment to participants' mothers, fathers, and romantic partners in verbally, physically, or sexually abused participants than in non-abused participants. McCarthy and Taylor (1999) also found a relationship between multiple abuse types (physical, sexual, and emotional abuse) and an insecure attachment style in romantic relationships. In addition, they found an insecure attachment mediated the relationship between abusive childhood experiences and difficulties in adult romantic relationships. While this study

was cross-sectional in nature, this mediation points to a possible pathway from child abuse through the development of insecure attachments to difficulties in adult romantic relationships. Similarly, Shapiro and Levendosky (1999) found that child maltreatment (physical abuse, emotional neglect, or physical neglect) had a significant negative influence on the development or maintenance of secure attachment. These authors also noted that attachment style mediated the relationship between child maltreatment and psychological distress, in a sample of adolescents. Of 66 adults having experienced psychological, physical, or sexual abuse, Muller et al. (2000) found 42% had a dismissing, 24% a secure, 21% a fearful, and 12% a preoccupied attachment style. They also found that a more negative model of self (fearful and preoccupied attachment styles) was associated with greater symptomatology of post traumatic stress disorder (PTSD). Using the same sample of adults, Muller et al. (2001) found significant correlations between negative model of self but not negative model of other with internal and external emotional and behavioural problems, anxiety, depression, self-esteem, and PTSD symptoms. They hypothesized that those with a negative model of self may have more difficulty with overall adaptive functioning leading to increased susceptibility to psychopathology while those with a negative model of other may retain their functioning through self-reliance but have more difficulty in interpersonal functioning. Most recently, Riggs and Kaminski (2010) found child maltreatment (physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect) significantly predicted adult attachment anxiety and avoidance in a sample of college students currently in a relationship.

Physical Abuse and Attachment

More specific studies have been completed focusing on the relationship between physical abuse and attachment styles. A number of studies have focused on assessing the attachment style

of physically abused children. Consistent with previously mentioned research, physically abused children tend to have higher rates of insecure attachment, most often anxious/avoidant style, and lower rates of secure attachment than non-abused children (Crittenden & Ainsworth, 1989; Finzi, Cohen, Sapir, & Weizman, 2000; Finzi et al., 2002; Finzi, Ram, Har-Even, Shnit, & Weizman, 2001). In two reviews, Crittenden (1988; Crittenden & Ainsworth, 1989) outlined two distinct patterns of childhood responses to physical abuse found in her research. One typical response involved the physically abused child becoming excessively compliant to parental requests. This behaviour likely reduced the probability of receiving abuse from parents but also may have led to the children viewing their worth as dependent on the expectations of others and a vulnerability to self-doubt when others were displeased. The second type of response to physical abuse was becoming angry and acting out against parents. This behaviour likely increased the probability of abuse and relational problems in the future, as an expectation of harm from others was learned and acted upon. However, children who acted out were likely able to develop and maintain a sense of self which the compliant children were not able to find (Crittenden, 1988; Crittenden & Ainsworth, 1989).

Additionally, a number of studies have used older children and adults as participants in this area of research. In one longitudinal study, adolescents who were victims of parental abuse had significantly lower levels of attachment to their parents than non-abused adolescents or adolescents who had witnessed physical abuse between their parents (Sternberg, Lamb, Guterman, Abbott, & Dawud-Noursi, 2005). This study also found weak attachments with mothers in the abused group, regardless of whether the perpetrator was the mother or father. A series of studies analyzed the attachment styles of abused older children in Israel, ages 6 to 13 (Finzi et al., 2000; Finzi et al., 2002; Finzi et al., 2001). In two separate samples, researchers

found 85% of physically abused children had an avoidant style of attachment using a three-category model of attachment (avoidant, anxious/ambivalent, and secure). This high rate of avoidant attachment in the physically abused group was significantly higher than the rates found in the neglected and non-abused groups. It was hypothesized that the avoidant strategy allowed children to deactivate their proximity seeking behaviours in order to avoid possible dangerous consequences (Finzi et al., 2002). The researchers also found significantly higher rates of aggressive and antisocial behaviour in the physically abused group than in the neglected and non-abused groups (Finzi et al., 2000; Finzi et al., 2001). It would appear that physically abused children learn to expect aggression from others and, therefore, respond aggressively themselves (Finzi et al., 2001). Using an adult sample, one group of researchers found their physically abused group had higher rates of insecure attachment and PTSD symptoms after witnessing the 9/11 terrorist attack in New York city than the non-abused group (Twaite & Rodriguez-Srednicki, 2004a). Researchers also found attachment style mediated the relationship between abuse and symptoms of PTSD.

Sexual Abuse and Attachment

More research has been conducted on the adult population of child sexual abuse survivors and their attachment styles than the other types of child maltreatment. In a longitudinal study of child sexual abuse victims, researchers found child sexual abuse to be associated with low levels of attachment to parents, poor parental bonding, low maternal and paternal care, and high maternal and paternal over-protection when compared to their non-abused cohorts (Fergusson, Lynskey, & Horwood, 1996). In a study analyzing the rate of PTSD symptoms due to witnessing the 9/11 terrorist attack, Twaite and Rodriguez-Srednicki (2004a) found that sexually abused participants had higher rates of insecure attachment and PTSD symptoms than non-

abused participants. In a series of studies focusing on adult survivors of child sexual abuse (Stalker & Davies, 1995; Stalker & Davies, 1998), researchers found a high rate of an unresolved attachment style, which corresponded to a disorganized/disoriented attachment style in the participants' children. More specifically, the sample of 40 sexually abused adults' children had the following proportion of attachment styles: 12.5% autonomous (children secure), 12.5% dismissing (children avoidant), 15% pre-occupied (children ambivalent), and 24% unresolved (children disorganized/disoriented). Whiffen and associates (Whiffen, Judd, & Aube, 1999) found that adult child sexual abuse survivors were more anxious about their attachment to their partners than non-survivors. They also found that intimacy with, closeness to, and anxiety about their relationship to their romantic partners moderated the relationship between an experience of child sexual abuse and depression.

Two studies analyzed the attachment styles in adults, sexually abused as children, using Bartholomew's classification system. In a sample of over 300 female undergraduate participants, researchers found the sexually abused group had less secure and more fearful attachments than the non-abused group (Roche, Runtz, & Hunter, 1999). More specifically, they found that those who had experienced intra-familial abuse had less secure and more fearful attachments than those who had experienced extra-familial abuse; the extra-familial group had more dismissing attachments than the intra-familial group. They hypothesized that intra-familial abuse might be more likely to damage both model of self and other while extra-familial abuse might only damage model of other. However, the study was cross-sectional in nature so causation cannot be determined.[2] Roche et al. (1999) also found attachment mediated the

[2] Alexander (1992) hypothesized the relationship between insecure attachment and child sexual abuse might flow in both directions. Insecure attachment may proceed and act as a risk factor for child sexual abuse. Insecure attachment may preclude the impulse control of the abusing parent or interfere with the protectiveness of the non-abusing parent. In the other direction, child sexual abuse may erode trust in a previously securely attached child.

relationship between child sexual abuse and psychological adjustment, with those who were abused by a family member being more symptomatic. In the second and more recent study (Aspelmeier, Elliot, & Smith, 2007), researchers found that adult females with a history of child sexual abuse reported significantly higher levels of dismissive, preoccupied, and fearful attachment styles than did those without a history of child sexual abuse. For both abused and non-abused women, higher levels of security and lower levels of preoccupied and fearful attachment were associated with lower levels of trauma-related symptoms. While the relationship was not as strong as hypothesized, a secure attachment style was associated with fewer trauma-related symptoms than an insecure attachment style for the abused group.

One study was found that analyzed the attachment styles for adult child sexual abuse victims using anxiety and avoidance as attachment dimensions (Swanson & Mallinckrodt, 2001). In their female sample they found higher levels of avoidance in the incest group than the extra-familial sexually abused and non-abused groups. Swanson and Mallinckrodt noted the difference between the two types of sexually abused participants might, in part, be due to higher frequency and duration of abuse for the incest group, as these variables were not controlled in the study.

Psychological Maltreatment and Attachment

A few studies were found analyzing the relationship between psychological maltreatment or emotional abuse and adult attachment styles. In a large sample of young adults, Hankin (2006) found an insecure attachment style was associated with emotional abuse. As well, an insecure attachment style, on its own, was a partial mediator for the association between depressive symptoms and emotional maltreatment. An insecure attachment style together with negative life events mediated the relationship between emotional abuse and depressive

symptoms. The relationship between a history of childhood emotional abuse and depressive symptoms in adulthood could adequately be explained by an insecure attachment style in adulthood and experiencing additional negative life events.

Varia and Abidin (1999) also found an association between psychological abuse and adult attachment style, using a three category model of attachment with a community sample of parents. Their participants were grouped into three categories. "Acknowledgers" were those who consistently reported experiences of psychological abuse, "Minimizers" were those who reported symptoms of psychological abuse but did not label themselves as abused, and "Non-Abused" were those who denied both the symptoms and the label of the psychologically abused. They found that significantly more Acknowledgers fell into the insecure attachment groups than would be expected by chance. In terms of secure attachment style, they found a continuum effect between the three groups. Eighty-one percent of the Non-Abused, 57.9% of the Minimizers, and 31.8% of the Acknowledgers reported a secure adult attachment.

Riggs and Kaminski (2010) found similar results in their study using a large sample of college students currently in dating relationships. Emotional abuse was able to uniquely predict high levels of adult attachment anxiety. Emotional abuse and emotional neglect added uniquely to the prediction of adult attachment avoidance, above and beyond other types of child maltreatment. They also found that adult attachment anxiety and attachment avoidance predicated relationship functioning and that adult attachment anxiety was a unique predictor of psychological aggression and victimization within their adult relationships.

A few theoretical papers have also been published on the relationship between emotional abuse and adult romantic relationships. In a literature review on emotional abuse, Twaite and Rodriguez-Srednicki (2004b) indicated that those experiencing emotional abuse as children tend

to experience social difficulties and problems in romantic relationships in adulthood. This may be due, in part, to victims being unable to trust others because of victims' past experiences in relationships. Hart et al. (2002) hypothesized that psychological maltreatment may be associated with all three insecure attachment styles of childhood. First, those with an ambivalent attachment style appear to have experienced inconsistent and insensitive care, which corresponds to the denying emotional responsiveness component of psychological maltreatment. Second, those with an avoidant attachment style appear to have experienced insensitive caregiving, alternating between rejecting, neglecting, and interfering, which correspond to the spurning, denying emotional responsiveness, exploiting, and corrupting forms of psychological maltreatment. Finally, those with a disorganized/disoriented attachment style appear to have experienced a confusing pattern of early consistent care and later inconsistent care, which may correspond to the spurning, terrorizing, isolating, and denying emotional responsiveness components of psychological maltreatment (Hart et al., 2002). Riggs (2010), in her theoretical paper outlining the possible process of how emotional abuse leads to insecure attachment styles, appears to agree that emotional abuse is associated with all types of insecure attachment styles. She noted that there is theoretical support for emotional abuse being associated with both high levels of attachment anxiety and avoidance.

Neglect and Attachment

Studies analyzing the relationship between neglect and attachment styles have focused on the child population. While researchers have consistently found an insecure attachment in neglected children, there appears to be some discrepancy as to the most predominant insecure attachment style. In the studies comparing older, physically abused and physically neglected children, Finzi et al. (2000; 2002; 2001) found that 73.7% of physically neglected children had

an anxious/ambivalent style of attachment. Within the physically neglected group, the rate of the anxious/ambivalent style was significantly higher than the rates of avoidant and secure attachment styles (Finzi et al., 2002). Finzi and associates also reported the physically neglected children as having lower rates of aggressive behaviour than the physically abused children (Finzi et al., 2000; Finzi et al., 2001). In a literature review on child neglect, Hildy and Wolfe (2002) reported neglect as being associated with a disorganized/disoriented attachment style. Two of the effects of neglect reported were feeling unworthy of love and an expectation that others will be unavailable or rejecting. Two other sets of researchers reported that neglected children show a predominantly anxious/avoidant style of attachment (Crittenden & Ainsworth, 1989; Erickson & Egeland, 2002). Based on their review of the literature and theory development, Crittenden and Ainsworth (1989) stated that neglected children tend to be predominantly anxious-avoidant with anxious/ambivalent being the second most common attachment style. In reviewing the data on the Minnesota Parent-Child Project of 267 children, Erickson and Egeland (2002) found two thirds of physically neglected children and nearly all of the emotionally neglected children were anxiously attached by age one. The majority of the anxiously attached children displayed an anxious/avoidant style. Erickson and Egeland (2002) described neglected children's behaviour in terms of model of self and other. Because of their past experiences, neglected children do not expect to get what they need from others or expect themselves to be effective and successful in soliciting others, so they give up trying to have their needs met. These negative expectations of self and other are reinforced, as others most often respond negatively or not at all to neglected children's withdrawn behaviour.

Crittenden (Crittenden, 1988; Crittenden & Ainsworth, 1989) outlined two distinct patterns of responding found in neglected children. Both types of responding begin with

children attempting to have their needs met through intensifying their demands. If their behaviour leads to their needs being met, the children maintain a pattern of intense, clingy, and demanding behaviour (Crittenden & Ainsworth, 1989). More likely, neglected children learn they are ineffective in communicating and getting their needs met (Crittenden & Ainsworth, 1989). This leads to decreased communication, withdrawn behaviour, and ignoring their attachment figure (Crittenden, 1988; Crittenden & Ainsworth, 1989). If the children's intensifying demands do not lead to their needs being met, two distinct patterns of behaviour emerge as possibilities. With increased mobility, one group of neglected children become uncontrolled seekers of novel experience. Due to lack of supervision and guidance, their exploration is disorganized, unfocused, and often dangerous (Crittenden, 1988; Crittenden & Ainsworth, 1989). However, the second type of response pattern involves no exploration at all. This lack of interaction with the environment, while it protects the children from danger, costs them social and cognitive growth. This extreme passivity can be considered a form of depression and is the result of a lack of awareness of the children's own potential for personal effectiveness (Crittenden, 1988; Crittenden & Ainsworth, 1989).

Child Maltreatment and Mental Health

A very important negative outcome, in the area of child maltreatment, is negative mental health effects. As we have seen in previous sections, all types of child abuse have been associated with negative mental health effects in adulthood. Many of these effects are similar across child abuse types. One purpose of the current study is to analyze how attachment styles may affect the usual pattern of negative mental health outcomes found in adult victims of child abuse. Previously cited studies analyzing the relationship between child abuse, attachment, and outcome have found a mediating or moderating effect of attachment style. In order to have a

better understanding of the relationship between attachment and adult negative, mental health outcomes, a sampling of the long term mental health effects of child abuse will be reviewed.

In general, adults who have experienced physical abuse tend to experience more mental health conditions than those who have not been abused. In a large national sample, researchers found that adults who had been physically abused as children were more likely than non-abused adults to have acquired a mental condition in adulthood, consume alcohol daily, and use a variety of substances (Thompson et al., 2004). More specifically, adults who have been physically abused as children tend to experience low self-esteem, anxiety, anger issues, depression, and substance abuse (Crosson-Tower, 2005).

Similar findings have been discovered in the area of child sexual abuse. Adults with a history of child sexual abuse experience higher rates of psychiatric symptomatology than adults from the general population (Callahan et al., 2003). More specific long-term, negative, mental health effects include depression, low self-esteem (Doxey et al., 1997), self-abusive tendencies, substance abuse (Crosson-Tower, 2005), and sexuality problems (Noll et al., 2003).

While all types of child abuse are associated with negative, long-term, mental health effects, many researchers find the effects of psychological maltreatment to be especially devastating and long lasting. Psychological maltreatment has been associated with emotional difficulties in general (Hart et al., 2002) as well as more specific mental health issues. These include antisocial functioning (Hart et al., 2002), depressive symptoms (Harper & Arias, 2004), anxiety, somatic symptoms, posttraumatic stress symptoms (Sperus et al., 2003), and low self-esteem (Morimoto & Sharma, 2004). As previously stated, all types of child abuse are associated with interpersonal difficulties of some kind. However, those who have experienced psychological maltreatment seem to be particularly prone to this type of negative outcome.

Child psychological maltreatment is associated with problems with interpersonal thoughts, feelings, and behaviours, social competency deficits (Hart et al., 2002), and interpersonal insensitivity (Morimoto & Sharma, 2004).

If children are able to physically survive the effects of neglect, they will most likely experience a number of negative mental health outcomes in adulthood. Because the development of these children may have been seriously affected by a variety of forms of neglect, adults who have experienced neglect will suffer from the long-term effects of these developmental deficits. These may occur in the areas of emotional, cognitive, social, and physical development (Crosson-Tower, 2005; Hildyard & Wolfe, 2002). Other long-term mental health effects include low self-esteem; substance abuse (Crosson-Tower, 2005); personality disorders (Hildyard & Wolfe, 2002); somatic symptoms; and symptoms of depression, anxiety, and posttraumatic stress (Spertus et al., 2003).

While this is only a brief look at the negative, long-term mental health effects of child abuse, it is apparent that having experienced child abuse has serious implications for adult victims. Continued study in this area is important in order to understand these effects more clearly and to learn ways to help victims cope better in adulthood. It is also clear that many of the negative long-term mental health effects are similar across abuse types. Child abuse in general is associated with symptoms of depression, anxiety, posttraumatic stress, interpersonal difficulties, substance abuse, and psychological symptomatology. The results of this study provide some insight into how adult attachment is related to child abuse and how the attachment model could be used in helping adult child abuse victims cope with negative mental health effects.

Hypotheses

Type of Abuse and Attachment Style

Past and current research clearly point to a relationship between child maltreatment and insecure attachment styles in childhood and adulthood. While studies involving multiple forms of abuse do not separate the results by type of child maltreatment, they provide the basis from which to develop more specific hypotheses. The importance of considering individuals experiencing multiple forms of abuse was suggested by Higgins (2003) and is indicated by the previous literature review. The studies involving maltreated children point to an increased proportion of disorganized/disoriented attachment styles in that group. As stated previously, this attachment style is associated with more severe or inconsistent types of parenting. Thus, it is likely that the studies which did not differentiate type of abuse included individuals experiencing multiple and possibly more severe forms of abuse. Therefore, it was hypothesized that more severe forms of abuse would be associated with high levels of anxiety and avoidance in adult attachment relationships, corresponding to the fearful-avoidant attachment style.

Physical abuse is consistently related to an insecure attachment style. In children, there is evidence of an increased rate of an avoidant attachment style (Finzi et al., 2000; Finzi et al., 2002; Finzi et al., 2001) with two distinct types of responding: compliant and aggressive (Crittenden, 1988; Crittenden & Ainsworth, 1989). While few published studies have analyzed the relationship between adult attachment and physical abuse, no specific insecure attachment styles had been found for adults physically abused as children at the initiation of this study. Consistency has been found between childhood and adult attachment styles (Bartholomew & Shaver, 1998; Shapiro & Levendosky, 1999) and was expected due to the theorized development of internal working models of self and other (Bowlby, 1969). Therefore, hypotheses about adult

attachment styles were made based on evidence found in childhood. The compliant and aggressive response patterns outlined by Crittenden (1988) both involve a negative view of other as does the avoidant style identified by Finzi and associates (2000; 2002; 2001). Therefore, it was hypothesized that adults physically abused as children would score highly on the avoidance scale, that is, they would show higher rates of the fearful-avoidant and dismissing-avoidant styles of attachment.

Similar to physical abuse, child sexual abuse is associated with an insecure attachment style with disruptions to the model of other or high levels of avoidance. All studies surveyed showed higher rates of insecure attachment in adults sexually abused as children than in non-sexually abused adults. Therefore, it was hypothesized that adult victims of child sexual abuse would be more likely to display fearful-avoidant and dismissing-avoidant attachment styles as already found by Roche and associates (1999). It also appears that those individuals with perpetrators inside the family are more likely to also have disruptions in their model of self or high levels of anxiety and display a fearful-avoidant attachment style (Roche et al., 1999). As already mentioned, incest or having a close relationship to one's perpetrator is associated with increased severity of abuse (Crosson-Tower, 2005; Roche et al., 1999; Swanson & Mallinckrodt, 2001). It does not appear that previous literature has addressed the effect of other forms of abuse severity on the relationship between child sexual abuse and adult attachment. Therefore, it was hypothesized that other indicators of abuse severity, such as increased frequency and duration of abuse, would also be associated with high scores on both the avoidance and anxiety adult attachment scores and a corresponding fearful-avoidant attachment style. Those with less severe experiences of child sexual abuse were expected to be more likely to report a high score on the avoidance scale and high rates of the dismissing-avoidant attachment style.

Little research has been completed analyzing the relationship between adult attachment style and psychological maltreatment. Only three studies were found testing this relationship (Hankin, 2006; Riggs & Kaminski, 2010; Varia & Abidin, 1999). While emotional abuse has been found to be associated with an insecure attachment style, no specific insecure attachment style has been identified as being most prevalent. However, Riggs and Kaminski (2010) did find that emotional abuse was associated with both attachment anxiety and avoidance. Theoretical publications are consistent with these findings. Because of victims' past negative experiences in relationships and their difficulty trusting others in adulthood (Twaite & Rodriquez-Srednicki, 2004b), it is likely that adults, psychologically maltreated as children, will display high levels of avoidance. Because of the often demeaning nature of psychological maltreatment, it was also hypothesized that psychological maltreatment would be associated with high scores on the anxiety attachment scale as well. Therefore, psychological maltreatment was predicted to be associated with a fearful-avoidant attachment style.

Research with neglected children supports the association between child neglect and an insecure attachment. However, no one specific style of insecure attachment has been consistently associated with neglect. In fact, no published research analyzing the relationship between adult attachment styles and neglect was found. Two separate groups of researchers (Crittenden & Ainsworth, 1989; Erickson & Egeland, 2002) endorse the anxious/avoidant style of attachment as most predominant in neglected children. Both patterns of childhood responding outlined earlier (Crittenden, 1988; Crittenden & Ainsworth, 1989) also point to an avoidant style of attachment as shown by their tendency to ignore their attachment figure. There is support in the research for the association of neglect with negative models of self and other (Crittenden, 1988; Crittenden &Ainsworth, 1989; Erickson & Egeland, 2002; Hildy & Wolfe, 2002). It is

possible, once again, that severity of abuse is a confounding variable in these studies and has led to mixed results. Since no specific insecure attachment styles have been found for adults neglected as children, and some consistency is expected between childhood and adult attachment styles (Bartholomew & Shaver, 1998; Bowlby, 1969; Shapiro & Levendosky, 1999), hypotheses based on studies of children were made. As a greater number of studies have found that neglected children have negative models of self and other, it was hypothesized that adults neglected as children would have high scores on avoidance and anxiety attachment scales or a fearful-avoidant attachment style.

To summarize, support for the relationship between an insecure attachment style and all forms of child abuse discussed has consistently been shown in the literature. As well, a negative model of other or high levels of avoidance also has been associated with all forms of child abuse presented. A high level of avoidance corresponds to the dismissing-avoidant and fearful-avoidant attachment styles. The association between child abuse and a high level of avoidance is not surprising considering the nature of abuse. Children learn about the nature of relationships through their interactions with their parents and other close individuals. If they are not taken care of, or are hurt by those nearest to them or by other authority figures in the community, it seems reasonable that they would expect a similar type of behaviour from other individuals in their lives. Therefore, it was hypothesized that all forms of abuse discussed would be associated with high scores on the avoidance attachment scale and the corresponding dismissing-avoidant or fearful-avoidant attachment styles. It was also hypothesized that, for all types of abuse presented, increased severity of abuse would be associated with high scores on the anxiety attachment scales in addition to high levels of avoidance. This is based on research combining types of abuse into single categories, thus measuring more severe cases. Therefore, in general, it

was expected that higher levels of abuse severity would be associated with the fearful-avoidant style of attachment while lower levels of abuse severity would be associated with the dismissing-avoidant style of attachment.

More specific hypotheses were made within each abuse type and are summarized in Table 1. Based on child attachment and physical abuse research, and consistent with the general hypothesis made above, adults, physically abused as children, were expected to show high scores on the avoidance attachment scale and the corresponding dismissing-avoidant or fearful-avoidant styles of attachment. It was expected that abuse severity would determine which classification is more likely, as stated previously. The same hypotheses apply to adult victims of child sexual abuse, however, these hypotheses are based on research with adults. Adults sexually abused as children were expected to show high scores on the avoidance attachment scale and the corresponding dismissing-avoidant or fearful-avoidant styles of attachment. Severity again was expected to determine the specific type of attachment. A history of psychological maltreatment was hypothesized to be associated with high scores on both the avoidance and anxiety attachment scales, regardless of abuse severity, corresponding to the fearful-avoidant attachment style. This was based on only a few empirical studies, theory development articles, and studies looking at the effects of psychological maltreatment on subsequent relationships. Though the research was mixed on the specific insecure attachment style found in neglected children, the association of high levels of avoidance and anxiety and neglect was supported. Therefore, adults neglected as children were expected to have high scores on the avoidance and anxiety attachment scales, regardless of abuse severity, corresponding to a fearful-avoidant attachment style.

Table 1
Type of Abuse and Attachment Style Hypotheses

Abuse Type	Secure: Low Anxiety Low Avoidance	Preoccupied: High Anxiety Low Avoidance	Dismissing: Low Anxiety High Avoidance	Fearful: High Anxiety High Avoidance
Physical			X	X
Sexual			X	X
Psych.Maltreatment				X
Neglect				X

Note. High severity for physical and sexual abuse will be associated with the Fearful attachment style.

All forms of abuse presented were hypothesized to be associated with high scores on the avoidance adult attachment scale. A history of psychological maltreatment and neglect were thought to be associated with a fearful-avoidant style of attachment in adulthood. A history of physical abuse and sexual abuse were thought to be associated with either a dismissing-avoidant or fearful-avoidant attachment style in adulthood with more severe cases tending to a fearful-avoidant style and less severe cases a dismissing-avoidant style.

This project adds to the current literature base in a number of ways. First, it analyzes the relationship between childhood neglect and adult attachment style, which has not been done previously. Second, it attempts to specify the type of insecure attachment style most likely in adult abuse victims by type of abuse. This has not yet been completed in the area of physical abuse, psychological maltreatment, and neglect. Third, it attempts to clarify the mixed results found in the area of sexual abuse by incorporating severity of abuse into the analysis. Finally, no published study has been found which attempts to compare all four types of abuse and their adult attachment styles simultaneously.

Mediating Effect of Attachment

While child abuse is associated with an insecure attachment style of some type, this relationship is not perfect. Not all child abuse victims display an insecure attachment style in adulthood or experience high levels of distressing symptoms. In fact, a number of previously mentioned studies have found a mediating or moderating effect of attachment on the relationship between child abuse and negative outcomes. McCarthy and Taylor (1999) found that an insecure attachment mediated the relationship between abusive childhood experiences and difficulties in adult romantic relationships. Similarly, Shapiro and Levendosky (1999) found attachment style mediated the relationship between child maltreatment and psychological distress. For those

having experienced physical abuse in childhood, attachment style has been found to mediate the relationship between abuse and symptoms of PTSD (Twaite & Rodriguez-Srednicki, 2004a). Also for this group, a positive view of self or low levels of attachment anxiety have been found to predict lower levels of psychopathology (McLewin & Muller, 2006). In terms of a history of child sexual abuse, attachment styles have been found to mediate the relationship between abuse and psychological adjustment (Roche et al., 1999). As well, attachment style has moderated the relationship between child sexual abuse and trauma-related symptoms (Aspelmeier et al., 2007) and child sexual abuse and depression (Whiffen et al., 1999). For those with a history of psychological maltreatment, an insecure attachment style was found to be a partial mediator for the association between depressive symptoms and abuse history (Hankin, 2006).

When child abuse victims are assessed to have a secure attachment style in adulthood, it appears that the negative outcomes typically associated with child abuse are reduced. Conversely, child abuse victims with insecure attachment styles in adulthood appear to experience higher levels of negative outcomes associated with child abuse. A mediation model of adult attachment between child abuse and adult outcomes appears to be appropriate. The literature has shown that child abuse is associated with insecure child attachment styles, insecure child attachment styles are associated with insecure adult attachment styles, and insecure adult attachment styles are associated with negative mental health outcomes in child abuse victims. Because of these relationships and previous support for the mediation model of adult attachment style, it was hypothesized that adult attachment style would mediate the relationship between a history of child abuse and negative mental health outcomes.

Control Variables

Social support is an important variable in the area of abuse and attachment. Social

support is often associated with more positive outcomes for abuse victims (Fleming, Mullen, & Bammer, 1997; Unger, 2004). For example, social support has been found to have a direct positive effect on child sexual abuse outcomes (Tremblay, Hébert, & Piché, 1999) and physical abuse outcomes (McLewin & Muller, 2006). More specifically, studies with women physically or sexually abused as children have found an association between increased social support and lower levels of depressive symptoms (Banyard, 1999; Hobfoll, Bansal, Schurg, Young, Pierce, Hobfoll, & Johnson, 2002). In addition, social support would likely influence adult attachment style as it qualifies as a corrective social experience. Positive social experiences later in life are thought to influence the early negative effect of abuse on attachment styles (Hazan & Shaver, 1994). Therefore, it is important that social support be controlled in order to discover the hypothesized effects, independent of the influence of social support.

Gender is another variable that requires inclusion in the proposed analyses. Only one study was found which analyzed gender, adult attachment and childhood abuse (Godbout, Lussier, & Sabourin, 2006). Godbout and associates found childhood sexual abuse was significantly associated with psychological distress (general psychiatric symptoms) and anxiety about abandonment in adulthood for both men and women. In addition, the researchers constructed specific structural models which highlighted both the similarities and differences in the associations between childhood abuse, adult attachment styles, and psychological distress in men and women. For both men and women, childhood sexual abuse was indirectly related to couple functioning through abandonment anxiety and psychological distress. However, abandonment anxiety was stronger in women, which led to an additional direct path from abandonment anxiety to couple functioning. In men, a history of childhood physical and psychological violence was directly related to psychological distress, which impacted on couple

functioning. This pattern was not found for women and may be partially explained by the higher frequency of physical abuse in men. For men, co-occurring traumas were directly associated with psychological distress, which impacted on couple functioning. For women, co-occurring traumas were indirectly related to couple functioning through abandonment anxiety. The authors speculated that the effect of childhood abuse on adult attachment and its subsequent effect on intimate relationships may be more important for women than for men. For men, childhood abuse may increase men's psychological distress, which then impacts their couple functioning.

Additional research strengthens the speculation that gender may be an important variable in the proposed project but does not lead to the generation of specific hypotheses. First, while some studies find no gender differences in attachment style (Lapsley, Varshney, & Aalsma, 2000; Shi, 2003), others have found females to be more secure than males (Brennan, Shaver, & Tobey, 1991; Matsuoka, Uji, Hiramura, Chen, Shikai, Kishida, & Kitamura, 2006) and males more likely than females to be dismissing while females more likely than males to be fearful (Brennan et al., 1991) using the Bartholomew adult attachment model.

Second, while some studies show that abuse outcomes do not differ depending on gender, others find significant gender differences in outcomes and abusive experiences. In terms of sexual abuse, it is well established that females are at a greater risk to be victims of sexual abuse than males (Finkelhor, 1994; Putnam, 2003; Ullman & Filipas, 2005). However, a number of studies have reported similarities in male and female responses to and experiences of child sexual abuse. As could be expected, severity of sexual abuse has been found to be a significant predictor of outcome for both genders (Heath, Bean, & Feinauer, 1996). In a study using child victims, girls were more likely to experience sexual abuse by a parent, feelings of shame, intrusive thoughts, hyperarousal, personal vulnerability, and perceive the world as a more

dangerous place than boys (Feiring, Taska, & Lewis, 1999). In this same study, boys were more likely to experience sexual abuse by a familiar person outside the family and experience more eroticism and less sexual anxiety. While both genders experience negative outcomes due to sexual abuse, boy victims may be more at risk for committing suicide than girl victims (Martin et al., 2004). In studies of adult child sexual abuse victims seeking outpatient treatment, few gender differences in the nature and extent of child sexual abuse experienced were found (Gold, Elhai, Lucenko, Swingle, & Hughes, 1998) but while women reported higher levels of raw scores on outcome measures, men reported higher levels of symptoms compared to their normative samples (Gold, Lucenko, Elhai, Swingle, & Sellers, 1999). The differences found in the proceeding sample included women being more likely to have been abused by family members than men (Gold et al., 1998) and men having higher T-scores than women on interpersonal sensitivity, depression, anxiety, phobic anxiety, and two summary scales (Gold et al., 1999). However, in a study using non-treatment seeking participants, female child sexual abuse victims were more likely than male victims to experience distress, self-blame, and PTSD symptoms (Ullman & Filipas, 2005).

Studies in other areas of abuse have focused their attention on gender comparisons as well. Studies using the 8,000 male and 8,000 female responses to the National Violence Against Women Survey have found both similarities and differences in their experiences of childhood abuse. Men were more likely than women to have experienced physical abuse (Pimlott-Kubiak & Cortina, 2003; Thompson et al., 2004). However, the experience of exposure to aggressive situations was related to psychological and physical distress in both genders at comparable levels (Pimlott-Kubiak & Cortina, 2003). Similar findings were found in a smaller sample of psychiatric patients (Shack, Averill, Kopecky, Krajewski, & Gummattira, 2004). The experience

of psychological maltreatment was found to be associated with adult anger and depressive symptoms for both men and women with women reporting higher levels of distress, shame, and depressive symptoms than men (Harper & Arias, 2004). However, in another study, verbal aggression in childhood was associated with depression, self-esteem, aggression, and interpersonal sensitivity in women but not in men (Morimoto & Sharma, 2004).

The preceding evidence points to the complexity and importance of gender in the area of abuse, attachment, and psychological outcomes. While the literature base does not allow for specific hypotheses to be made, it does support the inclusion of the variable within the current study. Therefore, gender was controlled for in the main analyses.

Method

Participants

Participants for this study were 552 female and 294 male (2 participants declined to identify their sex) university students recruited from the Introductory Psychology classes at the University of Manitoba. They received course credit for their voluntary participation. Alternative assignments were made available for students who did not wish to participate in this study. Participants were limited to those who were fluent in English, as questionnaires, written in English, were used to collect the data. Participants were also required to be 18 years of age or older, in order to give informed consent.

Procedure

Participants completed a number of questionnaires designed to tap the variables of interest. The questionnaires were administered in group settings of approximately 10 to 300 participants per session. Informed consent was obtained through participants reading and signing a consent form (Appendix A). The instructions were outlined on the consent form which

participants signed if they were willing to participate. The purpose of the study was outlined in general terms only as knowledge of exact hypotheses may have influenced the participants' responding. Participants were informed that if they chose to decline to participate or felt uncomfortable at any time during the session, they could withdraw their participation and still receive credit toward their course. No participants declined participation. Participants were identified by participant number only, making their answers completely confidential. Their names did not appear on any material other than the consent form.

After signing the consent form and receiving verbal instructions on how to complete their questionnaire package, participants completed the questionnaires outlined in the section below. Five forms of the questionnaire booklet were created in order to counterbalance the order effect of the questionnaires. For most participants, answering the questionnaires took approximately 35 minutes. Upon completion of the questionnaires, participants received a feedback handout outlining the exact nature of the study as well as contact phone numbers should they have any concerns about or were in any way emotionally affected by the study (Appendix B). This study may have reminded child abuse victims of their abusive experiences and may have caused some emotional distress. Phone numbers for counselling resource centres were given on the feedback handout and participants were encouraged to seek assistance as needed. As well, the feedback handout encouraged participants to report and provided information on reporting their experience of child abuse to the appropriate authorities, if they had not already done so.

Measures

Demographics questionnaire. Participants completed a demographics questionnaire before completing the questionnaires of interest. This provided basic information about the sample being studied and would allow for future analyses with other variables of interest.

Examples of demographic questions include age, gender, and ethnicity (Appendix C).

Experiences in Close Relationships. This measure (ECR; Brennan et al., 1998) was selected to assess the anxiety and avoidance dimensions of attachment in adulthood. Participants were asked to rate how much they agreed or disagreed with 36 statements regarding their experiences in close relationships on a seven-point scale. An example of an avoidance item is, "I prefer not to show a partner how I feel deep down." An example of an anxiety item is, "I worry about being abandoned." The full ECR can be found in Appendix D.

The ECR was developed through a factor analysis of 323 attachment related constructs found in a detailed literature review (Brennan et al., 1998). This analysis resulted in two independent factors corresponding to the avoidance and anxiety dimensions. An administration of the scale with over 1000 undergraduate students resulted in participants clustering in four groups, similar to the Bartholomew attachment types, with the two dimensions being orthogonal to one another. Eighteen items from each factor that correlated the highest with their factor were selected for the final version of the ECR. The scale originators found the avoidance scale correlated highly with other scales measuring avoidance and discomfort with closeness and the anxiety scale correlated highly with scales measuring anxiety, preoccupation with attachment, jealousy, and fear of rejection. For example, the avoidance scale correlated highly with a discomfort with closeness scale ($r = 0.86$), discomfort with disclosure scale ($r = 0.86$), avoidance of intimacy scale ($r = 0.89$), and a compulsive self-reliance scale ($r = 0.88$). The anxiety scale correlated highly with a jealousy/fear of abandonment scale ($r = 0.82$), preoccupation scale ($r = 0.88$), and anxious-clinging to partners scale ($r = 0.78$). Brennan and associates also reported high internal consistencies for both scales (avoidance alpha = 0.94 and anxiety alpha = 0.91).

A number of other authors have tested the psychometric properties of the ECR. Wei and

associates (Wei, Russell, Mallinckdrodt, & Vogel, 2007) measured the internal reliability, test-retest reliability, and construct validity of the ECR. Coefficient alphas for the two subscales ranged from 0.92 to 0.95. Test-retest reliability was found to be 0.82 for the anxiety scale and 0.86 for the avoidance scale. The anxiety scale correlated significantly with an excessive reassurance seeking scale ($r = 0.47$) and the avoidance scale correlated significantly with a loneliness scale ($r = 0.44$). Another set of researchers found similar results (Conradi, Gerlsma, van Duijn, & de Jonge, 2006). Cronbach's alphas for the two scales ranged from 0.86 to 0.94 in samples of American students, Dutch students, and the Dutch population. In the American sample, the anxiety scale correlated significantly with the need for approval scale ($r = 0.64$) and the preoccupation with relationships scale ($r = 0.88$) from the Attachment Styles Questionnaire. Also in the American sample, the avoidance scale correlated significantly with the discomfort with closeness scale ($r = 0.88$) of the Attachment Styles Questionnaire (Conradi et al., 2006).

Although a revised version of the ECR does exist (ECR-R), Fraley, Waller, and Brennan (2000) concluded that the ECR should be preferred over the ECR-R. The authors compared the psychometric properties of four commonly used attachment scales using item response theory. They found that, out of the ECR, the ECR-R, the Adult Attachment Scales, and the Relationship Styles Questionnaire, the ECR had the strongest psychometric properties.

In the current study, as has recommended by the scale creators, a total score for each dimension was created by calculating the mean score for the questions designed to assess that dimension after reversal of the negatively worded questions. This resulted in a possible range for scores from one to seven for each dimension. A measure of internal consistency was calculated resulting in a Cronbach's alpha of 0.91 for the entire scale, 0.92 for the avoidance dimension and 0.90 for the anxiety dimension.

Multidimensional Scale of Perceived Social Support. A measure of social support was selected in order to control for the likely confounding nature of social support in the analysis of child abuse and adult attachment style. Social support has been associated with positive outcomes for child abuse victims (Stevenson, 1999) and, therefore, should be controlled for in the planned analyses.

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farely, 1988) was selected because of its strong psychometric properties. Factor analysis was used to create this 12-item scale, which assesses social support from family, friends, and significant others. Participants rank their level of agreement to statements like, "My family really tries to help me," "I can count on my friends when things go wrong," and "I have a special person who is a real source of comfort to me" on a seven-point scale. (The entire scale can be found in Appendix E). Initial internal reliability was found to be strong with Cronbach's alphas ranging from 0.85 to 0.91 for the three factors and the total scale. Test-retest reliabilities were also high, ranging from 0.72 to 0.85 (Zimet et al., 1988).

Additional studies have been completed analyzing the psychometric properties of the MSPSS. One study assessed these properties with three diverse samples; women in their third trimester of pregnancy, adolescents living abroad, and paediatric residents (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). They found Cronbach's alphas for the three factors and total score for all three samples ranged from 0.81 to 0.92. In support of construct validity, they found that married residents reported significantly greater support from a significant other on the scale than non-married residents. Kazarian and McCabe (1991) tested the scale using university students and adolescent inpatients at a psychiatric facility. For both samples, their factor analyses supported the three factors found in the original sample. For the university sample,

Cronbach's alphas ranged from 0.79 to 0.94 for the three factors and the total score and appropriate correlations to the Social Support Behaviours Scale. For the adolescent sample, Cronbach's alphas ranged from 0.80 to 0.91 for the three factors and the total score. Dahlem, Zimet, and Walker (1991) found Cronbach's alphas ranging from 0.90 to 0.95 with no significant correlations with the Marlowe-Crowne Social Desirability Scale in college students. In a sample of outpatients diagnosed with schizophrenia, bipolar disorder, or depression, the factor structure was supported and Cronbach's alphas ranged from 0.77 to 0.95 (Cecil, Stanley, Carrion, & Swann, 1995). Finally, Canty-Mitchell and Zimet (2000) tested the scale on a sample of urban adolescents and found it to have a grade four reading level, three factors identical to the original study, and coefficient alphas ranging from 0.89 to 0.93.

In the current study, only the total score was used. It was created by calculating the mean of all items in the scale. This resulted in a range of possible scores from one to seven. The Cronbach's alpha for the current study was found to be 0.94.

Symptom Checklist-90-Revised. This scale is a 90-item self-report symptom inventory, which was developed in 1975 by Leonard R. Derogatis (Derogatis & Savitz, 1999). It is used to measure psychological symptoms and distress of community, medical, and psychiatric respondents (Derogatis, 2000). Four formal norms have been developed: psychiatric outpatient, psychiatric inpatient, community non-patient, and community adolescent (Derogatis & Savitz, 1999). It consists of nine dimensions and three global indices (Derogatis, 2000). The Global Severity Index (GSI) is a measure of psychological distress and provides information on the number of distress manifestations and the intensity of distress. The Positive Symptom Distress Index (PSDI) measures distress intensity only, adjusting for the number of different symptoms. The Positive Symptom Total (PST) measures the number of different symptoms endorsed to any

degree (Derogatis & Savitz, 1999). The Symptom Checklist-90-Revised (SCL-90-R) has been found to have a grade six reading level (Derogatis, 2000). Participants read a list of symptoms and rate how much that problem has distressed or bothered them in the past seven days, from "not at all" to "extremely." (Due to copyright issues, sample questions and a copy of the questionnaire cannot be provided.)

Extensive research has been completed using the SCL-90-R over the past 30 years. A review of this literature found internal consistency reliabilities ranging from 0.77 to 0.90, and test-retest reliabilities, with a one-week interval, ranging from 0.80 to 0.90 (Derogatis, 2000). Convergent-discriminant validity has been found with such measures as the Minnesota Multiphasic Personality Index, the Middlesex Hospital Questionnaire, the Hamilton Rating Scale for Depression, and the General Hospital Questionnaire. As well, over 1000 studies have been published demonstrating its high sensitivity to a broad range of clinical effects supporting its predictive or criterion-oriented validity (Derogatis, 2000). For example, one study found internal consistency alphas for the subscales ranging from 0.70 to 0.89 (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). Test-retest reliabilities, over a 10-week period, ranged from 0.68 to 0.83 for the subscales and 0.84 for the total score. In addition, their participants showed marked improvement on the scale after 20 sessions of psychological treatment with most participants displaying this change after only 10 sessions.

The SCL-90-R has already been used as an outcome variable within child abuse research. In a sample of inpatient women, those who had experienced sexual abuse or physical abuse scored significantly higher on the GSI than those not reporting abuse (Bryer, Nelson, Miller, & Krol, 1987). As well, women who had experienced both sexual and physical abuse scored significantly higher on the GSI than those who had experienced one form of abuse. In addition,

a discriminant function analysis with child abuse as the independent variable and SCL-90-R scores as the dependent variables was able to correctly identify 72.7% of participants as abused or non-abused. Similar results were found in a male sample of adult psychiatric outpatients (Swett, Surrey, & Cohen, 1990). The non-abused group scored lowest, the physically abused group usually second lowest, the sexually abused group often second highest, and the physically and sexually abused group the highest on the GSI and many of the subscales. In addition, a probit regression found that the GSI was able to correctly identify abused versus non-abused participants 68% of the time (Swett et al., 1990). In a sample of adolescent child abuse victims, the sexual abuse group had higher GSI scores than the neglect group and the non-maltreatment group, and the physical abuse group and the neglect group had higher GSI scores than the non-maltreatment group (Williamson et al., 1991). In a sample of adolescents, Cavaiola and Schiff (2000) found that their abused group, consisting of physically and sexually abused adolescents seeking inpatient treatment for chemical dependency, scored significantly higher on all subscales of the SCL-90-R than non-abused chemically dependent adolescents in the same program and a community sample. Finally, adults recruited from a university sample, an outpatient sample and an inpatient sample, with a history of sexual abuse were found to have higher scores on the GSI and a number of subscales than those who were not sexually abused (Steel, Sanna, Hammond, Whipple, & Cross, 2004). As well, higher GSI scores were associated with a higher number of offenders and longer duration of abuse.

In the current study, only the GSI score was used as a measure of psychological symptoms. This is score is created by calculating the mean of all 90 questions on the scale resulting in a possible range of scores from 1 to 5. The internal reliability of the SCL-90-R in the current study was found by to be quite high indicated by a Cronbach's alpha of 0.97.

Rosenberg Self-Esteem Scale. Self-esteem was used as a second measure of child abuse outcome. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is a 10-item, extensively used, measure of self-esteem. Participants are asked to rate their agreement to the statements on a four-point scale ranging from strongly agree to strongly disagree. Examples of items include, "I feel I have a number of good qualities," and "At times I think I am no good at all." The entire scale can be found in Appendix F. The title of the scale was changed in order to reduce response bias by participants.

A large number of studies have been completed analyzing the psychometric properties of the RSES. In terms of construct validity, the RSES has correlated with a number of psychological outcomes that would be expected based on theory. For example, the RSES correlated with depressive affect (r = -0.48, Hojat & Lyons, 1998; r = -0.301, Rosenberg, 1979; r = -0.58, Rosenberg, Schooler, & Schoenbach, 1989), anxiety (r = -0.44, Hojat & Lyons, 1998; r = -0.485; Rosenberg, 1965), and loneliness (r = -0.49, Hojat & Lyons, 1998). Those with high self-esteem on the RSES were also found to be more likely to engage in extracurricular activities and act as a social leader (Rosenberg, 1979). Many studies have also shown that the RSES is a reliable measure. In an early study, using a large sample of adolescents, Rosenberg (1965) found an internal consistency value of 0.93. In a sample of female medical and health professional students, the alpha coefficient was 0.78 and the 2-week test-retest reliability was 0.72 (Hojat & Lyons, 1998). In a sample of adults with severe mental illness, Cronbach's alpha was found to be 0.84 with a 2-week test-retest reliability of 0.80 (Salyers, McHugo, Cook, Razzano, Drake, & Muesser, 2001).

The RSES has also been extensively used within the child abuse research area. A number of recent studies will be summarized as examples. In a study of older adults' mental health,

researchers found an interaction between a history of child abuse and self-esteem, as measured with the RSES, in that abuse had a more negative impact on internalizing disorders for those with lower self-esteem than those with higher self-esteem (Sachs-Erisson et al., 2010). Chiung-Tao Shen (2009) found that Taiwanese college students who had experienced childhood physical maltreatment and were exposed to interparental violence had significantly lower self-esteem than those students who had experienced no childhood abuse or only one of the types studied. In addition, the experience of this "dual abuse" was found to predict self-esteem even when controlling for a number of confounding variables. Somewhat related to the current topic, Chiung-Tao Shen also found that both parental and peer relationship quality partially mediated the relationship between experience of abuse and self-esteem. Using the RSES, Finzi-Dottan and Karu (2006) found self esteem to be associated with a history of emotional abuse in childhood in a sample of Israeli undergraduate students. In addition, using structural equation modeling, they found that self-esteem mediated the relationship between a history of childhood emotional abuse and psychopathology in adulthood. In a sample of women from Turkey, Sahin and associates (2010) found a significant relationship between self-esteem and a history of childhood physical or emotional abuse. And finally, in a clinical sample of Israeli adolescents in a residential treatment centre with histories of familial abuse and neglect, self-esteem was positively associated with academic adjustment (Lipschitz-Elhawi & Itzhaky, 2005).

In accordance with Rosenberg's instructions (1969), a total self-esteem score was created by calculating the mean of all items, after reversing negatively worded questions. This resulted with a possible range of scores from one to four. The Cronbach's alpha for the current study was found to be 0.89.

Comprehensive Child Maltreatment Scale. While some question the accuracy of using

a self-report measure in assessing a history of child abuse in adults, it continues to be an important and commonly used method to access this information. As mentioned previously, child abuse is seriously underreported. Therefore, relying on reported cases of abuse would not provide a complete understanding of the research questions for this population. Hardt and Rutter (2004) researched the various forms of assessing child abuse history and found that retrospective recall in adult life of adverse experiences in childhood is sufficiently valid for research purposes. The Comprehensive Child Maltreatment Scale (CCMS) assesses the history of physical abuse, psychological maltreatment, witnessing violence, sexual abuse, and neglect resulting in a continuous score of abuse severity for total abuse and for each of the trauma subtypes (Higgins & McCabe, 2001). The use of a continuous measure allows for a measure of abuse severity (Higgins & McCabe, 2001) and reduces random error, systematic error, and response error (Hulme, 2004). The CCMS asks participants to rate how frequently they have experienced a variety of abusive experiences from "never or almost never" to "very frequently" by their mother, father, or other. Some examples include, "Severely hurt you (requiring medical attention)," "Shut you in a room alone for an extended period of time," and "Forced you to watch others having sex." The entire scale can be found in Appendix G. The title of the scale was changed in order to reduce response bias by participants. Also, the format of the questionnaire was changed to allow for ease of data collection.

While the CCMS has not received much attention in the research, the initial study by Higgins and McCabe (2001) shows promising psychometric results. Their Cronbach's alphas ranged from 0.66 for the physical abuse subscale to 0.93 for the total score. Test-retest reliability scores, after a six to eight week period, ranged from 0.62 for the neglect subscale to 0.95 on the sexual abuse subscale. Concurrent and criterion related validity was assessed comparing the

CCMS to the Child Abuse and Trauma Scale. The total scores correlated significantly at 0.86 and the sexual abuse subscales at 0.87. While more research is needed, the ability of the CCMS to measure multiple types of abuse, using a continuous score, and having promising psychometric properties made it an ideal choice for this project.

A number of scores were calculated from the items of the CCMS. A physical abuse score, sexual abuse score, psychological maltreatment score, and neglect score were created by summing the relevant items of the CCMS. The total abuse score was the sum of all the abuse type scores used in the current study. Because each abuse type had a different number of relevant questions, each score had a different possible range. The physical abuse score could range from 9 to 45, sexual abuse from 31 to 155, psychological maltreatment from 9 to 45, neglect from 6 to 30, and total abuse from 57 to 285. Cronbach alpha's were calculated for all scores in the current study. The Cronbach's alpha for the physical abuse score and neglect were only moderately strong at 0.75 and 0.71 respectively. The sexual abuse score, psychological maltreatment score, and the total score showed stronger internal consistency with Cronbach alpha's of 0.92, 0.84, and 0.90 respectively.

Results

Preliminary Analysis

Data cleaning procedures. The data was checked for errors and missing values by creating and reviewing the frequency tables for each variable. All questionnaires with errors were checked by hand. Data was corrected or removed as appropriate and as outlined below. The data was also checked for response sets or patterns of responding, such as selecting the same answer for a whole questionnaire. Those with significant response sets on vital scales were removed (6 participants).

The ECR, MSPSS, SCL-90, SRS, and CES measure involved calculating a composite score or scores based on responses to multiple questions. If participants had fewer than 20% of their responses missing for the ECR, MSPSS, SCL-90 and SRS, the missing data was replaced with the mean of the answered questions. If participants had more than 20% of their responses missing for the same questionnaires, their total for that questionnaire was not calculated. If participants had fewer than 20% of their responses missing for the CES, the missing data was replaced with a 1, indicating no abuse. One participant had more than 20% of her responses missing on the CES. Given the importance of that questionnaire to the analyses, all of those participant's responses were removed from the study.

Data screening procedures.

Outliers. Multivariate outliers were analyzed by entering all of the variables of interest as independent variables, regressing on subject number as the dependent variable, and saving the Mahalanobis distance (Tabachnick & Fidell, 2001). Mahalanobis distance is a chi-square value and was compared to the critical value. A dummy variable was then created to code the participant as a multivariate outlier. The independent variables were then regressed against this dummy variable to detect on which variables the participants were outliers. These values were then checked for errors and multivariate outlier cases were deleted if no errors were found. This procedure was repeated until no outliers were detected. A total of 34 cases were removed.

Observations with z-scores larger than |3.29| were identified as univariate outliers. All outliers were checked for errors. Outliers in the abuse variables were kept, due to the high level of expected skew on those variables. Physical abuse had 12 outliers, psychological maltreatment had 8 outliers, neglect had 19 outliers, sexual abuse had 8 outliers, and total abuse had 7 outliers. For the other variables, the univariate outliers were Windsorized. This was done by replacing

the outlying data with non-outlying values while retaining the order of the outliers (Sexton, Norton, Walker, & Norton, 2003). The avoidance variable had 1 outlier, the MSPSS variable had 13 outliers, the GSI variable had 5 outliers, and the SRS variable had 3 outliers. These outliers were Windsorized, as described above.

Normality. The assumption of normality was analyzed by calculating the skew for each variable involved in the subsequent regression analyses. Due to the nature of the abuse variables, a high level of skew was detected. Non-nominal variables whose skew/SE skew was greater than |5.0| were transformed appropriately. Taking the cube of MSPSS corrected its skew. Taking the logarithm of psychological maltreatment corrected its skew. The inverse of physical abuse, sexual abuse, neglect, and total abuse were calculated but this transformation was not sufficient to adequately correct their skew.

Descriptive statistics. In order to better understand the sample used in this study, a number of descriptive statistics were collected. Demographic statistics can be found in Table 2. The majority of the participants in this sample were female (65.6%), 18 to 19 years old (61.1%), single (76.6%), and in their first year of university (73.3%). Their families of origin tended to earn between $40,000 and $100,000 annually (52.2%), with both fathers (64.9%) and mothers (67.1%) having some post-secondary education.

Table 2
Demographic Descriptive Frequencies and Percentages

Variable							
Sex	Female	Male					
	530 (65.6%)	276 (34.2%)					
Age	18-19	20-22	23-25	25-30	30-35	35-40	Over 40
	493 (61.1%)	208 (25.8%)	48 (5.9%)	30 (3.7%)	11 (1.4 %)	11 (1.4 %)	6 (0.7%)
Marital Status	Single	Married/ CommonLaw	Separated/ Divorced	Other			
	619 (76.6%)	53 (6.6%)	8 (1.0%)	128 (15.8%)			
University Year	1	2	3	4	Other		
	592 (73.3%)	118 (14.6%)	52 (6.4%)	25 (3.1%)	21 (2.6%)		
Income	<$10,000	$10-39,000	$40-69,000	$70-99,000	>$100,000		
	60 (7.4%)	134 (16.6%)	240 (29.7%)	182 (22.5%)	159 (19.7%)		
Father's Education	Some Elementary	Some High School	High School Graduate	Some Secondary	College Diploma	University Degree	Graduate School
	24 (3.0%)	97 (12.0%)	161 (19.9%)	125 (15.5%)	132 (16.3%)	213 (26.4%)	52 (6.4%)
Mother's Education	Some Elementary	Some High School	High School	Some Secondary	College Diploma	University Degree	Graduate School
	18 (2.2%)	57 (7.1%)	190 (23.5%)	125 (15.5%)	151 (18.7%)	225 (27.8%)	40 (5.0%)

Note. Total *n*'s vary due to missing data.

Descriptive statistics for the variables of interest can be found in Table 3. They indicate that the participants rated themselves as having low to moderate levels of attachment avoidance and attachment anxiety, moderately high levels of social support and self-esteem, and few psychological symptoms. In terms of abuse, this sample experienced low levels of physical abuse, neglect, and sexual abuse and a low to moderate level of psychological maltreatment. Table 4 provides the frequency of participants that endorsed no abuse and some level of abuse for the various abuse types. However, it is important to note that these frequencies, except for possibly sexual abuse, do not represent the prevalence of abuse in this sample. The questions included in the subscales for physical abuse, psychological maltreatment, and neglect include items that could be experienced by those from a non-abused population. It is the accumulation and severity of these experiences that would constitute abuse for those types. Because subsequent analyses require continuous variables with a focus on severity levels, categorizing our sample as abused or not abused was not necessary.

Table 3
Descriptive Statistics for the Variables of Interest

Variable	*n*	Min	Max	*M*	*SD*	Skew
Avoidance	800	1.00	6.30	2.91	1.05	0.279
Anxiety	800	1.00	6.17	3.12	1.08	0.040
Social Support	804	1.53	7.00	5.55	1.22	-1.33
GSI	806	0.00	2.44	0.707	0.519	0.993
Self-Esteem	775	1.07	4.0	3.02	0.595	-0.557
Physical Abuse	806	9.00	34.00	10.91	2.79	2.52
Psych. Maltreatment	806	9.00	39.00	15.66	5.22	1.21
Neglect	804	6.00	26.00	7.21	2.28	2.74
Sexual Abuse	805	31.00	134.00	31.84	4.49	15.76
Total Abuse	803	57.00	235.00	68.87	11.73	4.53

Note. The following are the values for each variable which indicate no endorsement of that variable: Avoidance = 1, Anxiety = 1, Social Support = 1, GSI = 0, Self-Esteem = 1, Physical Abuse = 9, Psychological Maltreatment = 9, Neglect = 6, Sexual Abuse = 31, Total Abuse = 55.

Table 4
Abuse Types Frequencies and Percentages

Abuse Variable	No Abuse	Some Abuse
Physical Abuse	367, 45.4%	439, 54.6%
Psychological Maltreatment	66, 8.2%	740, 91.8%
Neglect	514, 63.6%	290, 36.4%
Sexual Abuse	693, 85.8%	112, 14.2%

Note. Total *n*'s vary due to missing data.

In order to check the relationship between the variables, a correlation matrix was constructed, which can assess the level of multicollinearity (Table 5). Many correlations were significant, at the 5% level of significance, however, there were no signs of multicollinearity, evidenced by no large *r* values between independently created variables. (Total abuse is a composite score of the other specific abuse measures.) The control variables (sex and social support) were significantly correlated with the attachment variables (attachment avoidance and attachment anxiety) except for the relationship between sex and attachment anxiety. This provided support for including them as control variables in our analyses, as they show some relationship to the attachment variables. The abuse variables were all significantly correlated with each other with *r*'s ranging from .201 to .530 ($p < .001$). Moderate associations between the abuse types could reduce the confidence of any associations between abuse type and adult attachment type found. Pure abuse types (participants indicating one type of abuse only) were identified in an attempt to address this issue; however, this resulted in too few cases to perform the planned analyses. Therefore, it was necessary to include other abuse variables as controls for the regression analyses.

Table 5
Correlations of Variables of Interest

Variable	Anxiety	Sex	Social Support	GSI	Self-Esteem	Physical Abuse	Psych. Mal.	Neglect	Sexual Abuse	Total Abuse
Avoid.	$r = .211$ $p < .001$ $n = 800$	$r = .083$ $p = .019$ $n = 798$	$r = -.292$ $p < .001$ $n = 796$	$r = .237$ $p < .001$ $n = 798$	$r = -.252$ $p < .001$ $n = 768$	$r = .137$ $p < .001$ $n = 798$	$r = .072$ $p = .043$ $n = 798$	$r = .066$ $p = .062$ $n = 796$	$r = .086$ $p = .015$ $n = 797$	$r = .108$ $p = .002$ $n = 795$
Anxiety	--	$r = -.055$ $p = .124$ $n = 798$	$r = -.112$ $p = .002$ $n = 796$	$r = .475$ $p < .001$ $n = 798$	$r = -.358$ $p < .001$ $n = 768$	$r = .160$ $p < .001$ $n = 798$	$r = .273$ $p < .001$ $n = 798$	$r = .107$ $p = .003$ $n = 796$	$r = .003$ $p = .937$ $n = 797$	$r = .205$ $p < .001$ $n = 795$
Sex		--	$r = -.185$ $p < .001$ $n = 802$	$r = -146$ $p < .001$ $n = 804$	$r = .016$ $p = .654$ $n = 773$	$r = .041$ $p = .247$ $n = 804$	$r = -.018$ $p = .605$ $n = 804$	$r = .086$ $p = .014$ $n = 802$	$r = -.049$ $p = .164$ $n = 803$	$r = -.002$ $p = .960$ $n = 801$
Social Support			--	$r = -.177$ $p < .001$ $n = 802$	$r = .204$ $p < .001$ $n = 771$	$r = -.205$ $p < .001$ $n = 802$	$r = -.196$ $p < .001$ $n = 802$	$r = -.183$ $p < .001$ $n = 800$	$r = -.142$ $p < .001$ $n = 801$	$r = -.243$ $p < .001$ $n = 799$
GSI				--	$r = -.454$ $p < .001$ $n = 774$	$r = .291$ $p < .001$ $n = 804$	$r = .397$ $p < .001$ $n = 804$	$r = .251$ $p < .001$ $n = 802$	$r = .165$ $p < .001$ $n = 803$	$r = .423$ $p < .001$ $n = 801$
Self-Esteem					--	$r = -.121$ $p = .001$ $n = 773$	$r = -.183$ $p < .001$ $n = 773$	$r = -.060$ $p = .097$ $n = 771$	$r = -.052$ $p = .152$ $n = 772$	$r = -.170$ $p < .001$ $n = 770$
Physical Abuse						--	$r = .530$ $p < .001$ $n = 806$	$r = .391$ $p < .001$ $n = 804$	$r = .387$ $p < .001$ $n = 805$	$r = .766$ $p < .001$ $n = 803$
Psych. Mal.							--	$r = .430$ $p < .001$ $n = 804$	$r = .201$ $p < .001$ $n = 805$	$r = .805$ $p < .001$ $n = 803$
Neglect								--	$r = .330$ $p < .001$ $n = 803$	$r = .648$ $p < .001$ $n = 803$
Sexual Abuse									--	$r = .655$ $p < .001$ $n = 803$

The correlations (Table 5) allow for a preliminary review of the hypotheses (Table 1). It was hypothesized that all abuse measures would significantly predict the level of attachment avoidance. At the 5% level of significance, physical abuse, $r = .137$, $p < .001$, sexual abuse, $r = .086$, $p = .015$, and psychological maltreatment, $r = .072$, $p = .043$, were significantly correlated with attachment avoidance. However, neglect approached but was not significantly correlated with attachment avoidance, $r = .066$, $p = .062$. It was hypothesized that psychological maltreatment and neglect would and physical and sexual abuse would not significantly predict the level of attachment anxiety, as severity is not controlled in this situation. Psychological maltreatment, $r = .273$, $p < .001$, and neglect, $r = .107$, $p = .003$, were, in fact, correlated with attachment anxiety. While sexual abuse was not significantly correlated with attachment anxiety, $r = .003$, $p = .937$, physical abuse was correlated with attachment anxiety, $r = .160$, $p < .001$.

Type of Abuse and Attachment Style

Regression Analyses. In order to test the relationship between each abuse type and the adult attachment styles, including the control variables of sex and social support, a number of regression analyses were completed. All tests were conducted using the 5% level of significance. All forms of abuse presented were hypothesized to be associated with high scores on the avoidance adult attachment scale. A history of psychological maltreatment and neglect were thought to be associated with high scores on the anxiety adult attachment scale. A history of physical abuse and sexual abuse were thought to be associated with the anxiety adult attachment scale only in severe cases (Table 1). Consistent with these hypotheses, it was predicted that all abuse types would significantly predict attachment avoidance and only

psychological maltreatment and neglect would significantly predict attachment anxiety as severity is not controlled in these analyses.

Testing regression assumptions. The regression assumption requiring assessment included normality, linearity, homoscedasticity of the variables, independence of errors, multicollinearity, and singularity.

The normality assumptions were tested in the data screening procedures section. Because of the failure to meet this assumption, regression analyses were completed with both the transformed variables and the non-transformed variables. Except in the case of sexual abuse in one of its analyses, the analyses using the non-transformed variables were the same as those using the transformed variables. It is important to note that the transformed variables were not able to adequately correct the normality issue. However, based on the central limit theorem and the large sample size of approximately 789, depending on the analysis, the failure to meet this assumption should have little impact on the results. Robustness studies have found that violations to the normality assumption have inconsequential effects on the accuracy of the probability statements of the tests being used (Glass & Hopkins, 1996). The central limit theorem states the sampling distribution of means rapidly approaches a normal distribution as *n* increases, regardless of the shape of the parent population (Glass & Hopkins, 1996). In addition, it has been recommended that classical tests be preferred over nonparametric tests, as classical tests are more powerful and that, for moderate departures from normality, traditional *t* and *F* tables are sufficiently close for most practical purposes (Dixon & Massey, 1983). Considering no meaningful differences were found between the transformed and non-transformed variables in most cases, the failure of the transformations to adequately correct the skew, the large *n* of the

sample, the central limit theorem, and the power of regression methods, only the analyses using the non-transformed variables will be reported.

The assumption of linearity was tested by creating bivariate scatterplots between each combination of continuous independent and dependent variables. The desired oval shape of the distributions was not found, as most of the variables are not normal. However, there was no evidence of curvilinear relationships between the variables.

The remainder of the regression assumptions were met. Homoscedasticity or homogeneity of variance was tested by plotting the residual scores with the predicted scores for each analysis. The scatterplots indicated that this assumption was adequately met. The independence of errors was assessed by analyzing the Durbin-Watson statistic for each regression analysis. Values ranging from 1.5 to 2.5 indicate no autocorrelation in residual scores. All regression analyses met this assumption. Finally, multicollinearlity and singularity were tested by calculating the Tolerance statistic for each regression analysis. A Tolerance value <.01 to .001 indicates singularity and a value of <.20 to .25 indicates multicollinearity. All regression analyses met the multicollinearity and singularity assumptions.

Regression analyses including control variables. In order to test the main hypotheses, regression analyses were completed using attachment avoidance and attachment anxiety as dependent variables. In the first step of each analysis, the control variables of sex and social support were entered. In the second step of each analysis, the abuse type of interest was entered.

Attachment avoidance. It was hypothesized that all abuse types would be able to significantly predict attachment avoidance above and beyond the variance predicted by the control variables. The final regression model including sex, social support, and physical abuse was statistically significant, $F(3, 788) = 25.360$, $p < .001$, $R^2 = .088$. The additional variance

explained by physical abuse, added after the control variables, was also significant, $F(1, 788) = 4.926$, $p = .027$, $R^2change = .006$. Both social support, $r_{a(b.c)} = -0.254$, $p < .001$, and physical abuse, $r_{a(b.c)} = 0.076$, $p = .027$ were significant individual predictors of attachment avoidance. The regression model including sex, social support, and psychological maltreatment was statistically significant, $F(3, 788) = 23.649$, $p < .001$, $R^2 = .083$. However, the additional variance explained by psychological maltreatment, entered after the control variables, was not significant, $F(1, 788) = 0.215$, $p = .643$. Only social support, $r_{a(b.c)} = -0.267$, $p < .001$, was a significant individual predictor of attachment avoidance in this model. The regression model including sex, social support, and neglect was statistically significant, $F(3, 787) = 23.315$, $p < .001$, $R^2 = .082$. However, the additional variance explained by neglect in the second step of the model was not significant, $F(1, 786) = 0.113$, $p = .737$. Again, only social support, $r_{a(b.c)} = -0.268$, $p < .001$ was a significant individual predictor of attachment avoidance. The regression model including sex, social support, and sexual abuse was statistically significant, $F(3, 787) = 24.176$, $p < .001$, $R^2 = .084$. The addition of sexual abuse, however, did not add significantly to the explained variance in the second step, $F(1, 787) = 1.838$, $p = .176$. Again, only social support, $r_{a(b.c)} = -0.265$, $p < .001$ was a significant individual predictor of attachment avoidance.

Attachment anxiety. It was hypothesized that only psychological maltreatment and neglect would be able to significantly predict attachment anxiety above and beyond the variance predicted by the control variables. The regression model including sex, social support, and physical abuse was statistically significant, $F(3, 788) = 10.443$, $p < .001$, $R^2 = .038$. The additional variance explained by physical abuse, added after the control variables, was also significant, $F(1, 788) = 15.186$, $p < .001$, $R^2change = .019$. Social support, $r_{a(b.c)} = -0.097$, $p = .005$, sex, $r_{a(b.c)} = -0.080$, $p = .022$, and physical abuse, $r_{a(b.c)} = 0.136$, $p < .001$ were significant

individual predictors of attachment anxiety. The regression model including sex, social support, and psychological maltreatment was statistically significant, $F(3, 788) = 23.539$, $p < .001$, $R^2 = .082$. The additional variance explained by psychological maltreatment, entered in the second step of the regression, was also significant, $F(1, 788) = 53.702$, $p < .001$, $R^2change = .063$. Both social support, $r_{a(b.c)} = -0.075$, $p = .029$, and psychological maltreatment, $r_{a(b.c)} = 0.250$, $p < .001$ were significant individual predictors of attachment anxiety. The regression model including sex, social support, and neglect was statistically significant, $F(3, 786) = 7.283$, $p < .001$, $R^2 = .027$. The additional variance explained by neglect, after social support and sex were entered into the equation, was also significant, $F(1, 786) = 6.823$, $p = .009$, $R^2change = .008$. Social support, $r_{a(b.c)} = -0.107$, $p = .002$, sex, $r_{a(b.c)} = -0.082$, $p = .020$, and neglect, $r_{a(b.c)} = 0.092$, $p = .009$ were significant individual predictors of attachment anxiety in this model. The regression model including sex, social support, and sexual abuse was statistically significant, $F(3, 787) = 5.351$, $p = .001$, $R^2 = .020$. The addition of sexual abuse, however, did not add significantly to the explained variance in the second step of the model, $F(1, 787) = 0.230$, $p = .632$. Both social support, $r_{a(b.c)} = -0.129$, $p < .001$, and sex, $r_{a(b.c)} = -0.080$, $p = .023$ were significant predictors of attachment anxiety.

Regression analyses including control variables and other abuse types. Due to the high level of correlation between the abuse types and the low number of pure abuse type cases, the previous regression analyses were completed including the other abuse types as control variables. For these analyses, the variables were entered in three steps. In the first step the control variables of sex and social support were entered. In the second step, the control abuse types were entered. The abuse type of interest was entered in the final step. While the order in

which the variables were entered varied depending on the abuse type of interest, the final model for each of the analyses included the same variables.

Attachment avoidance. The additional variance added by sexual abuse, $F(1, 782) = 0.350$, $p = .554$, neglect, $F(1, 782) = 0.175$, $p = .676$, and psychological maltreatment, $F(1, 782) = 0.621$, $p = .431$, were not significant when each were added as the third step in their models. However, when physical abuse was added in the final step of the model, the added variance contributed significantly to the model, $F(1, 782) = 4.746$, $p = .030$, R^2 *change* = 0.006. As no major changes to the statistical significance of the individual predictors between the steps of the various regression analyses were found when attachment avoidance was the dependent variable, only the final analysis will be reported. The final model for these regression analyses, which included social support, sex, physical abuse, psychological maltreatment, neglect, and sexual abuse, was statistically significant, $F(6, 782) = 12.773$, $p < .001$, $R^2 = .089$. In this model, only social support, $r_{a(b.c)} = -0.252$, $p < .001$, and physical abuse, $r_{a(b.c)} = 0.074$, $p = .030$ were significant predictors of attachment avoidance.

Attachment anxiety. The final model for the regression analysis, with attachment anxiety as the dependent variable and social support, sex, physical abuse, psychological maltreatment, neglect, and sexual abuse as independent variables, was statistically significant, $F(6, 782) = 12.170$, $p < .001$, $R^2 = .085$. However, the additional variance added by neglect, $F(1, 782) = 0.001$, $p = .981$, and physical abuse, $F(1, 782) = 0.864$, $p = .353$, were not significant when each were added as the third step in their models. When sexual abuse, $F(1, 782) = 4.102$, $p = .043$, R^2 *change* = 0.005, and psychological maltreatment, $F(1, 782) = 32.870$, $p < .001$, R^2 *change* = 0.038, were added in the final step of their respective models, the added variance contributed significantly to the model. In the final model, which included control variables and all abuse

variables, social support, $r_{a(b.c)} = -0.076$, $p = .027$, sex, $r_{a(b.c)} = -0.068$, $p = .047$, psychological maltreatment, $r_{a(b.c)} = 0.196$, $p < .001$, and sexual abuse, $r_{a(b.c)} = -0.069$, $p = .043$ were significant predictors of attachment anxiety.

Changes in statistical significance of predictors between the steps of the regression analyses were found in some cases. Predictor statistics for the steps of the regression model, when physical abuse was entered last, can be found in Table 6. Of note is the increase in statistical significance of sexual abuse when physical abuse is added to the model. As indicated above, the part correlation between sexual abuse and attachment anxiety is also in the opposite direction as the other abuse variables. A higher level of sexual abuse is associated with less attachment anxiety when all other variables are also in the regression equation. Predictor statistics for the steps of the regression model, when psychological maltreatment is entered last, can be found in Table 7. Once psychological maltreatment is added to the model, the significance of the other abuse types is greatly reduced. No large changes in the significance of individual predictors were found between the steps of the regression models when neglect and sexual abuse were entered last. (A summary of the regression analyses in comparison to the hypotheses can be found in Table 8.)

Table 6
Regression Model for Attachment Anxiety: Physical Abuse Entered Last

Model	Predictor	Standardized Beta	t	p
1	Constant		17.932	< .001
	Sex	-.078	-2.172	.030
	Social Support	-.127	-3.529	<.001
2	Constant		8.954	<.001
	Sex	-.068	-1.937	.053
	Social Support	-.082	-2.295	.022
	Sexual Abuse	-.067	-1.829	.068
	Psych. Mal.	.264	6.864	<.001
	Neglect	.005	.124	.901
3	Constant		8.868	<.001
	Sex	-.070	-1.988	.047
	Social Support	-.080	-2.218	.027
	Sexual Abuse	-.078	-2.025	.043
	Psych. Mal.	.247	5.733	<.001
	Neglect	.001	.024	.981
	Physical Abuse	.041	.929	.353

Note. n = 788. Psych. Mal. stands for Psychological Maltreatment.

Table 7
Regression Model for Attachment Anxiety: Psychological Maltreatment Entered Last

Model	Predictor	Standardized Beta	T	p
1	Constant		17.932	< .001
	Sex	-.078	-2.172	.030
	Social Support	-.127	-3.529	<.001
2	Constant		9.786	<.001
	Sex	-.090	-2.523	.012
	Social Support	-.098	-2.677	.008
	Physical Abuse	.153	3.809	<.001
	Sexual Abuse	-.096	-2.447	.015
	Neglect	.068	1.756	.080
3	Constant		8.868	<.001
	Sex	-.070	-1.988	.047
	Social Support	-.080	-2.218	.027
	Physical Abuse	.041	.929	.353
	Sexual Abuse	-.078	-2.025	.043
	Neglect	.001	.024	.981
	Psych. Mal.	.247	5.733	<.001

Note. $n = 788$. Psych. Mal. stands for Psychological Maltreatment.

Table 8
Summary of Type of Abuse and Attachment Style Regression Findings

	Avoidance			Anxiety		
	Simple Correlation	Regression with Controls	Regression with Controls and Abuse Types	Simple Correlation	Regression with Controls	Regression with Controls and Abuse Types
Physical Abuse	√*	√*	√*	√	√	x*
Sexual Abuse	√*	x	x	x*	x*	√
Psychological Maltreatment	√*	x	x	√*	√*	√*
Neglect	x	x	x	√*	√*	x

Note. √ denotes significant associations at .05 level. X denotes non-significant associations at .05 level. * denotes associations consistent with hypotheses.

ANCOVA Analyses. To test the hypotheses that low severity physical abuse and sexual abuse would be associated only with attachment avoidance and not attachment anxiety but high severity physical abuse and sexual abuse would be associated with both attachment avoidance and anxiety, four between-subject ANCOVAs were completed. The control variables, or covariates, were again sex and social support. Because of the large number of participants indicating no level of physical or sexual abuse, three groups were created for each variable; no abuse, low severity abuse, and high severity abuse. The cut off between the low and high abuse scores was created by finding a natural break in the frequency data, approximately two standard deviations above the mean. Basic descriptive statistics for these groups can be found in Table 9. In order to test the hypotheses, that low and high severity groups for physical and sexual abuse differed on the attachment variables, two contrasts were created. The first contrast compared the no abuse group with both low and high severity groups. The second contrast compared the low and high severity groups only.

Table 9
Descriptive Statistics for Physical and Sexual Abuse Groups

Variable	*n*	Min	Max	*M*	*SD*
Physical Abuse No Abuse	367	9	9	9.00	0.00
Low Abuse	338	10	13	11.23	1.04
High Abuse	101	14	34	16.78	3.21
Sexual Abuse No Abuse	693	31	31	31.00	0.00
Low Abuse	77	32	36	33.34	1.46
High Abuse	35	37	134	45.29	16.35

Note. The following are the values for each variable which indicate no endorsement of that variable: Physical Abuse = 9, Sexual Abuse = 31.

Testing ANCOVA assumptions. Assumptions unique to ANCOVA which required assessment included unequal sample sizes, normality of sampling distributions, homogeneity of variance, homogeneity of regression, and reliability of covariates.

Due to the skewness and nature of the abuse sample, the number of cases in each group is not equal. In order to address this issue, each cell was given equal weight regardless of its sample size. While this method may lead to a loss of power, it is the most conservative means to address this issue (Tabachnick & Fidell, 2007).

ANCOVA assumes the sampling distributions of the means, not the scores, within each cell are normally distributed. However, without having population values or producing actual sampling distributions of means, it is not possible to test this assumption. Again, the central limit theorem suggests that, with large samples, sampling distributions are normal even if the sample is not (Tabachnick & Fidell, 2007). Because of the large sample size collected, it is assumed that this assumption has been met.

The remainder of the ANCOVA assumptions were also met. The homogeneity of variance was tested using the Levene's test. All were within acceptable limits. Because there was no reason to suspect an interaction between the independent variables and the covariates, the homogeneity of regression was not tested. In such cases, it is safe to proceed based on the robustness of the model (Tabachnick & Fidell, 2007). In terms of reliability of the covariates, it is safe to assume that sex has been measured reliably (Tabachnick & Fidell, 2007). As discussed previously, the reliability of our social support measure has been reported to be above 0.8 in a variety of studies.

Physical Abuse. After adjusting for the covariates of sex and social support, attachment avoidance varied significantly with physical abuse group, $F(4, 787) = 20.345$, $p < .001$, $R^2 =$

.094. The main effect of physical abuse group was also significant, $p = .007$. The significance of the first contrast, $p = .002$, indicates that those not physically abused differed from those indicating any level of physical abuse on attachment avoidance. As expected, those experiencing low level of physical abuse did not differ significantly from those reporting high levels of physical abuse on attachment avoidance, $p = .252$.

After adjustment by covariates, attachment anxiety varied significantly with physical abuse group, $F(4, 787) = 9.669$, $p < .001$, $R^2 = .047$. The main effect of physical abuse group was also significant, $p < .001$. The significance of the first contrast, $p < .001$, indicates that those not physically abused differed from those indicating any level of physical abuse on attachment anxiety. Unexpectedly, those experiencing low level of physical abuse did not differ significantly from those reporting high levels of physical abuse on attachment anxiety, $p = .060$, though this contrast approached significance.

Sexual Abuse. Attachment avoidance varied significantly with sexual abuse group, $F(4, 786) = 17.933$, $p < .001$, $R^2 = .084$, after adjustment by covariates. The main effect of sexual abuse group was, however, not significant, $p = .552$. This indicates that there were no meaningful differences between sexual abuse groups on attachment avoidance. While no significant difference between low and high severity groups was predicted, this finding also indicates there was no difference between the no abuse group and any level of sexual abuse group on attachment avoidance.

After adjustment by covariates, attachment anxiety varied significantly with sexual abuse group, $F(4, 786) = 7.312$, $p < .001$, $R^2 = .036$. The main effect of sexual abuse group was also significant, $p = .001$. The significance of the first contrast, $p = .001$, indicates that those not sexually abused differed from those indicating any level of sexual abuse on attachment anxiety.

Unexpectedly, those experiencing low level of sexual abuse did not differ significantly from those reporting high levels of sexual abuse on attachment anxiety, p =.915.

Mediating Effect of Attachment

In order to test the hypothesis that attachment avoidance and attachment anxiety mediate the relationship between child abuse and mental health outcome as represented by self-esteem and psychological symptoms, two mediation analyses were conducted. Because of the lack of normality in our variables, the bootstrapping mediation method recommended by Preacher and Hayes (2004, 2008) was used. This involved repeatedly sampling from the data set to create a confidence interval for the indirect effect. As adult attachment is measured by two variables in this study, attachment avoidance and attachment anxiety, a multiple mediation model was completed (Preacher & Hayes, 2008). For each analysis, the total abuse score was the independent variable and attachment avoidance and anxiety were the mediators.

In the first mediation analysis, GSI was the dependent variable. Results based on 10,000 bootstrapped samples, found the 95% confidence intervals for the indirect effect of both attachment avoidance, 95% *CI* [.0002, .0013], and attachment anxiety, 95% *CI* [.0039, .0069], to not include zero. Therefore, the indirect effect for both variables is significantly different from zero at $p < .05$ (two tailed). However, as the direct effect of total abuse on GSI remained significant, $p < .0001$, this was a partial mediation.

In the second mediation analysis, self-esteem acted as the dependent variable. Results based on 10,000 bootstrapped samples, found the 95% confidence intervals for the indirect effect of both attachment avoidance, 95% *CI* [-.0020, -.0003], and attachment anxiety, 95% *CI* [-.0065, -.0033], to not include zero. Therefore, the indirect effect for both variables is significantly

different from zero at $p < .05$ (two tailed). Again, as the direct effect of total abuse on self-esteem remained significant, $p = .0339$, this was a partial mediation.

Discussion

Type of Abuse and Attachment Style

Based on a thorough analysis of the child abuse and adult attachment style literature, it was hypothesized that physical abuse, sexual abuse, psychological maltreatment and neglect would be significantly associated with attachment avoidance and psychological maltreatment and neglect would be associated with attachment anxiety. Support for some of these hypotheses was found. Significant support was found for an association between physical abuse and attachment avoidance and an association between psychological maltreatment and attachment anxiety. Some support was found for associations between neglect and, unexpectedly, physical abuse with attachment anxiety. In addition, social support was found to be an important predictor of both attachment avoidance and attachment anxiety.

The association between physical abuse and adult attachment avoidance is consistent with the original hypotheses and the current child literature. In a sample of Israeli children and adolescents, physical abuse has been associated with predominantly an avoidant attachment style (Finzi et al., 2000; Finzi et al., 2002; Finzi et al., 2001). In the current study, the relationship between physical abuse and attachment avoidance, though not large, was found even when controlling for sex, social support, and all other forms of child abuse. The experience of physical abuse appears to have a negative impact on a victim's view of others or a tendency toward an avoidant attachment in significant adult relationships.

What was unexpected was the association between physical abuse and anxiety in some of the analyses. However, in a second review of the literature base, two additional studies were

found with significant relationships between a history of physical abuse and a negative view of self or attachment anxiety in adulthood. A study examining the mediating role of attachment in the relationship between childhood physical abuse and perceptions of social supports in adulthood found physical abuse to be significantly associated with a negative view of both self and other (Muller, Gragtmans & Baker, 2008). Another study found that greater attachment security, in adults who had been physically abused as children, was a strong predictor of lower levels of psychopathology regardless of abuse status (McLewin & Muller, 2006). They also found physical abuse to be negatively associated with a positive view of self and a positive view of other. In addition, a positive view of self was found to be a larger predictor of reduced psychopathology than view of other and social support.

In the current study, the disappearance of the relationship between physical abuse and attachment anxiety when controlling for other abuse variables may be explained by the strong association between physical abuse and psychological maltreatment. When psychological maltreatment alone is excluded, physical abuse remains a predictor of attachment anxiety. Once, psychological maltreatment is added, physical abuse is no longer included as a predictor. Therefore, physical abuse and psychological maltreatment may both have important, though overlapping, associations with attachment anxiety. Contrary to the hypothesis, although the relationship is not strong, those who have experienced physical abuse may also have higher levels of attachment anxiety or negative view of self than in the general population. Their abuse experience may have led to a more negative view of themselves resulting in experiencing more anxiety in their significant adult relationships. Therefore, integrating the physical abuse results together, those who have a history of physical abuse may be more likely to have a fearful-avoidant attachment style (high attachment avoidance and attachment anxiety).

A history of childhood sexual abuse was only able to show a significant association with attachment avoidance at a very basic level, without inclusion of any other variables. The original hypotheses and the literature suggest this relationship should have been stronger. Roche and colleagues (1999) found a higher rate of dismissing and fearful attachment styles in a sexually abused group than in a control group. Both attachment styles involve a high level of attachment avoidance. In a more recent study comparing a small clinical sample of childhood sexual abuse victims and a matched control group, researchers found the sexually abused group less comfortable with closeness (Dimitrova, Pierrehumbert, Glatz, Torrisi, Heinrichs, Halfon, & Chouchena, 2010). This would be equivalent to being more socially avoidant. However, similar to the current study, another group of researchers also failed to find a significant difference on adult attachment avoidance between their sexually abused group and a control group (Kwako, Noll, Putnam, & Trickett, 2010). Their explanation for a small samples size, for the null findings, does not apply in the current case. What might apply is the low level of child sexual abuse severity in the current sample. This would have reduced the power of the analyses to detect an effect, if one existed. Another possibility is that the inclusion of social support as a control variable removed enough variance to make the association between attachment avoidance and child sexual abuse non-significant. Social support may act as a corrective attachment experience for those who have been sexually abused. Positive social experiences, later in life, are thought to influence the early negative effect of abuse on attachment styles (Hazan & Shaver, 1994). Social support as a construct is also highly related to attachment as a construct as they are both measures of relationship. This association may have contributed to the lack of association between child sexual abuse and attachment avoidance.

As expected, a history of child sexual abuse was not associated with an increased level of attachment anxiety when severity of abuse was not controlled. What was unexpected was the association between child sexual abuse and a decrease in attachment anxiety when the control variables and other abuse variables were included. Because this is contrary to any other research conducted in this area, it is believed that this is a statistical artifact of this particular study. The factors that may have led to these results include the low level of severity of sexual abuse in the particular sample, the inability to correct the skew in the data, and the interactions between the stronger variables already in the regression equation. Had a sample with a higher level of abuse severity been used, a stronger association in the correct direction may have been found.

Psychological maltreatment was expected to be associated with both attachment avoidance and attachment anxiety. Strong support for the association between psychological maltreatment and attachment anxiety was found. This is consistent with past research noting an association between emotional abuse and an insecure attachment style (Hankin, 2006; Varia & Abidin, 1999). It is also consistent with more recent studies which specifically found a relationship between emotional abuse and attachment anxiety as measured by the ECR (Riggs, Cusimano, & Benson, 2011; Riggs & Kaminski, 2010). Those who have experienced a high level of childhood psychological maltreatment likely have a greater tendency to experience attachment anxiety in their later important adult relationships.

Unexpectedly, psychological maltreatment was only associated with attachment avoidance when not including other variables. This is inconsistent with the findings of Riggs and associates (Riggs, Cusimano, & Benson, 2011; Riggs & Kaminski, 2010) who found an association between emotional abuse and attachment avoidance while controlling for other forms of abuse. However, neither study included social support as a control variable in their analyses.

In the current study, social support is a significant predictor of attachment avoidance and is entered first in the model. It is possible that social support removed enough of the shared variance between itself and psychological maltreatment to significantly reduce the association between psychological maltreatment and attachment avoidance. If that is the case, a history of psychological maltreatment would also be associated with a tendency toward avoidance in significant adult relationships and thus be associated with a fearful-avoidant attachment style (high attachment anxiety, high attachment avoidance). However, further study would be required to confirm this association. The current data do support the association between psychological maltreatment and a preoccupied attachment style (high attachment anxiety).

Consistent with the study hypotheses, some support for an association between a history of neglect and attachment anxiety was found. This is consistent with previous research conducted with children. Neglect has been consistently associated with an insecure attachment style involving anxiety (e.g. Erickson & Egeland, 2002; Finzi et al., 2002). However, in the current study, once the other abuse types were included, neglect was no longer an important predictor. This might again be explained by the inclusion of psychological maltreatment. Neglect is strongly associated with psychological maltreatment and this shared variance may not allow for both variables to remain in the equation. If this is the case, those who have experienced neglect may be more prone to experience attachment anxiety in the significant adult relationships.

Unexpectedly, neglect was not associated with attachment avoidance at any level of analysis. This is inconsistent with the majority of studies reviewed using children as their participants. Research generally has pointed to neglected children having both anxious and avoidant attachment behaviours (Crittenden & Ainsworth, 1989; Erickson & Egeland, 2002;

Hildy & Wolfe, 2002). However, one study found rates of anxious/ambivalent attachment style to be higher than rates of an avoidant style of attachment in a sample of physically neglected children (Finzi et al., 2002). The inconsistency in the literature may be due to different definitions of neglect being used by the particular studies and the differences in severity of neglect within their samples. The reason for a lack of association between neglect and attachment avoidance in the current study may also be related to the severity issue. The severity of neglect within the sample is low and may be the reason no association was found. However, it is important to note that the previous studies involved children as their participants while the current study involved adults. This likely also contributed to the difference in results in that the results are based on different populations. One possible difference could be that adults, neglected as children, have had the opportunity to experience corrective attachment experiences while children have not. Alternatively, adults may have become more entrenched in their attachment style over time. More research in this area, using a more severely neglected adult sample, is needed in order to discern their predominant insecure adult attachment style. The current study points to an association between neglect and a preoccupied attachment style (high attachment anxiety).

These findings suggest specific adult attachment styles being associated with specific types of abuse history while including other types of abuse. They also provide new information on the association between adult attachment styles and neglect. Only physical abuse, of the abuse types, was consistently associated with attachment avoidance. Psychological maltreatment, and to a less extent, neglect and physical abuse were associated with attachment anxiety. Sexual abuse was not associated to either attachment avoidance or attachment anxiety. In translating these associations to attachment styles, physical abuse would be associated with a

dismissing-avoidant attachment style (high attachment avoidance) and possibly a fearful-avoidant attachment style (high attachment avoidance and high attachment anxiety) as well. Psychological maltreatment and possibly neglect would be associated with a preoccupied attachment style (high attachment anxiety).

Severity of Physical and Sexual Abuse and Attachment Style

In terms of abuse severity, based on previous research, high severity but not low severity physical and sexual abuse was hypothesized to be associated with attachment anxiety while both low and high severity were hypothesized to be associated with attachment avoidance. In terms of attachment avoidance, as expected, there was no significant difference between low and high severity physical and sexual abuse. Contrary to the hypotheses, there was also no significant difference between low and high severity physical and sexual abuse on attachment anxiety. Unfortunately, this study was not able to add clarity to the discrepancies in the literature regarding the relationship between attachment anxiety and physical and sexual abuse by grouping on abuse severity.

While there appeared to be clear support for a relationship between physical and sexual abuse and attachment avoidance in previous literature, the relationship between physical and sexual abuse and attachment anxiety in adulthood was less clear. As severity appeared to play a role in determining childhood attachment style, it was hypothesized that this would also be the case in adulthood. However, as noted previously, some support has been found for an association between physical abuse and attachment anxiety in adulthood regardless of severity (McLewin & Muller, 2006; Muller et al., 2008). This same association was also found in the current study, as outlined in the previous section. In terms of sexual abuse, Dimitrova and associates (2010) also attempted to control for severity in measuring the associations between

sexual abuse and relationship anxiety and closeness. Similar to the current findings, they found no significant differences between their moderate and severe abuse groups on either relationship anxiety or closeness.

While the accumulation of evidence in a small number of studies suggests that severity may be less important to the relationship between physical and sexual abuse and adult attachment anxiety than hypothesized, this does not necessarily mean that severity may not still play a role in determining attachment types of sexual and physical abuse victims. As has been previously mentioned, the physical and sexual abuse severity levels in the sample studies were not particularly high. With a more clinical or diverse sample, the findings might be different. This might be the case, particularly for physical abuse, as the difference between low severity and high severity physical abuse on attachment anxiety approached significance.

Mediating Effect of Attachment

It was hypothesized that adult attachment style would mediate the relationship between a high level of child abuse and the mental health outcomes of psychological symptoms and self-esteem. The results indicated that both attachment avoidance and attachment anxiety acted as partial mediators in the relationships between a history of child abuse and overall mental health score and between a history of child abuse and self-esteem. These findings are consistent with previous literature measuring similar relationships. Attachment styles have been found to have a partial mediation role in the relationship between a history of child maltreatment in general (Shapiro & Levendosky, 1999), physical abuse (McLewin & Muller, 2006), sexual abuse (Aspelmeier et al., 2007; Roche et al., 1999; Whiffen et al., 1999) and psychological maltreatment (Hankin, 2006) and various mental health outcomes. The current study confirms, once again, that when child abuse victims are assessed to have less insecure attachment styles in

adulthood, long-term negative mental health outcomes typically associated with a history of child abuse are reduced.

Implications of Findings

In general, this study provides continued support that a history of child abuse is associated with adult attachment dimensions and important mental health outcomes. However, it adds to the current research base in a number of ways. It is one of the few studies to analyze the relationship between adult attachment and a history of child abuse while controlling for other types of abuse. Associations between physical abuse and attachment avoidance and psychological maltreatment and attachment anxiety were found while controlling for other abuse types. The experience of being physically abused as a child appears to lead to the development of a negative view of other and the tendency to want to distance in adult intimate relationships. The experience of being psychologically maltreated as a child appears to lead to the development of a negative view of self and experiencing anxiety and fear of rejection in adult intimate relationships. In general, more associations were found between the various abuse types and attachment anxiety. It may be that a history of child abuse, particularly psychological maltreatment and neglect, has more effect on the development of negative view of self or anxiety in adult intimate relationships than on the development of relationship avoidance or the negative view of other. The current study also adds to the literature by being the first to look at the relationship between a history of neglect and adult attachment style. It found evidence that neglect is associated with attachment anxiety and a preoccupied attachment style in adulthood.

That attachment avoidance and attachment anxiety are significant mediators between child abuse and mental health outcomes, has important implications for the prevention of some of the long-term negative outcomes generally associated with a history of child abuse. Providing

child abuse victims with corrective attachment experiences and positive interpersonal relationships could have tremendous benefit in reducing other negative outcomes related to their abuse history. Not only could these experiences benefit the victims' mental health, it could also have profound, positive, intergenerational effects. Corrective attachment experiences would not only have an impact on abuse victims' adult attachment styles and mental health outcomes but could also improve the attachment relationship they develop with their own children and thus the potential social and emotional outcomes for their children.

The repeated significance of social support as a predictor of both attachment dimensions, speaks to the use of family and friend social support as a possible means to improving adult attachment style and related mental health outcomes in abuse victims. For example, in a study of women with a history of multiple types of child maltreatment, researchers found that social support partially mediated the relationship between child maltreatment and posttraumatic stress disorder symptoms (Vranceanu, Hobfoll, & Johnson, 2007). Social support is linked to a variety of positive outcomes and may have its impact through positively affecting attachment dimensions. In a literature review on social support and dissociative identity disorder (DID), a disorder highly linked to a history of child maltreatment, Korol (2008) found that familial and social support are important protective factors against the development of DID and that social interventions may be able to mitigate the psychological consequences of insecure attachment and a history of child abuse. The relationship between social support and adult attachment dimensions and the ability of the attachment dimensions to partially mediate the relationship between a history of child abuse and mental health outcomes in the current study, are consistent with Korol's conclusions. Enhancing abuse victims' and their families' ability to use existing or

to establish new social supports may be an important and effective part of an intervention strategy.

The current results also have implications for individual treatment approaches for child abuse victims. The relationship between a therapist and client can be an intimate one. Those clients with a child abuse history may re-enact their insecure attachment behaviours with their therapist. It is important for therapists to understand this possible effect on their therapeutic alliance as it may have important implications for the therapeutic relationship, treatment behaviours, and treatment outcome. For example, in one study researchers found that secure attachment to the therapist was significantly associated with greater reductions in client distress over time (Sauer, Anderson, Gormley, Richmond, & Preacco, 2010). The current study implies those with a history of physical abuse may develop a dismissing-avoidant or fearful-avoidant attachment style in adulthood. According to Slade (2000), those with a dismissing attachment style may tend to defend against all types of intense affect, minimizing or denying their emotional experience, have difficulty trusting others, and attempt to keep emotional distance from the therapist. In addition, the current study found support for an association between psychological maltreatment and, to a lesser extent, neglect and a preoccupied attachment style. According to Slade (2000), those with a preoccupied style may become dependent and demanding of the treatment and the therapist.

Given these very different therapeutic patterns, knowing clients' abuse histories and their likely attachment pattern could have important implications for an appropriate treatment approach. For example, Daly and Mallinckrodt (2009) studied the therapeutic strategies of 12 experienced therapists when faced with attachment avoidant and attachment anxious clients. They found that these therapists began therapy by generally meeting the client's preferred social

proximity or distance but then, over the course of therapy, created opportunities for their clients to move toward a more healthy interpersonal distance and relatedness. Therefore, for physical abuse victims, a therapist may need to maintain a certain interpersonal and emotional distance initially but then slowly and empathically move toward increased emotional awareness and interpersonal connectedness. For psychologically maltreated and neglected victims the opposite pattern might be necessary. Therapy may begin with a higher level of dependency and emotional closeness, gradually moving toward increased independence and emotional regulation.

Given that the current study measures attachment to significant others, the results certainly have implications for the development of healthy, supportive, and enjoyable adult relationships and the treatment of adult couple difficulties. As previously mentioned in the overview of long-term effects of child maltreatment, abuse victims are at a greater risk for relationship difficulties in adulthood. These difficulties are likely related to their development of insecure attachment styles. In a community sample, adult attachment was associated with self-reported and observed relationship functioning at the time of attachment assessment and one year later (Holland & Roisman, 2010). In another study, emotional abuse was associated with attachment difficulties and poor relationship adjustment (Riggs et al., 2011).

Knowing the abuse history of the partners in therapy may provide important information regarding the attachment behaviours used by the couple. Those with a history of physical abuse may be more dismissing and avoidant in their intimate relationships while those with a history of psychological maltreatment or neglect may be more anxious and sensitive to signs of rejection. By understanding a couple's individual abuse histories and incorporating the relevant attachment strategies in couple's therapy, a more effective treatment approach could be tailored for the couple. For example, Gordon and Christman (2008) recommend incorporating attachment

theory into the more traditional skills-based behavioural approaches to couple's therapy. Knowing clients' attachment styles provides information regarding the clients' likely skill deficits and underlying motivations and goals in interpersonal interactions. This allows for a "more comprehensive assessment of the couple's interaction patterns and is likely to yield more effective treatment" (Gordon & Christman, 2008, p. 134). Sue Johnson (2007) believes attachment theory to be the underlying guiding theory or "map" to understanding couple functioning and providing effective Emotionally Focused Therapy for couples. According to Johnson (2007), the basic underlying difficulty for dysfunctional or distressed couples is an issue of emotional connection and responsiveness or insecure attachment. Understanding the abuse history of a couple could help a therapist using Johnson's approach ascertain their attachment style tendency quickly and help them develop the skills to improve their methods for seeking and providing emotional responsiveness, a more secure attachment style, or effective dependency.

Limitations

While the current study provides preliminary evidence for some abuse types to be more strongly associated with certain insecure attachment styles, the results must be set within the context of the study limitations. To begin, the results need to be understood alongside the sample characteristics. First, the sample was university-based and, therefore, the results can only be generalized to the larger population with caution. Second, the severity of this sample's abuse experiences was low resulting in a low variability in the data. It is possible that with a more community-based or clinical sample, resulting in more variability in the data, more and stronger relationships could be found. Third, the scale used to measure abuse history, while useful in its ability to provide a continuous measure, does not allow for the calculation of abuse prevalence rates. This and the fact that few studies to date have used this measure make it difficult to

compare the current sample with samples used in previous studies. Last, there were very few pure cases of abuse identified within this sample. While other abuse types were controlled statistically, it is important to remember that the relationships identified were completed in a sample where the majority of child abuse victims had experienced more than one type of abuse.

A number of statistical limitations also warrant identification. First, while statistically significant relationships were found, the effect sizes of these relationships were quite low. While the use of a large sample size was necessary to have enough power, given the number of variables in each analysis, a large sample size increases the likelihood of finding significant results. So too does completing multiple analyses, as was done in this case. Therefore, no recommendations regarding the use of these associations in clinical practice can be made at this time. However, as stated above, given the low variability and the large number of variables used, the finding of statistically significant results is still meaningful and warrants further investigation. Second, it is important to remember that the analyses were completed using statistics with assumptions of normality using primarily non-normal data. While, as stated previously, the effect of this is likely minimal given the large sample size used, it may be possible that this has affected the results in some way. Last, the use of social support as a control variable may have reduced the ability of this study to find important significant relationships. Because social support is highly related to both attachment and child abuse, justifying its use as a control variable, this high level of relatedness may have used up shared variance that might have been explained by the relationship between attachment dimensions and child abuse types. Mikulincer and Shaver (2009) summarized research indicating that one's attachment style affects one's ability to seek out and use social support from others. A securely attached individual would be more likely to seek out and provide support to others. Theoretically, adult attachment

styles and social support are very similar concepts and may, in fact, overlap so much to possibly consider them redundant variables.

Future Directions and Conclusion

The consideration of the limitations of the current study point to some possibilities for further research in this area. First, replicating the study using community and clinical samples would allow for further generalization of the findings. In addition, the variability of the abuse experiences would likely increase allowing for more power within the analyses. A university sample has, most likely, experienced less child abuse than community and clinical samples, evidenced by their ability to attend university. The increased variability on the abuse measures, would certainly allow for stronger relationships to be found. Second, if possible, it would be beneficial to analyze the relationship between abuse type and adult attachment style using individuals who have experienced only one type of child abuse. While these individuals might be rare, an analysis like this would add considerable strength to the relationships identified. The power of the analyses would also increase as the other abuse types would not need to be included as control variables. Last, given the non-normal nature of the data, it may be beneficial to consider more modern statistical methods for future analyses. Given the nature of abuse research, it is unlikely that any abuse data collected will come close to normality. More modern robust statistical methods, such as bootstrapping, are able to maintain adequate Type I error control and statistical power, even when data are non-normal (Erceg-Hurn & Mirosevich, 2008). However, the difficulty with using such statistics is gaining access to experts and software capable of completing more complicated analyses.

Future research could also expand on the current study in a number of additional ways. First, the current study collapsed both males and females within the sample. It might be

interesting to see if there are any differences in the relationship between abuse type and attachment style based on gender. Second, given the importance of social support to attachment styles, it would be interesting to study the type of social support that would be most beneficial to abuse victims. Perhaps certain types of social support are more beneficial for victims with certain types of abuse histories or attachment styles. Discerning this could help inform multisystemic treatment approaches for abuse victims. Third, while the current study included abuse severity in a general way, it might be beneficial to include specific types of abuse severity or abuse characteristics. The relationship to the perpetrator, frequency of abuse, duration of abuse, and severity of the abuse behaviours may also be associated with specific adult attachment styles in abuse victims. Last, given the treatment implications of certain abuse types being associated with certain adult attachment styles, it would be beneficial to develop and test treatment programs based on these associations. For example, compared with individuals with primarily a history of psychological maltreatment, would adults with a history of physical abuse benefit more from a treatment approach addressing their avoidant tendencies? Such a study would need to be conducted, however, after the current findings have been strengthened through replication with various populations.

Child abuse is a serious problem in society with the potential for many negative short-and long-term consequences for its victims and their families. Attachment theory provides a way to understand the impact of child abuse on adult intimate relationships. While the current study requires replication and expansion, it provides support for the association between a history of child abuse and insecure attachment styles in adulthood. More specifically it provides preliminary support for the association between physical abuse and attachment avoidance and psychological maltreatment and attachment anxiety while controlling for sex, social support, and

other types of child abuse histories. Social support also was found to be a significant predictor of attachment avoidance and attachment anxiety, providing support for the possibility of corrective social experiences having a positive impact on adult attachment styles. The current study also replicated the previous partial mediation of adult attachment style between child abuse and mental health outcomes. It is hoped that future research will continue in this area, as it has important implications for the support and treatment of child abuse victims and their ability to improve their intimate relationships as well as their mental health outcomes.

Appendix A

Consent Form

You are invited to participate in a research study conducted by Jo Ann Unger, doctoral student from the Psychology Department of the University of Manitoba. To contact her, you may leave a message at 474-9222. In this study, you will be asked to complete a number of short questionnaires. You will be asked to provide personal information about yourself in a number of areas including basic demographics, relationships, social support, and early childhood experiences including possible abusive experiences. Sexually explicit language will be used in one of the questionnaires. It should take approximately 50 minutes to complete the questionnaires. If you become uncomfortable at any time, you are free to end your participation without loss of course credits.

Only group results (e.g. means) will be used and individual results will be kept completely confidential. There is no identifying information on the record form or questionnaire packages. The researchers will not be able to identify which participant completed which questionnaire package. The record forms and questionnaires will be kept in a locked laboratory office and will be viewed only by laboratory researchers. The results of this study may be referred to in presentations at psychological conferences, in a dissertation, or journal article.

The research ethics board of the University of Manitoba has approved this study. If you have any concerns about the way in which the study is conducted, you may contact the faculty advisor of this project, Dr. Rayleen De Luca (474-7255)

Your signature below indicates your agreement to participate in the study, as described above, and that you are 18 years of age or older. We appreciate your taking the time to consider participating in this study.

_____
Jo Ann M. Unger, M.A.

Date: _____

Printed Name: _____

Student Number: _____

Signature: _____

Appendix B

Attachment and Child Abuse: Feedback Form

The main purpose of this study is to understand the relationship between adult attachment styles and experiences of child abuse. The secondary goal of this study is to see if secure attachments in adulthood can have an effect on the long-term negative outcomes typically reported by child abuse victims.

More specifically, we wanted to see if certain types of child abuse experiences were associated with certain types of attachment or close relationship styles in adulthood. Adult attachment styles are divided into secure, preoccupied, dismissing and fearful attachment styles (for more information consult Fraley and Shaver, 2000). We measured levels of child physical abuse, sexual abuse, neglect, and psychological maltreatment or emotional abuse. Based on previous research and theory development we hypothesize that physical and sexual abuse would be associated with dismissing or fearful attachment style with those experiencing more severe abuse displaying a fearful attachment style. We also hypothesize that those experiencing neglect and psychological maltreatment would be more likely to have a fearful attachment style.

Additionally, we wanted to see if a secure attachment style would be associated with reduced symptoms in those who had experienced child abuse. Child abuse is typically associated with many long-term symptoms such as low self-esteem, anxiety, depression, and interpersonal difficulties (Crosson-Tower, 2005). We hypothesize that adult victims of abuse with a secure attachment style will display fewer long-term symptoms of abuse than those adult victims with an insecure (preoccupied, dismissing, and fearful) attachment styles.

The purpose of this study was not completely disclosed at the onset of the study. This was done in order to protect your responses from any biases that may exist in the areas of attachment, relationships, and child abuse.

We understand that the issue of child abuse is a particularly sensitive one. This study may have aroused memories or feelings that may be affecting you negatively. If this is so, we strongly encourage you to seek resources available to you to help you work through these issues including friends, family, and religious leaders. If your negative feelings persist, then talking to a trained counsellor may be helpful. The Klinic Crisis Line (786-8686) is a 24-hour confidential service with trained volunteers. They offer services for individuals in crisis, with troubling concerns, or those who want to know about resources available in Winnipeg. Students at the University of Manitoba can also access free counselling services at the Student Counselling and Career Centre (474-8592). Other resources that may be useful and are available in Winnipeg include the Elizabeth Hill Counselling Centre (956-6560) and the Aurora Family Therapy Centre (786-9251).

Child abuse is also a serious legal offence. It is our legal obligation to encourage students who have been abused as children and have not reported these offences to the proper authorities, to do so. Perpetrators of abuse may continue to abuse children if they are not reported and receive the appropriate punishment and/or treatment. You can report incidents of child abuse to your local law enforcement office or Winnipeg Child and Family Services at 944-4200.

If you have any concerns or questions, please leave a message for Jo Ann Unger at 474-9222. You may also contact the faculty advisor of this project, Dr. Rayleen De Luca (474-9255). Thank you very much for your participation in this study.

References

Crosson-Tower, C. (2005). *Understanding child abuse and neglect* (6th ed.). Toronto: Pearson Education.

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Appendix C

Demographic Questionnaire

Instruction set A:
The following information relates to demographic information and it is collected for statistical purposes only.

1. Please provide your age on the top right of your answer sheet.

2. Sex:
    1)Female
    2) Male

3. Marital Status:
    2) Single
    3) Married or living as married
    4) Separated or divorced
    5) Other

4. Year in program at university:
    2) 1
    3) 2
    4) 3
    5) 4
    6) Other

5. Living arrangements:
    2) With parent(s)
    3) Alone
    4) With friends or other family
    5) With spouse or partner
    6) Residence

6. Number of children in your family, including yourself, even if you don't live with them now:
    2) One
    3) Two
    4) Three
    5) Four
    6) Five or more

7. In your family, you are
    2) The only child
    3) The youngest child
    4) In the middle
    5) The oldest child

8. Please indicate your sexual orientation
    2) Heterosexual
    3) Gay/lesbian
    4) Bisexual
    5) Asexual/celibate

9. Estimated yearly family income when you were 18 years and younger:
    2) <$10,000/year
    3) $10-19,000/year
    4) $20-29,000/year
    5) $30-39,000/year
    6) >$40,000/year

10. Indicate the level of education completed by your father
    2) Some elementary grades
    3) Some high school grades
    4) High school graduate
    5) Some college or university
    6) College diploma
    7) University degree
    8) Graduate school

11. Indicate the level of education completed by your mother:
    2) Some elementary grades
    3) Some high school grades
    4) High school graduate
    5) Some college or university
    6) College diploma
    7) University degree
    8) Graduate school

12. Indicate the number of parents (genetic parents, or those who adopted you from birth) that consistently lived with you while you were 18 years of age and younger:
    2) Both parents
    3) 1 parent
    4) Neither parents (raised by foster parent(s), or other guardian(s))

13. Did you at anytime when you were 18 years of age or younger, live with a stepfather?
    2) Yes
    3) No

14. Please predict your GPA for this year
    2) below 1.0
    3) between 1.1 -1.9
    4) between 2.0-2.9
    5) between 3.0-3.9
    6) between 4.0- 4.5

15. Estimated size of the town or city you lived in the longest when you were 18 years of age or younger
    2) Farm or town of 10,000 people or less
    3) 11-50,000 people
    4) 51-150,000 people
    5) 151-300,000 people
    6) More than 300,000 people

16. Estimate the level of social activity of your family when you were 18 years of age or younger:
    1)Very outgoing socially
    2)Somewhat outgoing socially
    3)Not very outgoing socially
    4)Somewhat isolated socially
    5)Very isolated socially

17. What is your predominant ethnic background?
    1)Canadian Aboriginal
    2)African
    3)Asian
    4)Central European
    5)Eastern European
    6)Latino
    7)Pacific Islander
    8)Indian
    9)Mixed Race
    10)Other

18. In what religion were you raised?
    1) Aboriginal Spirituality
    2) Judaism
    3) Islam
    4) Hinduism
    5) Catholic Christian
    6) Protestant Christian
    7) Spiritual but not religious
    8) Agnostic
    9) Atheist
    10) Other

Appendix D

Experiences in Close Relationships

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience close relationships, not just in what is happening in current relationships. Respond to each statement by selecting the number that corresponds with how much you agree or disagree with it.

Disagree Strongly						**Agree Strongly**
1	**2**	**3**	**4**	**5**	**6**	**7**

1. I prefer not to show a partner how I feel deep down.

2. I worry about being abandoned.

3. I am very comfortable being close to romantic partners.

4. I worry a lot about my relationships.

5. Just when my partner starts to get close to me, I find myself pulling away.

6. I worry that romantic partners won't care about me as much as I care about them.

7. I get uncomfortable when a romantic partner wants to be very close.

8. I worry a fair amount about losing my partner.

9. I don't feel comfortable opening up to romantic partners.

10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.

11. I want to get close to my partners, but I keep pulling back.

12. I often want to merge completely with romantic partners, and this sometimes scares them away.

13. I am nervous when partners get too close to me.

14. I worry about being alone.

15. I feel uncomfortable sharing my private thoughts and feelings with my partner.

16. My desire to be very close sometimes scares people away.

Disagree Strongly						Agree Strongly
1	2	3	4	5	6	7

17. I try to avoid getting too close to my partner.

18. I need a lot of reassurances that I am loved by my partner.

19. I find it relatively easy to get close to my partner.

20. Sometimes I feel that I force my partners to show more feeling, more commitment.

21. I find it difficult to allow myself to depend on romantic partners.

22. I do not often worry about being abandoned.

23. I prefer not to be close to romantic partners.

24. If I can't get my partner to show interest in me, I get upset or angry.

25. I tell my partner just about everything.

26. I find that my partner(s) don't want to get as close as I would like.

27. I usually discuss my problems and concerns with my partner.

28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.

29. I feel uncomfortable depending on romantic partners.

30. I get frustrated when my partner is not around as much as I would like.

31. I don't mind asking romantic partners for comfort, advice, or help.

32. I get frustrated if romantic partners are not available when I need them.

33. It helps to turn to my romantic partner in times of need.

34. When romantic partners disapprove of me, I feel really bad about myself.

35. I turn to my partner for many things, including comfort and reassurance.

36. I resent it when my partner spends time away from me.

Appendix E

Multidimensional Scale of Perceived Social Support

Instructions:
We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Select "1" if you **Very Strongly Disagree**
Select "2" if you **Strongly Disagree**
Select "3" if you **Mildly Disagree**
Select "4" if you are **Neutral**
Select "5" if you **Mildly Agree**
Select "6" if you **Strongly Agree**
Select "7" if you **Very Strongly Agree**

1. There is a special person who is around when I am in need of them.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help and support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.
12. I can talk about my problems with my friends.

Appendix F

Self-Reflection Scale

Instructions:
We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement by selecting the number that corresponds to your level of agreement or disagreement.

Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1	**2**	**3**	**4**

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I am a person of worth, at least on an equal plan with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

Appendix G

Childhood Experiences Scale

Please use the following scoring key to answer the following questions:

1 = never or almost never
2 = occasionally
3 = sometimes
4 = frequently
5 = very frequently

Before the age of 13, how frequently did you experience any of the following behaviours? Please rate the frequency with which the behaviours were directed toward you by your mother, your father, and other adults or older adolescents.

1. Your MOTHER physically punished you for wrongdoing (e.g., smacking, grabbing, shaking)

2. Your FATHER physically punished you for wrongdoing (e.g., smacking, grabbing, shaking)

3. Another ADULT and/or ADOLESCENT physically punished you for wrongdoing (e.g., smacking, grabbing, shaking)

4. Your MOTHER used other types of violence with you (e.g. hitting, punching, kicking)

5. Your FATHER used other types of violence with you (e.g. hitting, punching, kicking)

6. Another ADULT and/or ADOLESCENT used other types of violence with you (e.g. hitting, punching, kicking)

7. Your MOTHER severely hurt you (requiring medical attention)

8. Your FATHER severely hurt you (requiring medical attention)

9. Another ADULT and/or ADOLESCENT severely hurt you (requiring medical attention)

10. How frequently do you believe you witnessed any of the behaviours listed above directed towards others in the family?

---

11. Your MOTHER yelled at you

12. Your FATHER yelled at you

1 = never or almost never
2 = occasionally
3 = sometimes
4 = frequently
5 = very frequently

13. Another ADULT and/or ADOLESCENT yelled at you

14. Your MOTHER ridiculed, embarrassed, and/or used sarcasm with you (made you feel guilty, silly, or ashamed)

15. Your FATHER ridiculed, embarrassed, and/or used sarcasm with you (made you feel guilty, silly, or ashamed)

16. Another ADULT and/or ADOLESCENT ridiculed, embarrassed, and/or used sarcasm with you (made you feel guilty, silly, or ashamed)

17. Your MOTHER provoked you, made you afraid, and/or used cruelty with you

18. Your FATHER provoked you, made you afraid, and/or used cruelty with you

19. Another ADULT and/or ADOLESCENT provoked you, made you afraid, and/or used cruelty with you

20. How frequently do you believe you witnessed any of the behaviours listed above directed towards others in the family (Questions 11-19)?

---

21. Your MOTHER did not give you regular meals or baths, clean clothes, or needed medical attention

22. Your FATHER did not give you regular meals or baths, clean clothes, or needed medical attention

23. Your MOTHER shut you in a room alone for an extended period of time

24. Your FATHER shut you in a room alone for an extended period of time

25. Your MOTHER ignored your requests for attention and/or did not speak to you for an extended period of time

26. Your MOTHER ignored your requests for attention and/or did not speak to you for an extended period of time

---

Please use the following scoring key to answer the following questions:

1 = never or almost never
2 = once
3 = twice
4 = 3 – 6 times
5 = 7 – 20 times
6 = more than 20 times

Many people report having had childhood sexual experiences with other children or with older people. The following questions relate only to sexual activities with older people. These 'older people' include someone who at the time was either an adolescent (at least 5 years older than you); or an adult (18 years of age or older). Before you turned 13, did an older person engage in any of the following types of sexual activity with you?

27. Your MOTHER requested you to do something sexual

28. Your FATHER requested you to do something sexual

29. Another ADULT and/or ADOLESCENT requested you to do something sexual

30. Your MOTHER forced you to watch others having sex

31. Your FATHER forced you to watch others having sex

32. Another ADULT and/or ADOLESCENT forced you to watch others having sex

33. Your FATHER showed you his erect penis

34. Another ADULT and/or ADOLESCENT showed you his erect penis

35. Your MOTHER touched your penis, vagina, or breasts

36. Your FATHER touched your penis, vagina, or breasts

37. Another ADULT and/or ADOLESCENT touched your penis, vagina, or breasts

38. Your MOTHER made you touch her vagina and/or breasts

39. Your FATHER made you touch his penis

40. Another ADULT and/or ADOLESCENT made you touch his penis/her vagina or breasts

41. Your MOTHER put her mouth on your penis or vagina

1 = never or almost never
2 = once
3 = twice
4 = 3 – 6 times
5 = 7 – 20 times
6 = more than 20 times

42. Your FATHER put his mouth on your penis or vagina

43. Another ADULT and/or ADOLESCENT put his/her mouth on your penis or vagina

44. Your MOTHER made you put your mouth on her vagina

45. Your FATHER made you put your mouth on his penis

46. Another ADULT and/or ADOLESCENT made you put your mouth on his penis/her vagina

47. Your FATHER put his penis in your vagina or anus

48. Another ADULT and/or ADOLESCENT put his penis in your vagina or anus

49. Your MOTHER put a finger in your vagina or anus

50. Your FATHER put a finger in your vagina or anus

51. Another ADULT and/or ADOLESCENT put a finger in your vagina or anus

52. Your MOTHER put another object in your vagina or anus

53. Your FATHER put another object in your vagina or anus

54. Another ADULT and/or ADOLESCENT put another object in your vagina or anus

55. Your MOTHER made you put your penis inside a vagina or anus (answer 1 = never if you are female)

56. Your FATHER made you put your penis inside a vagina or anus (answer 1 = never if you are female)

57. Another ADULT and/or ADOLESCENT made you put your penis inside a vagina or anus (answer 1 = never if you are female)

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