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**Attachment, Relationships, Coping, and Well-Being
of Adults Maltreated in Childhood**

by

Wendy E. Hovdestad

**A thesis submitted to the Faculty of Graduate Studies and Research in partial
fulfillment of the requirements for the degree of**

Doctor of Philosophy

**Department of Psychology
Carleton University
Ottawa, Ontario**

April, 2001

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Abstract

A large body of literature documents the long-term negative effects of childhood maltreatment on adults' psychological distress and physical health. Recent research has examined factors that might mediate or moderate this relation (e.g., attachment orientation, supportive interpersonal relationships, characteristic coping strategy). However, studies to date have not thoroughly examined these factors as mediators of the connection between childhood maltreatment and adults' physical and psychological well-being. Most earlier research relevant to mediated relations among these variables has, instead, examined coping and attachment of women with histories of girlhood sexual abuse. Mediators of the link between childhood maltreatment and adults' physical health problems have been underexamined. This is particularly true of the mediated effects of childhood maltreatment on men's psychological and physical health. Women's and men's experiences of childhood maltreatment, supportive childhood relationships, adult attachment, relationship quality, coping, and physical and psychological well-being were assessed using paper and pencil measures. In addition, in-depth interviews regarding links between childhood maltreatment and adult relationships were conducted with ten participants who had histories of childhood maltreatment. Findings suggest that disengagement coping and attachment orientation mediate the relation between childhood maltreatment and adult well-being. Gender may be an important moderator of the link between childhood maltreatment and adult well-being. Strengths and limitations of this work, and implications for future research are discussed.

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A project like this is never the work of one person acting alone. Many people have supported, encouraged, and otherwise helped me with this project.

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Note to the Reader

This research project could not have happened without the generous help of many student and community participants. Some participants are quoted in this document at some length. Others are not quoted at all. If space permitted, more people's words would be included. All participants, whether or not they are quoted in this document, made an important contribution to this research. They have my heartfelt thanks.

Here are some particularly evocative words from five participants:

Prevention and intervention when I was a child would certainly have spared me and my loved ones a world and lifetime of pain.

When I was 4-6 years old I used to walk around with a permanent welt/bruise on my forehead that I used to inflict on myself via anything that would do the job which I think was my way of trying to tell someone about the abuse. (Didn't work).

People do change and evolve. ... If I had answered this even two years ago my answers would have been much more negative.

I believe it is important for us to share our experiences for the purpose of making everyone aware that however traumatic your childhood – you can overcome all – to use a cliché – to not only survive but to thrive."

*Go back, back to your cradle
Your parents' cradle if you can,
There you will find the answers.*

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Attachment, Relationships, Coping, and Well-Being of Adults Maltreated in Childhood

Childhood maltreatment can have long lasting negative effects on facets of adult psychological well-being such as depression, anxiety, and interpersonal sensitivity (Beitchman et al., 1992; Hart & Brassard, 1987; Malinosky-Rummell & Hansen, 1993) and on aspects of physical health such as gastro-intestinal problems and medical services use (Leserman et al., 1996; Salmon & Calderbank, 1996). However, although many studies of child maltreatment portray “the former victim of child abuse as ... invariably damaged both psychologically and socially” (Runtz & Schallow, 1997, p. 212), the relation between childhood maltreatment and adult functioning is not simple: studies of adults maltreated as children document highly variable outcomes (e.g., Lam & Grossman, 1997; Martin & Elmer, 1992). Studies of the long-term sequelae of child maltreatment often focus on abuse survivors’ personal and interpersonal distress and dysfunction but “abuse is not destiny” (Mullen, 1993, p. 431). Instead, as a relatively new literature documents, some people seem to be resilient to negative aftereffects of their difficult childhood experiences (e.g., Luthar & Zigler, 1991; Rutter, 1990).

Supportive interpersonal relationships that mediate both the immediate impact of maltreatment on children and the long-term impact of childhood maltreatment on adults may be important to resilience (Lam & Grossman, 1997; Lynskey & Fergusson, 1997; Runtz & Schallow, 1997). Maltreated children with secure attachments to a caregiver seem to fare better than children without

such attachments (Herrenkohl, Herrenkohl, & Egolf, 1994; Lynskey & Fergusson, 1997) and adults with histories of maltreatment who enjoy supportive relationships report fewer problems than those who do not (Moeller, Bachmann, & Moeller, 1993; Runtz & Schallow, 1997).

However, some research indicates that maltreatment survivors may be prone to difficulties with their adult relationships (e.g., Weaver & Clum, 1996). Thus, “research on long-term effects of abuse needs to examine more fully the relational context of abuse survivors’ lives” (Alexander et al., 1997, p. 46). Attachment theory provides a useful framework with which to understand this relational context. Briefly, attachment theorists propose that people have characteristic patterns of interpreting and responding to social stimuli that are relatively stable over time and are first developed in relation to their caregivers in infancy (Bowlby, 1979; Crittenden & Ainsworth, 1989). Unlike other approaches to the study of child abuse aftereffects (e.g., posttraumatic stress disorder [PTSD] conceptualizations), attachment theory explicitly addresses the familial context of child maltreatment (Alexander, 1992, 1993; Belt & Abidin, 1996) and the interrelations among early relationship experiences, later relationships, coping strategies, and well-being (Crittenden, 1992; Kobak & Sceery, 1988).

Based on extensive reviews of the child maltreatment, attachment, social support, and coping literatures, an attachment-based model of the relationally-mediated impact of childhood maltreatment on adult well-being was developed and is represented in Figure 1. At the far left, the model illustrates the presumed

Figure 1

A Mediated Model of the Relations Among Childhood Experiences, Attachment, Relationship Supportiveness, Coping, and Well-Being

effects of both childhood maltreatment and positive childhood relationships on adult attachment orientation (denoted by relations 2 and 3). Experiences of childhood maltreatment are presumed to lead to less positive (i.e., Insecure) attachment orientations, whereas positive childhood relationships lead to more positive (i.e., Secure) attachment orientations during adulthood. Similarly, attachment orientation has an effect on the supportiveness of an adult's intimate relationships (relation 4).¹ People who have Secure attachments are more likely to have supportive relationships than those with Insecure attachments. Attachment orientation is also presumed to influence the types of coping strategies adults use to deal with distress (relation 5) such that Secure adults use more adaptive coping than do Insecure adults. Coping is also influenced by the supportiveness of intimate relationships (relation 6) in that adults with supportive relationships may be likely to use adaptive coping strategies.² Finally, coping strategies and supportiveness of intimate relationships influence psychological and physical well-being (relations 7 and 8). Childhood maltreatment also has direct negative effects on adult well-being (1). (Additional links between variables will be described, below.)

1. The relation between adult attachment orientation and supportiveness of adult intimate relationships is likely bi-directional such that attachment orientation affects adults' intimate relationships and intimate relationships influence attachment orientation. In this regard, Koski and Shaver (1997, p. 49) noted that the same studies that demonstrate stability of attachment orientations over time demonstrate "that approximately 30% of people change attachment styles, often because of change in important relationships." However, it is logical that the effect of attachment orientation on supportiveness of adult intimate relationships temporally precedes the reverse effect.

2. The relation between supportiveness of intimate relationships and coping strategies (relation 6 in Figure 1) is best understood as bi-directional and noncausal.

In sum, in this mediated model childhood relationship experiences affect adult well-being through their effects on adult attachment orientation, the quality of adult intimate relationships, and characteristic coping strategies. The existing research that was drawn upon to develop this model will be reviewed. In accordance with Baron and Kenny's (1986) conceptualization of the characteristics of mediated relations, to establish that a variable is a mediator it must first be demonstrated that the predictor and outcome variables are correlated.³ As well, the presumed mediator must be significantly related to both the predictor and outcome variables. Accordingly, the following literature review will be organized as follows. The relation between childhood maltreatment and adult well-being (i.e., psychological and physical well-being) will be established (denoted by relation 1 in Figure 1). Then, the relation of each of the three mediating variables to both the predictor and outcome variables will be established. That is, evidence that childhood maltreatment relates to adult attachment (relation 2) will be reviewed, followed by a discussion of the relation of adult attachment to well-being (relation 9). Then, evidence that supportiveness of adult relationships relates to both childhood maltreatment (relation 10) and adult well-being (relation 7) will be reviewed. Similarly, evidence that coping relates to both childhood maltreatment (relation 11) and adult well-being (relation 8) will be reviewed.

The proposed mediated model is complex, and thus it is also necessary to examine the relations among the mediating variables. Evidence that

3. This relation must be significantly reduced after statistically controlling for the presumed mediator.

attachment orientation relates to supportiveness of adult relationships with partners and friends (relation 4), and to characteristic coping strategies (relation 5) will be reviewed. Then evidence for a connection between quality of close relationships and coping strategies will be discussed. Finally, the moderating influence of gender on these relations will be considered.

After this literature is reviewed, the methodology, results, and conclusions of an interview study and a larger quantitative and qualitative survey conducted to test the model (and otherwise explore the hypothesized relations) will be described.

Effects of Childhood Maltreatment on Adults' Well-Being

A fact sheet published by the National Clearinghouse on Family Violence (1997) provides the following definitions of physical abuse, sexual abuse, neglect, and emotional abuse.

Physical abuse is the deliberate application of force to any part of a child's body, which results or may result in a non-accidental injury. It may involve hitting a child a single time, or it may involve a pattern of incidents. Physical abuse also includes behaviour such as shaking, choking, biting, kicking, burning or poisoning a child, holding a child under water, or any other harmful or dangerous use of force or restraint.

Child sexual abuse occurs when a child is used for sexual purposes by an adult or adolescent. It involves exposing a child to any sexual activity or behaviour. Sexual abuse most often involves fondling and may include inviting a child to touch or be touched sexually. Other forms of sexual abuse include sexual intercourse, juvenile prostitution and sexual exploitation through pornography.

Neglect occurs when a child's parents or other caregivers are not providing essential requisites to a child's emotional, psychological and physical development. *Physical neglect* occurs when a child's needs for food, clothing, shelter, cleanliness, medical care and protection from harm are not adequately met. *Emotional neglect* occurs when a child's need to feel loved, wanted, safe and worthy is not met. Emotional

neglect can range from the context of the abuser simply being unavailable to that in which the abuser openly rejects the child.

Emotional abuse involves an attack on a child's sense of self. Constantly insulting, humiliating or rejecting a child, or saying that a child is "stupid" or "bad", can harm a child's sense of worth and self-confidence. Other forms of emotionally abusive treatment include forcing a child into social isolation, intimidating, exploiting, terrorizing or routinely making unreasonable demands on a child.

National statistics regarding the overall prevalence or annual incidence of child maltreatment are not collected in Canada, and provincial or territorial statistics are difficult to interpret because they are often based on inconsistent definitions of maltreatment (National Clearinghouse, 1997). National statistics about child maltreatment are collected and published in the United States by the Department of Health and Human Services (DHHS, 2000). Recent findings indicate that 12.9 per 1000 (i.e., 0.13%) American children were victims of child maltreatment in 1998 (DHHS, 2000). Because these figures are based only on reports of child maltreatment judged by social services workers to be substantiated, they significantly underestimate the actual prevalence of child maltreatment.

Better estimates of the problem come from a recent study conducted in the United States. In a longitudinal study of a representative sample of 639 families in New York state, Johnson, Cohen, Brown, Smailes, and Bernstein (1999) examined two sources of data about child maltreatment. Evidence from state records indicated that the rate of any kind of child maltreatment was 4.9%, but evidence from young adults' self-reports indicated a rate of 9.1%. Johnson et al. (1999, p. 601) reported that "there was little overlap between documented and self-reported cases of childhood maltreatment." That is, there was rarely

evidence in official records to corroborate adolescents' self-reports of experiencing childhood maltreatment and adolescents for whom there was official evidence of a history of childhood maltreatment were unlikely to disclose that history. However, when the two sources were combined, Johnson et al. found that 13% of children experienced child maltreatment of some sort. This figure may be an underestimate because some participants for whom official documentation of childhood maltreatment did not exist may not have disclosed maltreatment.

In terms of the prevalence of particular types of child maltreatment, a representative sample of 2869 young adults (aged 18 to 24 years) was recently studied by the National Society for the Prevention of Cruelty to Children (NSPCC, 2000) in the United Kingdom. Their finding that 7% of the young people reported serious physical abuse (e.g., being hit with a fist or object) is in line with Johnson et al.'s (1999) finding that 7% of their sample had been physically abused.⁴ It is also roughly consistent with Hemenway, Solnick, and Carter's (1994) finding that 15% of a national random sample of American parents admitted to spanking their child daily or weekly, and with Felitti et al.'s (1998) findings from a nonrandom sample of 8,056 patients of a health maintenance organization, in which 11% reported childhood physical abuse.

Concerning sexual abuse, Johnson et al. (1999, p. 602) reported that 3.4% of their sample had experienced contact sexual abuse before the age of

4. These estimates may be quite accurate because representative sampling methods were used. However, 56% of the young adults surveyed in the NSPCC study were still living with their parents and thus some may not have reported experiences of childhood maltreatment. The Johnson et al. (1999) study may have a similar limitation.

18 years committed by “any older person who was not a boyfriend or girlfriend.” Similarly, the NSPCC (2000) report indicates that 3% of children experience sexual abuse by a relative and 10% experience sexual abuse by a nonrelative (usually someone with whom they were acquainted). Estimates based on adults’ retrospective reports are higher. Kendler et al. (2000) found that 8.4% of a population-based sample of 1411 adult female twins reported girlhood sexual abuse that involved intercourse, and 30.4% reported experience of some type of sexual abuse. Similarly, Felitti et al. (1998) found that childhood experiences of contact sexual abuse were reported by 22% of their sample.

Reports of the prevalence of emotional or psychological abuse are difficult to find due to serious problems with definitions and reporting, and relative lack of study of the problem (Briere, 1992). However, NSPCC (2000) data indicate that 6% of children experience emotional abuse (e.g., being regularly humiliated), and Felitti et al. (1998) found that 11% of their sample reported childhood psychological abuse. Johnson et al. (1999) did not assess emotional/psychological abuse.

Concerning neglect, NSPCC data indicate that 6% of children experience a serious absence of physical care (e.g., regularly being left without food as a young child) and this figure is confirmed by Johnson et al. (1999). Although the identical percentages from these surveys conducted on two continents suggests that the prevalence of child neglect in all of the Western world might be 6%, the prevalence of child neglect may be significantly lower in Canada

than in the United States due to the lower rates of child poverty in Canada (National Clearinghouse, 1997).

In sum, although exact figures are elusive, it is clear that child neglect and physical, sexual, and psychological child abuse are quite common.

Since the 1960s the social and medical sciences have responded to the problem of child maltreatment by documenting its scope and impact (Finkelhor, 1992). Although this work has undoubtedly enhanced understanding of child maltreatment and its long-term effects, some researchers have suggested that child abuse has been artificially and improperly “balkanized” by psychology into discrete types of abuse (Finkelhor, 1992; Mullen, 1993). Ney, Fung, and Wickett (1994), for example, decried abuse researchers’ tendency to study one form of abuse or another, as if types of abuse occurred only in isolation. In fact, some evidence indicates that types of child abuse (e.g., physical, emotional, sexual) often occur together and co-occur with child neglect (Belt & Abidin, 1996; Briere, 1992; National Clearinghouse, 1997; Wolfe, 1987). For example, a study of five types of mistreatment (physical, sexual, and verbal abuse, and physical and emotional neglect) in a nonrandom sample found that less than 5% of maltreated research participants experienced only a single type of abuse or neglect (Ney et al., 1994). Similarly, Styron and Janoff-Bulman (1997) reported that college student respondents who had experienced verbal, physical or sexual child abuse had often also experienced another form of abuse. Finally, a study of women with histories of childhood sexual abuse and a control group of women who had not been sexually abused demonstrated high intercorrelations

(r 's = .39 to .74) between experiences of parental physical, psychological, and sexual abuse as well as non-parental sexual abuse (Kristiansen, Mantifel, DiMito, Hovdestad, & Brommit, 1998).⁵

Making distinctions between types of maltreatment may obscure important interrelations between types of child maltreatment. But perhaps more significantly, this tendency to balkanize may lead to the neglect of study of important types of child maltreatment. Child maltreatment research and prevention efforts originally focused on physical abuse, then the focus shifted to sexual abuse, particularly of girls (Finkelhor, 1992; Tower, 1993). Neglect of some types of child maltreatment in favor of other types may lead to research that is inconsistent with the priorities of people who have been maltreated as children. For example, in a recent study of women's experiences of girlhood sexual abuse, Alexander et al. (1997, p. 57) noted: "Many women in our sample described long-term, pervasive histories of neglect, abandonment, and emotional rejection that reportedly made their experience of the sexual abuse pale by comparison." Thus, the tendency to study various types of child maltreatment in artificial isolation may have led to the neglect of important research questions and consequent misunderstanding of the effects of childhood maltreatment.

5. The picture is not, however, entirely clear, because other studies find less overlap of types of maltreatment. For example, in Moeller et al.'s (1993) sample of 668 female patients of a gynecological practice, 29% had experienced one type of childhood maltreatment, 19% had experienced two types, and 5% had experienced three types. In contrast, in Johnson et al.'s (1999) population-representative sample, 9% reported one type of childhood maltreatment and only 3% reported two or three types.

Effects of childhood maltreatment on psychological well-being.

Many studies have investigated the long-term negative effects of childhood maltreatment on various aspects of adults' psychological well-being. Effects are diverse, including PTSD, sexual problems, self-harm, suicidality, substance abuse, depression, anxiety, and symptoms attributed to personality disorders (Beitchman et al., 1992; Briere, 1992, 1995; Johnson et al., 1999; Kendler et al., 2000; Lipman, MacMillan, & Boyle, 2001; Malinosky-Rummell & Hansen, 1993). Although some of these studies are based on student or clinical samples, others are based on random samples of the general population. For example, Lipman et al. studied women who were part of the Ontario Health Survey (a survey of a probability-sample of 1471 Ontario residents aged 15 years or older). Women who had experienced physical or sexual childhood abuse had more emotional and substance use problems than women without such histories, and this association was maintained after other risk factors were statistically controlled.

Given the relational and familial contexts in which most child maltreatment occurs (National Clearinghouse, 1997), together with the fact that types of child maltreatment may often overlap, it is likely that the effects on psychological well-being of various forms of child maltreatment are more similar than different.

A review of the research relevant to long-term psychological effects of various types of childhood maltreatment indicates support for this idea. In their review of the empirical support for five types of long-term consequences of

childhood physical abuse, Malinosky-Rummell and Hansen (1993) noted consistent evidence for: 1) aggressive and violent behaviour toward spouses, dating partners, children, and people outside the family, 2) substance abuse, especially alcoholism, 3) self-injurious and suicidal behaviour, 4) emotional problems such as somatization, anxiety, depression, hostility, paranoid ideation, psychosis, and dissociation, and 5) interpersonal problems such as excessive interpersonal sensitivity. Malinosky-Rummell and Hansen (1993) also examined nonviolent criminal behaviour and academic and vocational difficulties, but these were not found to have clear empirical support.

In their review of the long-term effects of child sexual abuse Beitchman et al. (1992) concluded that anxiety, depression, suicidal feelings, and revictimization were commonly observed, particularly in women who were sexually abused as girls. Similarly, in their previously-mentioned study of adult female twins, Kendler et al. (2000) found that members of twin pairs who had not been sexually abused were less likely than their abused sisters to meet criteria for a psychiatric diagnosis or to have a substance abuse problem. This suggests that sexual abuse may have effects that are somewhat distinguishable from effects of physical abuse.

Research that investigates the effects of psychological or emotional maltreatment is not straight forward because this abuse often co-occurs with physical or sexual abuse or neglect, and research methodologies are rarely sophisticated enough to tease out specific effects, if specific effects exist. However, in her review of the effects of psychological abuse, Tower (1993)

noted effects such as feelings of inadequacy, isolation, and low self-esteem, and feelings of being unwanted, unloved, and unworthy. Finally, in her review of the long-term psychological effects of childhood neglect, Tower described problems with trusting others, anger, relationship problems, impaired social skills, low self-esteem, and substance abuse.

In sum, reviews of the literature indicate good support for the relation (denoted by 1) between childhood maltreatment and psychological aspects of adult well-being, depicted in Figure 1. Childhood maltreatment of any type is associated with a variety of negative psychological sequelae. This research also indicates that more severe childhood maltreatment is associated with more debilitating psychological sequelae. For example, Moeller et al. (1993) found that women who reported more types of abuse also reported more psychological problems. Similarly, people whose childhood sexual abuse experiences involved more intrusive acts tend to experience more psychological problems in adulthood (for a review see Beitchman et al., 1992).

Effects of childhood maltreatment on physical health. Research indicates that child maltreatment has similar long-term effects on physical health. That is, adults with histories of childhood maltreatment tend to experience more physical health problems than adults without such histories, and the severity of their health problems seems to be related to the severity of their maltreatment. Although some adult health problems are probably caused directly by childhood maltreatment (e.g., untreated injuries that did not heal properly, problems due to childhood malnutrition: Dubowitz, 1991; Tower,

1993), it is likely that most health problems are caused indirectly by the well-documented effects of stress and psychological distress on health (Antonovsky, 1987; Bardone et al., 1998). In addition, post-traumatic neurochemical changes may make people with histories of trauma particularly sensitive to later stressors (van der Kolk, 1994; van der Kolk & Saporta, 1993) and, relative to adults without maltreatment histories, they may have more difficulty coping with life's stressor (Mullen, 1993).

Links between childhood maltreatment and adult physical health have been studied in two ways. One line of research has investigated the childhood maltreatment histories of adults seeking treatment for a variety of health problems, including chronic pelvic pain (Walker, Katon, Neraas, Jemelka, & Massoth, 1992), irritable bowel syndrome (Ali & Toner, 1996; Walker, Katon, Roy-Byrne, Jemelka, & Russo, 1993), premenstrual complaints (Paddison, Gise, Lebovits, Strain, & Cirasole, 1990), problems labeled somatization disorder (Pribor, Yutzy, Dean, & Wetzel, 1993), and sexually transmitted diseases (Bartholomew et al., 1994). For example, Leserman et al. (1996) found that 50% of 239 women with gastrointestinal disease had experienced either contact sexual abuse or life-threatening physical abuse, either as adults or children. Relative to nonabused women, women who had been abused either sexually or physically had worse health status on indicators such as reported pain and number of days of bed rest.

In a study of men and women, Felitti et al. (1998) studied medical patients' experiences of childhood physical, sexual, and psychological abuse as

well as other adverse childhood experiences (ACEs) (e.g., living with someone who abused substances, was mentally ill, or went to prison, and witnessing violence against one's mother). Overall, 52% of the sample reported at least one type of ACE. People who reported four or more types of ACEs were between two and four times as likely as those with no reported ACEs to have cancer, stroke, heart disease, and chronic bronchitis or emphysema. Those with four or more types of ACEs were also twice as likely as those with none to have ever had a skeletal fracture, to have ever had hepatitis or jaundice, and to self-rate their health as fair or poor. Felitti et al. found that the severity of childhood adversity was related to problems such as heart disease, cancer, chronic bronchitis or emphysema, history of hepatitis or jaundice, skeletal fractures, and poor self-rated health.

A second line of research has examined the health problems of adults with histories of childhood maltreatment. These studies have involved both psychological treatment-seeking populations (Cameron, 1996; Chu & Dill, 1990; Saxe et al., 1994) and community populations (Golding, 1996; Greenwald, Leitenberg, Cado, & Tarran, 1990). Findings indicate that both treatment-seeking and community-based samples of abuse survivors are more likely than people without histories of maltreatment to report physical health problems. Krantz and Oestergren (2000), for example, studied 397 women between the ages of 40 and 50 years, about 30% of whom had experienced childhood abuse. Women who had been severely physically abused as girls were more

than 11 times as likely as other women to have a large number of medical symptoms.

Similarly, Salmon and Calderbank (1996) surveyed 275 undergraduate students (33% male) regarding their experiences of physical and sexual abuse. Experiences of contact sexual abuse before the age of 16 years were reported by 22% of the sample: 9% of the males and 28% of the females. Sixteen percent (23% of the males and 13% of the females) reported being hit, kicked, or beaten either “occasionally” or “often” by an older person before the age of 16 years. Participants who had been abused either physically or sexually reported more surgeries and more hospital admissions. Visits to general practitioners were more frequent among those who had been sexually abused. Although abused participants had higher scores than nonabused participants on indices of hypochondriasis and somatization, these elevated scores were independent of their health care utilization. That is, abused people used more health care resources for reasons independent of any increased tendency to report symptoms (Salmon & Calderbank, 1996). None of these findings were qualified by participants' gender.

In sum, a review of the literature indicates that the relation between childhood maltreatment and physical aspects of well-being (denoted by 1 in Figure 1) is well documented. On average, adults maltreated as children have more physical health problems than adults without maltreatment histories, and more severe maltreatment is associated with more severe health problems.

The key processes through which childhood maltreatment affects adults' psychological and physical well-being may be relational.⁶ Writing specifically about childhood sexual abuse, Mullen (1993, p. 431) suggested that abuse "does not so much initiate mental disorders such as depression as it deprives the individual of the protection against the vicissitudes of life provided by, for example, intimate confiding relationships." Attachment theory provides the best framework to understand the ways that childhood relationship experiences can affect adult relationships. Therefore, evidence that childhood maltreatment affects adult attachment orientation and that attachment orientation has important influences on adults' physical and psychological well-being will be considered next.

Adult Attachment Orientation as a Mediator of the Childhood

Maltreatment-Adult Well-Being Relation

Overview of attachment theory. As articulated by Bowlby (1979), the central tenet of attachment theory is that infants' experiences in relationships with their attachment figures (i.e., their primary caregivers) strongly affect their development. For example, infants either learn that their feelings and expressions of distress will consistently lead to comforting from a caregiver or that comfort will be inconsistent or nonexistent. Expectations regarding the likely

6. Studies of adolescents' bonding with their parents and studies of children who have positive peer relationships suggest that *positive* childhood relationships, like maltreating childhood relationships, also have long-term effects on well-being (e.g., Canetti, Bachar, Galili-Weisstub, De-Nour, & Shalev, 1997). However, most research has focused on the negative effects of childhood maltreatment on indices of adult well-being, rather than the effects of positive childhood relationships. Although consideration of positive childhood relationships is important in order to take account of

outcome of future expressions of distress are thus developed based on early experience (Crittenden & Ainsworth, 1989; van IJzendoorn, 1995a). These expectations about relationships are encoded in mental representations called “internal working models” of self and others. An internal working model functions, in part, like a set of rules through which information relevant to relationships is understood (Bakermans-Kranenburg & van IJzendoorn, 1993; Crittenden & Ainsworth, 1989). That is, based on past experiences, present social interactions are interpreted in particular ways. For example, a distressed and crying infant may feel either relief or apprehension when a parent approaches, based on the infant’s past experiences with expressions of distress in the presence of the parent.⁷ These internal working models of self and other in relation are believed to be continuous from early childhood through all of adulthood. Based primarily on their early attachment experiences with a primary caregiver, adults have positive or negative views of themselves and of others in general (Rholes et al., 1998).

Various criticisms of attachment theory have been articulated. These concern: the problematic evolutionary assumptions underpinning attachment theory; the cultural specificity of the theory and the evidence supporting it; the

the full relational context of children’s lives, this review necessarily focused on the effects of childhood maltreatment.

7. An extensive body of research has documented infants’ attachment orientations using the Strange Situation paradigm developed by Ainsworth and her colleagues (e.g., Ainsworth, Blehar, Waters, & Wall, 1978). In most attachment research, infants’ attachment orientations are classified as Secure, Anxious-ambivalent, Avoidant, or Disorganized based on their behaviour when they are left alone in an unfamiliar room for a few moments, and their behaviour when their primary caregiver returns (Crittenden & Ainsworth, 1989). For reviews of the research that documents infants’ behaviours in the Strange Situation and the meaning of this

tendency to ignore important social factors (e.g., poverty) that affect children's development; a tendency to blame mothers for children's maladjustment; previous uses of attachment theory to portray day-care as damaging (thereby supporting conservative social agendas); and an unrealistic focus on the mother-infant dyad in isolation from other family members such as siblings (e.g., Birns, 1999; Burman, 1994; Field, 1996; Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000). A thorough discussion of these criticisms is beyond the scope of this paper. Briefly, however, it is important to note that, other than its unchangeable evolutionary origins and its cultural specificity, these critiques mostly concern applications of attachment theory. Because attachment theory can be applied in ways that do not ignore the social aspects of the problem of child maltreatment, nor support oppressive social policies, attachment theory provides a useful framework for this and other projects.

Although recent research by Brennan, Clark, and Shaver (1998) strongly suggests that adult attachment is best understood in terms of two dimensions (avoidance and anxiety), much research relevant to the question of childhood maltreatment and adult well-being describes adult attachment in terms of the four categories summarized in Table 1. The four categories are defined by positive or negative views of self and others (Bartholomew, 1990; Bartholomew & Horowitz, 1991).

behaviour for infants' attachment to their caregivers, see Rholes, Simpson, and Stevens (1998) and van IJzendoorn (1995a).

Table 1

Four Attachment Orientations Defined by Valence of Perceptions of Self and Others (Bartholomew & Horowitz, 1991).

	Positive Other	Negative Other
Positive Self	Secure	Dismissing/Avoidant
Negative Self	Preoccupied	Fearful

Secure adults have positive views of themselves and others. They consider themselves to be worthy of other people's care, perceive significant others as accessible, reliable, trustworthy, and well-intentioned, and value their relationships with others (Alexander, 1992; Bakermans-Kranenburg & van IJzendoorn, 1993; Rholes et al., 1998). In contrast, preoccupied adults have negative working models of their own self worth and guardedly positive models of significant others (Rholes et al., 1998). They have been described by some attachment theorists as confused and anxious, clinging, jealous, and overly expressive (Alexander, 1992).

Dismissing/Avoidant adults have positive views of themselves and negative views of others. "Dismissing adults ... tend to devalue the importance of attachment relationships for their own lives" (Bakermans-Kranenburg & van IJzendoorn, 1993, p. 870). Adults categorized as Dismissing are described as being uncomfortable with intimacy, hostile, and lonely (Alexander, 1992). In contrast, Fearful adults have negative views of self and others. Fearful adults are also described as "Unresolved" because they demonstrate through their

“incoherent discussion of experiences of trauma (usually involving the loss of an attachment figure) that they have not yet completed the process of mourning” (Bakermans-Kranenburg & van IJzendoorn, 1993, p. 871). They also have “lapses in the monitoring both of reasoning and discourse” and report “extreme behavioral reactions” (Bakermans-Kranenburg & van IJzendoorn, 1993, p. 871). Fearful adults are described as socially inhibited and unassertive, and exhibit both Avoidant and Preoccupied traits (Alexander, 1992).

Based on interviews with 83 mothers of young children drawn from the general population, Bakermans-Kranenburg and van IJzendoorn (1993) found that 55% were Secure, 24% were Dismissing, and 20% were Preoccupied. However, when the category “Unresolved” (Fearful) was included, the percentages were: 49% Secure, 18% Dismissing, 17% Unresolved, and 16% Preoccupied (Bakermans-Kranenburg & van IJzendoorn, 1993). These findings are in line with other studies of the prevalence of the four attachment orientations in adults (e.g., Brennan et al., 1998; Hazan & Shaver, 1987; Koski & Shaver, 1997).⁸ For example, in their study of university students Bartholomew and Horowitz (1991) found nearly identical proportions (47% Secure, 18% Dismissing, 21% Fearful, 14% Preoccupied) as did Ross and Spinner (1999) in their mixed community and university sample of 159 adults,

8. However, Brennan et al. (1998, p. 73) suggested that the widespread finding that approximately 55% of adults are Secure is a measurement artifact, and they propose an alternative self-report measure based on the concepts of Anxiety and Avoidance that “places relatively few people in the secure category.” Their “conservatism” seems to lead to statistically stronger results; their scale may make more precise discriminations amongst people with different types of insecure attachment orientations.

although the latter's use of a different categorization scheme makes comparison difficult.

Childhood maltreatment and adult attachment orientation. As indicated in Figure 1, in the present model adult attachment orientation is a mediator of the relation between childhood experiences and adult well-being. In order for adult attachment orientation to play this role, it must be related to childhood experiences (denoted by 2 & 3 in Figure 1).

An important controversy in the attachment literature concerns this very issue: To what extent is attachment orientation stable from infancy through adulthood? Although Fox (1995) argued that there is no evidence for the long-term stability of attachment orientation, Rholes et al. (1998, p. 167) wrote that "the influence of childhood relationships extends well into adulthood and ... inadequate relationships early in life can lead to ... dysfunctional orientations toward the interpersonal world." Rholes et al.'s position seems to be well-supported. For example, Main and Cassidy (1988) reported that the attachment orientations of 6 year old children were predictable from their classifications as infants. Similarly, Hamilton (2000) indicated that 77% of 30 adolescents observed as 1-year-olds in the Strange Situation demonstrated stability in their attachment classifications over a 16.5 year interval. See Waters, Weinfield, and Hamilton (2000) for a recent discussion of the question of attachment stability over time.

Strong evidence that childhood relationships are predictive of adult attachment orientation also comes from extensive study of the relations

between parents' and children's attachment orientations (Main & Hesse, 1990; van IJzendoorn, 1995a). For example, van IJzendoorn's (1995a) meta-analysis of 18 studies indicated that 75% of the parents studied had an attachment categorization that corresponded to their children's attachment orientation, based on their children's behaviour in the Strange Situation. Similarly, Main and Hesse (1990) found that Secure parents often have Secure infants and Dismissing parents often have Avoidant infants.

The best explanation for the consistency between parents' and children's classifications is in line with attachment theorists' predictions about stability of attachment orientation: parents learned during their childhoods how parents treat children and this childhood learning is reflected in both their responses to attachment measures and their treatment of their children. The children's behaviour in the Strange Situation, in turn, reflects their expectations of the treatment they will receive from their parents. In short, by interacting with their parents children develop internal working models of self and other which are similar to those of their parents.

In terms of relation 2 in Figure 1, several studies indicate that maltreated children and adults who were maltreated in childhood tend to have Insecure attachment orientations. Morton and Browne (1998) reviewed 13 studies published between 1981 and 1993, 11 of which demonstrated that maltreated children are more likely than nonmaltreated children to have Insecure attachments. In another study, Crittenden (1992) found that adequately reared children were, on average, Securely attached to their mothers, whereas

marginally maltreated children displayed both Secure and Anxious patterns, and children who had been neglected and/or abused demonstrated Avoidant patterns. Similarly, Egeland and Sroufe (1981) studied 194 poor mothers and their 18 month old infants and found that 76% of the infants who received excellent care were Securely attached, whereas only 56% of the infants who received clearly inadequate care (i.e., physically abusive, neglectful, or both) were Securely attached.

Several studies have linked maltreatment with the Disorganized attachment orientation in children (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Main & Solomon, 1990). For example, Carlson et al. (1989) studied 43 12 month olds and their mothers and found that 82% of the 22 maltreated children were Disorganized, while only 14% were Secure. In contrast, only 19% of the nonabused infants were Disorganized and 52% were Secure.

Data from nonclinical and clinical populations suggest that adults who report histories of childhood maltreatment are likely to report Insecure attachment orientations, lending support to the existence of relation 2 in Figure 1. For example, Styron and Janoff-Bulman (1997) surveyed a nonclinical sample of 879 undergraduate students (60% female) and found that students who had been abused were more likely than students who reported no abuse to indicate current Insecure attachment relationships with their significant others as well as their mothers and their fathers.⁹ In another nonclinical study,

9. Styron and Janoff-Bulman (1997) did not report the average age of their sample, but it is likely that this sample of students was a group of very young adults. This may be a serious limitation of this study because the students were asked to indicate their "generalized assessment of one's attachment style in romantic

Alexander (1993) had 112 women with histories of incestuous childhood sexual abuse rate the personal descriptive validity of the four attachment orientations specified by Bartholomew and Horowitz (1991) and choose one category that they felt was the most descriptive of themselves. Over half (58%) chose Fearful, 16% chose Dismissing, 14% Secure, and 13% Preoccupied, indicating that this sample was different from nonabused populations in which half rate themselves Secure and about 20% Fearful. In a similar study of 92 women with histories of intrafamilial childhood sexual abuse, most of the women had Insecure attachment orientations (60% Fearful, 21% Preoccupied, 11% Dismissing) and only 9% had a Secure attachment orientation (Alexander et al., 1997).

In the clinical realm, studies of the attachment orientations of adults diagnosed with borderline personality disorder (BPD) are instructive because serious problems with interpersonal relationships are a hallmark of BPD, and adult BPD diagnosis has been related to a childhood history of chronic and severe maltreatment (Briere, 1992; Herman, 1992; Herman, Perry, & van der Kolk, 1989; van der Kolk, 1993). Some studies of the attachment orientations of people diagnosed with BPD suggest that severe post-maltreatment disturbances in attachment distinguish this group from those with other psychiatric diagnoses. For example, West, Keller, Links, and Patrick (1993) studied 54 female psychiatric outpatients and found that four measures of psychological distress and interpersonal characteristics that were specifically related to adult attachment (i.e., feared loss, secure base, compulsive care-

relationships" and their style of resolving disputes with a romantic partner even though they may not have had much experience with romantic relationships (Styron & Janoff-

seeking, and angry withdrawal) predicted the presence or absence of a BPD diagnosis, whereas other scales (e.g., anxiety, psychotic ideation) did not. Similarly, Sperling, Sharp, and Fishler (1991) found that patients with BPD diagnoses were less likely than nonpsychiatric controls to indicate a Secure attachment style and more likely to endorse what they termed Resistant/Ambivalent (similar to Preoccupied) and Hostile (similar to Dismissing) attachment styles. Finally, Alexander et al. (1997) found that women survivors of childhood sexual abuse who had high scores on a measure of BPD were likely to be classified as Fearful or Preoccupied.

In contrast, Lam and Grossman (1997) compared two groups of women with and without histories of girlhood sexual abuse and found no group differences in security of attachment as assessed by Bartholomew and Horowitz's (1991) four-category model. This failure to find a difference may be due to the high variability in sexual abuse experiences reported by the participants. Lam and Grossman did not separate incestuous or ongoing abuse from single incidents of abuse. A single incident of sexual abuse inflicted by a non-attachment figure would not be expected to affect the Security of a participants' attachment.

In sum, studies involving student, community, and clinical samples lend support to relation 2 in Figure 1.

Despite this evidence that childhood maltreatment may be an important predictor of adult attachment, other factors such as supportive childhood relationships with nonmaltreating parents, other adults, and peers can also

affect adult attachment orientation (relation 3 in Figure 1). For example, as mentioned above, 56% of Egeland and Sroufe's (1981) sample of infants who received clearly inadequate care (i.e., physically abusive, neglectful, or both) nonetheless demonstrated Secure attachment. These infants' Secure attachment classification was likely due to their nurturing relationships with nonmaltreating caregivers: Egeland and Sroufe noted that a maternal grandmother's or other family member's involvement in child care seemed to cause changes in maltreated infants' attachment orientations, from Insecure to Secure, between the ages of 12 and 18 months. Similarly, Morton and Browne (1998) reviewed multiple studies concerning the attachment orientations of maltreating mothers. Their review indicates that women who were maltreated as children but who enjoyed a supportive relationship with a parent or foster parent are likely to have Secure attachment orientations, as indicated by their good treatment of their own children.

Finally, a study of the long-term consequences of childhood abuse and early attachment concluded that "the long-term impact of childhood abuse on adult attachment ... is probably mediated by early attachment experience" (Styron & Janoff-Bulman, 1997, p. 1021). That is, the security of childhood attachments likely has long-term effects on abuse survivors' adult attachment above and beyond the influence of the severity of the abuse suffered (Styron & Janoff-Bulman, 1997). To the extent that adult attachment orientation is related to adult well-being, then, adult attachment orientation may mediate the relation between childhood maltreatment and adult well-being.

Adult attachment orientation and well-being. Attachment orientations may be related to adults' well-being (relation 9 in Figure 1), and this relation may be due to a lesser ability of adults with Insecure attachment orientations, compared to Secure adults, to benefit from known protective factors (e.g., supportive relationships and positive coping).

Several studies suggest that attachment may mediate the relation between risk factors such as childhood maltreatment and psychological problems. For example, Kobak and Sceery (1988) used several sources of data about 53 first year college students' relationships and psychological problems (i.e., self-reports, transcripts of interviews, and peer ratings) and found that Secure students were more ego-resilient, less distressed, and rated less hostile by their peers. Dismissing participants were peer-rated the most hostile, and Preoccupied participants were peer-rated low on ego-resilience and high on anxiety, and personally reported high psychological distress. Somewhat surprisingly, and in contrast to peer ratings, Dismissing students and Secure students did not differ on their self-reported social competence and distress. However, Dismissing participants were more lonely and, according to Kobak and Sceery (1988), may have had difficulty acknowledging their negative affect.

Cooper, Shaver, and Collins' (1998) study of nearly 2,000 adolescents also indicates that attachment orientation is related to psychological well-being. Specifically, Secure adolescents reported fewer problems such as anxiety, depression, somatization, and distorted body image than either Avoidant or

Ambivalent adolescents. Gender was a moderator in that Anxious women were more depressed and anxious than anyone else.

The potential mediating influence of attachment on psychological well-being for adolescents and adults with histories of childhood maltreatment has also been investigated directly. As previously mentioned, Alexander (1993) studied the adult attachment orientations and psychological symptoms of 112 women with histories of incestuous childhood abuse. Although more severe abuse was directly related to more depressive symptoms, participants' general distress was better predicted by participants' attachment orientations than by the characteristics of their abuse. All effects were in the direction of fewer problems for Securely attached women. This finding suggests that the path in Figure 1 denoted by relations #2 and #9 may be more important than relation #1.

A later study by Alexander et al. (1997) also examined the possibility that adult attachment orientation mediates the relation between childhood maltreatment and adult well-being. As previously mentioned, Alexander et al. recruited 92 women from the community who had experienced intrafamilial childhood sexual abuse. Attachment orientation predicted psychological symptoms such as depression even after the effects of abuse severity were statistically controlled. Intrusive thoughts of the abuse and avoidance of abuse memories (symptoms of PTSD), however, were predicted only by abuse severity. Although Secure participants reported less distress than Fearful and Preoccupied participants, Dismissing participants reported the least distress.

Alexander et al. suggested that, consistent with earlier research, Dismissing participants underreported their problems.

Using data from 307 university women (28% of whom had histories of girlhood sexual abuse), Roche, Runtz, and Hunter (1999) found that history of abuse predicted both attachment style and psychological adjustment (indicated by scores on the Trauma Symptom Inventory). Further, attachment style predicted psychological adjustment, independent of the effects of sexual abuse. Sexual abuse, in contrast, no longer predicted psychological adjustment once the effects of attachment were statistically controlled.

Similarly, Shapiro and Levendosky (1999) interviewed 80 female adolescents, some of whom had childhood maltreatment histories, and found that more secure attachment was related to less depression and lower scores on a measure of trauma symptoms. The direct effects of childhood maltreatment on psychological well-being were negligible. In sum, research by Alexander (1993) and her colleagues (Alexander et al., 1997), as well as others (Roche et al., 1999; Shapiro & Levendosky) indicates that adult attachment orientation mediates the relation between childhood maltreatment and some aspects of adults' psychological well-being, consistent with relation 9 in Figure 1. However, these studies of attachment as a mediator of the relation between childhood maltreatment and adult psychological problems involved exclusively women.

No research to date has directly examined attachment as a mediator of the relation between childhood maltreatment and adult physical health.

However, some research is suggestive. Sigal, Rossignol, and Perry (1999) located 31 adults (81% men) who were raised in Quebec orphanages in the 1930s and 1940s. Most participants lived in an orphanage from birth until the age of 14 years. Although Sigal et al. did not evaluate attachment, compared with an age and income-matched control group the adults raised in orphanages were five times as likely never to have married and to be living alone at the time of the study. This suggests that many had difficulty in establishing and maintaining intimate relationships, which is consistent with Insecure attachment. In addition, compared to the control group, participants raised in orphanages reported more psychological distress and more stress-related illnesses (e.g., digestive problems), but not more illnesses judged to be of purely physical origin (e.g., cerebral palsy, diabetes). Although this research is far from conclusive, the well-documented relation between psychological distress and physical health (e.g., Herrmann et al., 1998) suggests that a relation may exist between adult attachment and physical health, akin to the relation between attachment and psychological well-being.

Supportiveness of Intimate Relationships as a Mediator of the Childhood Experiences-Adult Well-Being Relation

The research and theory described above indicate that adult attachment orientation may mediate the relation between childhood maltreatment and adult well-being. Several lines of evidence suggest that the supportiveness of adults' intimate relationships is also related to both childhood maltreatment (relation 10 in Figure 1) and adult well-being (relation 7). Thus, supportiveness of intimate

relationships is another possible mediator of the relation between childhood maltreatment and adult well-being. Evidence will now be reviewed that suggests that adults with histories of childhood maltreatment have less supportive, stable, and committed relationships with intimate partners than do adults without histories of childhood maltreatment. Other research indicates that supportiveness of intimate relationships is related to adult psychological and physical well-being (Collins, 1996; Rholes et al., 1998).

Childhood maltreatment and adult intimate relationships. People with histories of childhood maltreatment may have more difficulty than adults without such histories in beginning and sustaining supportive intimate partnerships. In one study that directly examined the relation between childhood maltreatment and the quality of adult intimate relationships, Belt and Abidin (1996) surveyed a nonclinical sample of 159 women and men. They assessed childhood maltreatment experiences, three dimensions of intimate relationship quality (i.e., availability of support, depth of commitment, and level of conflict), and used Parker, Tupling, and Brown's (1979) Parental Bonding Instrument (PBI) to evaluate parental Care and parental Overprotection. For men, level of marital conflict was predicted by childhood physical abuse and parental Overprotection. However, neither childhood abuse nor parental Care predicted men's perceptions of the availability of support or the depth of men's commitment to their marriages. For women, level of marital conflict was predicted by childhood verbal abuse but not parental Care or Overprotection. In contrast to the men, parental Care predicted the depth of women's commitment

to their marriages. Belt and Abidin (1996) concluded that the relations between experiences of childhood abuse, perceptions of parenting, and marital relationships are complex. There was no evidence that either abuse or parenting style had preeminent effects on the quality of adults' intimate relationships. Instead, it seemed that the effects of childhood experiences varied according to the dimension of adult intimate relationship and according to respondents' gender.

Other research also indicates that childhood experiences affect the nature of adult intimate relationships (relation 10). Hazan and Shaver (1987) found that adults who currently had Insecure relationships with their intimate partners reported more difficult childhood relationships with their parents than did adults who currently had Secure intimate relationships. Similarly, Runtz and Schallow (1997) found that childhood physical abuse was strongly negatively related to perceptions of support from family and friends in a sample of 301 university students with childhood abuse histories. In addition, in their review of the literature Malinosky-Rummell and Hansen (1993) noted that excessive interpersonal sensitivity, hostility, and aggressive behaviour toward intimates are more common in people with histories of childhood physical abuse than in those without such histories.

Another line of research has explored the links between histories of childhood maltreatment and experiencing violence inflicted by an adult partner. Based on analyses of data from a representative sample of American women, Weaver, Kilpatrick, Resnick, Best, and Saunders (1997) found that a third of

women who were assaulted by a romantic partner reported some type of childhood abuse. In contrast, childhood maltreatment was reported by only 17% of women who had not been assaulted by a partner. See Zeanah and Zeanah (1989) for additional support for the existence of relation 10 in Figure 1.

In contrast to the above, Shapiro and Levendosky (1999) did not find any effect of childhood maltreatment experiences on the quality of relationships their sample of female adolescents had with their best friends: Girls with histories of childhood maltreatment did not report more conflict with their female best friends than girls without such histories. Further, based on a review of four clinical studies that used the PBI to assess the quality of parenting clients had experienced in their childhoods, Parker, Barrett, and Hickie (1992) argued that the relation between childhood experiences and quality of adult relationships was not clearly established. Instead, persistence of relationship problems from childhood to adulthood is clear only “in situations of gross deprivation of parental care, when ... respondents were also more likely to rate their intimate partner as extremely deficient in care” (Parker et al., 1992, p. 882). This finding suggests that severely maltreated children may grow up to have severe problems in their adult intimate relationships, whereas less severely maltreated children may experience no more problems in their adult intimate relationships than people who were not maltreated as children. Although these findings may be cause for optimism, it is possible that they hold only for clinical samples. It may also be that the Overprotection subscale of the PBI is an inadequate measure of child maltreatment.

In Martin and Elmer's (1992) study of 19 adults with childhood histories of severe battery, participants' scores on a measure of resentment and suspicion were higher than the norms from a nonmaltreated population. These respondents also indicated that relationships in their foster families and families of origin were less cohesive, more conflict ridden, and more controlling than population norms. However, most of the participants (69%) described themselves as "very satisfied" with their spouses or intimate partners and described their partners as caring and supportive. As well, participants' scores on a measure of the quality of their overall social supports were indistinguishable from the scores of a nonmaltreated sample. Although these findings may indicate that childhood abuse does not have longlasting negative effects on adults' relationships, they must be interpreted with caution because participants comprised only 58% of the potential sample of injured children originally seen at a children's hospital in the early 1960s. Fourteen people originally studied as children who could not be contacted for this study had, on average, more problems as children than those who were re-contacted (Martin & Elmer, 1992). Martin and Elmer suggested that those who could not be found may have been institutionalized in prison or psychiatric hospitals, or may have had more fragile social ties to family and peers.

In sum, several studies suggest that there may be a direct association between childhood experiences of maltreatment and conflictual, violent, and otherwise nonsupportive adult intimate relationships, but it is clear that this association (denoted by 10 in Figure 1) is neither absolute nor simple.

Adult intimate relationships and well-being. People who enjoy supportive intimate relationships tend to report few psychological problems compared to those who lack supportive relationships or who are involved in abusive intimate relationships (relation 7). For example, in their study of 301 university students with childhood maltreatment histories, mentioned above, Runtz and Schallow (1997) found that the effects of abuse on adult adjustment were entirely mediated by the effects of abuse on social support and coping. The strongest pathway in their model was the negative impact of physical abuse on social support and, in turn, social support's strong positive relation to adult adjustment (Runtz & Schallow, 1997).

Studies of mature adults are also available. Whiffen, Judd, and Aube (1999) found that, compared to nonabused women, women with histories of childhood sexual abuse were less vulnerable to depression if they were in satisfying intimate relationships and more vulnerable to depression if they were in unsatisfying relationships. Similarly, in a study of 737 women drawn at random from voter registration lists, Feinauer, Callahan, and Hilton (1996) found that, although women who had been sexually abused as girls reported more depression than those who had not, those with higher quality intimate partnerships were less depressed than those in lower quality partnerships. Feinauer et al. did not, however, test the ability of partnership quality to mediate the observed relation between abuse and depression.

Findings that supportive relationships enhance maltreatment survivors' psychological well-being are consistent with studies of nonmaltreated

populations. Several studies reviewed by Kessler, Price, and Wortman (1985) indicated that women experiencing life stress were protected from depression by the presence of an intimate, confiding relationship with a boyfriend or husband. Similarly, Nolen-Hoeksema, Parker, and Larson (1994) found that recently bereaved people who reported social isolation, lack of feelings of affirmation from others, and high friction in their social networks were more likely to report ruminative coping and its attendant depression than those who reported involvement in supportive relationships.

In terms of physical health, Krantz and Oestergren (2000) found that women who had histories of childhood physical abuse and little social support had more medical symptoms than did women with similar histories but more social support. In addition, Waltz, Kriegel, and van't-Pad-Bosch (1998) found that arthritis patients' reports of negative spouse behaviour predicted worse pain outcome after controlling for baseline pain, and level of daily emotional support was indirectly related to pain outcome. This is consistent with earlier work which suggests that it is the perceived adequacy of personal relationships, rather than the mere presence of social contacts, that has a protective influence on adult well-being (Rutter, 1985).¹⁰

In sum, research involving a variety of populations experiencing a variety of stressors indicates that supportive intimate and friendship relationships are related to increased well-being: the existence of relation 7 in Figure 1 is well-supported. In turn, a variety of studies of diverse populations indicate that

10. For a review of recent research relevant to the effects of relationships on physical illness, see Schmaling and Sher (1997).

childhood experiences of maltreatment are related to the supportiveness of adults' relationships (relation 10). That is, adults with histories of childhood maltreatment are more likely than adults without maltreatment histories to have nonsupportive or abusive intimate relationships. Therefore, the supportiveness of adults' intimate relationships may mediate the relation between childhood maltreatment and well-being.

Coping as a Mediator of the Childhood Experiences-Adult Well-Being Relation

As represented in Figure 1, coping may be a third mediator of the relation between childhood maltreatment and adult well-being. Following an overview of coping research and relevant theoretical issues, evidence that coping is related to childhood maltreatment (relation 11) and well-being (relation 8) will be reviewed.

Overview of coping literature. In their seminal work, Lazarus and Folkman (1984, p. 141) defined coping as "the person's constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person's resources," and this definition has been widely used (e.g., Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Kessler et al., 1985; Thoits, 1986). The study of coping developed as a means to explain individual differences in the effects of stress on health (Pearlin, 1991). Since its beginning, the study of coping has expanded to include a wide variety of cognitions and behaviours. For example, Carver, Scheir, and Weintraub's (1989) COPE scale includes

measures of the suppression of competing activities, positive reinterpretation and growth, turning to religion, and alcohol-drug disengagement, among others, and Folkman and Lazarus' (1985; Folkman et al., 1986) widely used measure includes scales labeled confrontive coping, distancing, positive reappraisal, and seeking social support.

Tobin, Holroyd, Reynolds, and Wigal (1989) discussed seven coping strategies previously described in the stress and coping literature: problem solving, cognitive restructuring, emotional expression, social support, problem avoidance, wishful thinking, and self-criticism. To address the paucity of information about these seven strategies' interrelations, Tobin et al. factor analysed a pool of 109 items generated by expanding the Ways of Coping Checklist. They found that an eight-factor solution fit the data well, and thus they added a new factor, labeled "social withdrawal," to the seven coping strategies listed above. Tobin et al. also empirically derived a hierarchical factor structure for the eight strategies that accommodates diverse conceptualizations of coping (e.g., problem- vs. emotion-focused coping, approach vs. avoidance coping). In their conceptualization, problem solving and cognitive restructuring are problem-focused engagement coping strategies and emotional expression and social support are emotion-focused engagement coping strategies. Problem avoidance and wishful thinking are problem-focused disengagement strategies, and self-criticism and social withdrawal are emotion-focused disengagement strategies. Their factor structure is attractive not just for its clarity and comprehensivity, but also for its consistency with the findings of

other researchers. Factors resembling Tobin et al.'s engagement (or approach) coping and disengagement (or avoidance) coping have also emerged from factor analyses of other pools of coping items (Tobin et al., 1989).

The distinction made in the present study between social support (a type of coping strategy) and the supportiveness of intimate relationships requires explication. The term "social support" is used in two ways in the literature. First, it is used to mean the degree to which people in an individual's social network are emotionally supportive (Runtz & Schallow, 1997), or, more generally, the "potentially useful information or things" provided by other people (Cohen & Syme, 1985, p. 4). Second, it is used to mean the extent to which people seek out contact with others when they are trying to cope with problems (e.g., Leitenberg, Greenwald, & Cado, 1992). Eckenrode (1991) suggested that it may be helpful to distinguish between solicitation of social support (i.e., social support as coping) and spontaneously offered social support (i.e., supportiveness of intimate relationships), and thus this distinction is made here.

In the present research coping was studied differently than in many earlier studies of the coping of childhood maltreatment survivors, in which researchers studied coping strategies used to deal specifically with maltreatment experiences. For example, Leitenberg et al. (1992) asked their research participants to describe what they had done to cope with their experiences of childhood sexual abuse since the abuse stopped. Similarly, Runtz and Schallow's (1997) participants described coping with a particularly significant experience of childhood abuse, and Moeller et al. (1993) took a

comparable approach. These researchers operationalized post-maltreatment coping as the actions, cognitions, and strategies performed to deal specifically with the aftereffects of maltreatment. However, it seems more in line with the nature of child maltreatment to study adult maltreatment survivors' more generally used coping strategies, recognizing that these coping strategies may have been developed within the context of maltreating childhood relationships.¹¹

Along these lines, Pearlin's (1991) review suggests that, for a stressor that occurred in research participants' pasts, coping measures relevant to generally used coping strategies are more appropriate than measures of coping with specific problems or types of problems. Using somewhat vernacular terms he wrote: "it is unlikely that we get high on drugs to relieve the effects of one problem but meditate to manage those of another problem" (Pearlin, 1991, p. 268). Thus, the most useful information might be gained by measuring coping in regard to whatever problems are currently salient to those participants.

Another reason to measure coping strategies used to deal with current problems not necessarily related to childhood maltreatment is that, if survey respondents are asked specifically about things they have done to cope with experiences of childhood maltreatment, people who have suffered abusive experiences yet do not consider those experiences to have been abusive may

11. This position that adults' coping strategies may originate in childhood experiences can only be valid if coping strategies are consistent over time. Hewitt and Flett's (1996) review of literature relevant to coping and personality traits provides evidence of the temporal and cross-situational consistency of coping strategies over time. As well, Shapiro and Levendosky (1999) discussed from a theoretical perspective the ways that coping strategies may be developed in childhood and maintained through adolescence and adulthood. Additional evidence of the likely effects of childhood

be excluded. People with Avoidant attachment orientations, for example, tend to report globally positive childhood experiences even though they cannot support these impressions with memories of actual events and sometimes contradict their own insistence that their childhoods were benign (Bakermans-Kranenberg & van IJzendoorn, 1993).

In sum, in contrast to some earlier work investigating the coping strategies of adults with histories of childhood maltreatment it may be most useful to study currently-used coping strategies, rather than past ways of coping with any particular incident of maltreatment.

Coping and childhood maltreatment. Research that has investigated the relation between coping strategies and childhood maltreatment (relation 11 in Figure 1) has focused almost exclusively on women's coping with histories of childhood sexual abuse. Findings indicate that women use a range of coping strategies.

Perrott, Morris, Martin, and Romans (1998) analysed transcripts of interviews with 40 women who had experienced childhood sexual abuse. In response to an open-ended question about how they had coped with their abuse, most (68%) indicated that they had coped largely on their own (e.g., had chosen not to disclose the abuse to friends or family members). However, just over half (58%) of the participants had talked about their abuse experiences when they were adults and/or when they were children. These disclosures were better understood as “bearing witness” than as attempts to gain support (Perrott

experiences on coping strategies will be reviewed when the relation between coping and childhood maltreatment is considered, below.

et al., 1998). Almost half (48%) of the women indicated that they had deliberately suppressed thoughts about their abuse. A period of time spent acknowledging, working through, and ultimately mastering the abuse history was described by 42% of the women. Just over a third (35%) indicated that they had reframed their experiences of abuse, for example, by reasoning that it could have been worse than it was. The same number of women sought support from therapists, partners, or self-help books to help them cope.

Although these findings may seem to be contradictory, they instead indicate the need to consider the complexity of the question asked. The concept of coping with experiences of childhood maltreatment is complex; many women asked the researchers to define exactly what “coping” meant (Perrott et al., 1998). Another issue is the likelihood of change in coping over time. The women’s ages ranged from 29 to 69 years, and the same women may have used very different coping strategies at different times in their lives (e.g., choosing to cope alone during early adulthood and later actively working through the experience with a therapist). In addition, Perrot et al.’s findings are best interpreted with due consideration given to the complexity of the long-term aftereffects of abuse; women may have suppressed thoughts about the emotional impact of abuse on them but have borne witness about the factual occurrence of abuse in their lives.

Using quantitative rather than qualitative methods, Leitenberg et al. (1992) studied the coping strategies and psychological well-being of 54 women with histories of childhood sexual abuse. They found that denial (assessed by

items such as: “went about my life as if nothing had happened”) and emotional suppression (e.g., tried to keep my feelings to myself) were more frequently used than any other ways of coping. Lack of a control group for comparison purposes hampers interpretation of Leitenberg et al.’s findings.

Griffing (1997) used Tobin, Holroyd, and Reynolds (1984) Coping Strategies Inventory to compare the coping of 51 female students with histories of girlhood sexual abuse to the coping of a control group of 88 nonabused female students. Abused participants used less engagement coping compared to nonabused participants. The great variability in experiences of abuse (i.e., intra- vs. extra-familial, single incident vs. repeated), the restriction of the research questions to young women’s experiences of sexual abuse, and Griffing’s comparison of groups defined by mood-dysphoria as well as abuse status make it difficult to draw conclusions about any general relation between childhood maltreatment and coping strategies.

In a study of both men’s and women’s experiences of childhood abuse, Sicher (1998) noted that clients of a substance-abuse treatment program reported more childhood physical abuse and lower scores on a measure of social support than did an age and ethnicity-matched community control group. This suggests that substance use may have been a maladaptive means of coping with abuse histories.

In sum, although it is premature to draw general conclusions about the relation between particular types of coping and experiences of childhood

maltreatment, it is clear that maladaptive as well as adaptive coping strategies are reported by people with histories of childhood maltreatment.

Coping and well-being. In their thorough review of the literature relevant to coping processes and consequent outcomes, Zeidner and Saklofske (1996) noted that use of escape or avoidant coping (i.e., disengagement) by people dealing with physical health problems was related to worse outcomes. As well, avoidance and emotion-focused (rather than problem-focused) coping is reported by depressed people more than by nondepressed people (Zeidner & Saklofske, 1996). Despite this evidence that engagement coping is more adaptive than disengagement coping, Zeidner and Saklofske noted that the utility of any particular coping strategy depends on the situation, the acuteness versus chronicity of the stressor, the outcome that is measured, and even the phase of the stressful encounter. They concluded that “at present, there is no consensus about which coping strategies are most effective and adaptive in promoting positive outcomes” (Zeidner & Saklofske, 1996, p. 525).

However, in terms of coping as it relates to childhood maltreatment, some research suggests that coping style mediates the relation between experiences of childhood maltreatment and adults’ well-being. In fact, Runtz and Schallow (1997, p. 223) concluded that “how one copes with childhood trauma as an adult may be more relevant to adjustment than the actual extent of maltreatment experienced.”

In his review of research relevant to people’s coping with childhood sexual abuse, Spaccarelli (1994) concluded that avoidant coping (i.e.,

conscious effort to deny the reality of the abuse) increases the risk of psychological symptoms among adolescents and adults. In contrast, some evidence indicates that disclosure and emotional support seeking are associated with less distress in sexually abused children (Spaccarelli, 1994). However, Spaccarelli (1994) did not distinguish between availability of a supportive adult and social support-focused coping. Finally, Spaccarelli (1994) concluded that the effectiveness of cognitive restructuring or meaning-making coping was unclear.

In research that supports Spaccarelli's (1994) conclusions about the maladaptiveness of avoidant coping for people with histories of childhood maltreatment, Leitenberg et al. (1992) found that denial, emotional suppression, cognitive rumination (e.g., went over in my mind what could have been said or done differently), and avoidance (e.g., stayed away from people) were associated with greater psychological distress. This relation held even after effects due to the severity of the abuse (e.g., amount of force involved, duration) were factored out (Leitenberg et al.).

Other research supports the possibility that social contact-seeking coping strategies are more effective than contact-avoiding strategies. For example, Runtz and Schallow (1997) found that the effects of physical or sexual child abuse were entirely mediated by negative coping (e.g., using drugs or alcohol, blaming oneself, trying to forget that the abuse happened), positive coping (e.g., talking to family and friends about the abuse, finding out more about other people's similar experiences), and social support (i.e., perceptions of support

received from family and friends). Social support and positive coping were related to increased psychological adjustment, whereas participants' negative coping was related to decreased psychological adjustment.

However, several problems complicate the interpretation of Runtz and Schallow's (1997) findings. First, participants completed the coping measure in terms of their efforts to deal with a particularly salient experience of childhood abuse rather than in terms of coping with a present-day stressor. Second, Runtz and Schallow's (1997) factor analysis of the coping items lead to some puzzling groupings. For instance, "talking to a therapist or counsellor" and "getting more involved in religion" were included on the "self-destructive coping" factor. But, rather than being an indicator of negative coping, seeing a therapist is likely related to more severe post-abuse difficulties. Along these lines, some items on the negative coping measure, such as "generally feeling irritable" and "getting yourself into dangerous or risky situations," seem better conceptualized as indicators of psychological distress rather than negative coping strategies.¹² To the extent that some indicators of psychological distress may have been confounded with coping strategies, Runtz and Schallow's finding that psychological adjustment is entirely mediated by coping and social support is difficult to interpret.

In a study that expanded and improved upon previous work, Himelein and McElrath (1996) surveyed 180 college women, of whom 26% reported a

12. Rather than a weakness particular to Runtz and Schallow's work, however, this "blurring" between "ineffective coping and psychological maladjustment" is a problem in stress and coping research in general (Costa, Somerfield, & McCrae, 1996,

history of girlhood contact sexual abuse. In subsequent interviews with 20 of the women who reported childhood abuse, Himelein and McElrath observed differences between better adjusted abuse survivors (13 women) and those who seemed less well adjusted (7 women). Based on an inductive content analysis of interview transcripts, women's discussions about their experiences of sexual abuse and their attempts to cope with those experiences involved four themes: 1) disclosing and discussing sexual abuse, 2) minimizing the impact of abuse, 3) positive reframing, and 4) refusing to dwell on the experience.

Since the abuse occurred 85% of the women in the well adjusted group had disclosed information about their abuse to family or friends, compared to only 43% of the women in the less adjusted group. There were similar differences in the perceived helpfulness of these disclosures: most well adjusted survivors found disclosure helpful, but only one of the less well adjusted found this to be so. This finding suggests that women in the well-adjusted group had supportive relationships with family and friends that allowed them to use relational ways of coping with their experiences (relation 6 in Figure 1).

Women also discussed two nonrelational coping strategies, namely positive reframing and avoidance. The majority of the well-adjusted women volunteered information about the beneficial consequences of their abuse experiences (e.g., being more careful, strengthening their religious faith, becoming more introspective), whereas only one woman in the other group

p. 46). In fact, Costa et al. propose an "alternative view" that sees "no categorical difference between ineffective coping and psychological maladjustment" (p. 47).

made such a report. Finally, Himelein and McElrath (1996) reported that most women described current attempts not to think about the abuse, but better adjusted women described periods of time in the past when they had thought extensively about abuse whereas less adjusted women had previously pushed away all thoughts of their abuse experiences. Because better adjusted women were now much more able to escape thoughts of the abuse, Himelein and McElrath suggested that these women were near the end of a process of working through the abuse that less adjusted women were just beginning.

In sum, Himelein and McElrath's (1996) findings about the successful coping of women with histories of childhood sexual abuse, like Leitenberg et al.'s (1992) findings, suggest that relational coping strategies but also strategies such as positive reframing may be related to improved psychological well-being (relation 8 in Figure 1).

Intercorrelations Among Mediating Variables

As shown in the centre section of Figure 1, the mediating variables (i.e., attachment, supportiveness of intimate relationships, coping strategies) are interrelated. Therefore, evidence about the nature of the relations between: adult attachment orientation and relationship supportiveness; adult attachment orientation and coping; and relationship supportiveness and coping will now be reviewed.

Adult attachment orientation and supportiveness of intimate relationships. Several lines of evidence indicate that the supportiveness of adults' intimate relationships is related to their attachment orientations (relation

4). In her review of the literature, for example, Collins (1996) noted consistent findings that adults with more secure internal working models report more positive relationships than adults with less secure models. People with Secure attachment orientations may be more likely than those with Insecure orientations to perceive their intimate partner as supportive and to actually have a supportive intimate partner.

Previous research has suggested that Ambivalent and Avoidant adults have relationships characterized by negative affect and low levels of trust, commitment, satisfaction, and interdependence (Rholes et al., 1998). In a controlled investigation of the interactions of intimate partners during a discussion of a recurring point of conflict in the relationship, people with Ambivalent attachment orientations reported more distress and anger, had lower quality discussions of a problem, and perceived their partner more negatively than participants with other attachment orientations (Rholes et al., 1998).

Runtz and Schallow's (1997) study of undergraduate students' relationships with family and friends also suggests that Insecure attachment orientation is related to perceptions of others. They wrote that the "effects of childhood physical maltreatment on perceptions of friends' supportiveness may represent some generalization of people being seen as uncaring" (Runtz & Schallow, 1997, p. 222).¹³ This general perception of people as uncaring is

13. Runtz and Schallow (1997) found that, in contrast to childhood physical abuse, childhood sexual abuse did not influence perceptions of current social support. It may be that the onset of sexual abuse was later than that for physical abuse and thus the relation between sexual abuse and Insecure attachment may be less direct

consistent with the internal working models of an Insecure attachment orientation.

Evidence that adult attachment orientation is also related to *actual* supportiveness of intimate relationships comes from studies of nonmaltreated populations. Kobak and Hazan (1991), for example, studied married partners' agreement about their own and each other's internal working models. Husbands and wives described themselves and their spouses in terms of psychological availability (e.g., is responsive to distress in partner) and reliance on partner (e.g., relies on partner for advice and support). Kobak and Hazan (1991) found that husbands and wives who indicated that their internal working models involved reliance on their partners (i.e., Secure attachment) reported high levels of relationship adjustment. Similarly, Brennan and Shaver (1995) found strong negative relations between their college student participants' Insecurity and both their own and their partners' ratings of relationship satisfaction. Participants' Security ratings, however, were positively correlated with their own (but not their partners') relationship satisfaction.

There is also evidence that Insecure people are likely to be involved in emotionally abusive relationships. O'Hearn and Davis (1997) surveyed 427 college students and interviewed 61 (42 female) regarding their experiences of giving and receiving emotional abuse within their intimate relationships. Due to a sampling problem, the 61 interviews were not balanced regarding gender and attachment types: Fearful and Preoccupied men were unlikely to volunteer for

than that between physical abuse and attachment. However, Runtz and Schallow (1997) did not report participants' age at the onset of physical abuse.

interviews or to keep their interview appointments. As well, men's self-reports of the degree of inflicting and receiving emotional abuse did not correlate with independent observers' ratings. Therefore, O'Hearn and Davis (1997) limited their analyses to the data from the female participants. For women, more Secure attachments were related to lower frequencies of receiving emotional abuse and less perceived impact of abuse. There was a nonsignificant tendency for more Secure women to report inflicting less abuse. The more Fearful a woman's attachment style, the more likely she was to have received emotional abuse, and the less likely she was to have inflicted it. However, more Preoccupied women received and inflicted more emotional abuse in their relationships, whereas more Dismissive women tended to inflict, but not receive, more emotional abuse.

Although Kobak and Hazan (1991, p. 868) suggested that attachment styles "move toward security in more long-term or committed relationships," and Rholes et al. (1998) made a similar suggestion, it may also be that people with Secure attachment orientations are better able to maintain long-term relationships, while people with Insecure attachment orientations tend to have unstable, short-term relationships. Whichever explanation is correct, several lines of evidence indicate that Secure individuals are more likely to enjoy mutually supportive intimate relationships (relation 4 in Figure 1).

Attachment and coping. Some evidence indicates that adult attachment orientation is related to individuals' choice of coping strategy (relation 5 in Figure 1). From the perspective of attachment theory, attachment related

behaviour (i.e., either seeking or avoiding contact with others) in times of distress is the expression of characteristic coping strategies that take their particular forms depending on the underlying attachment orientation (Crittenden & Ainsworth, 1989). As Crittenden (1992, p. 330) wrote: coping strategies are “patterns of behavior that typify an individual’s response to the demands of his or her environment,” and internal working models are the unifying construct that underlies consistent patterns of behaviour across different situations. Similarly, Kobak and Sceery (1988, p. 142) wrote that “the individual’s working models of attachment figures are assumed to be closely linked to concurrent rules for regulating distress.” Thus, seeking out others may be a strategy used by a Securely attached individual, whereas an Insecure person might withdraw from social contact.

Attachment theory-informed studies of people’s coping provide some support for these ideas. In a study of coping with the rigors of military training, Mikulincer and Florian (1995) found that Secure and Ambivalent men, relative to Avoidant men, used more support-seeking and less distancing (or avoidant) coping (e.g., “I try to forget the whole thing”). As well, Ambivalent men used more emotion-focused coping than Secure or Avoidant men. In another study, Cooper et al. (1998) reported that their Insecure adolescent participants used affect-regulating strategies such as substance use more than Secure adolescents. Similarly, in a mixed-gender study of college students, Brennan and Shaver (1995) found that participants’ Avoidance, Anxious-Ambivalence, and Preoccupation scores were positively related to their use of alcohol as a

coping strategy, whereas their Security scores were negatively related to coping through drinking.

A final piece of evidence for the existence of relation 5 in Figure 1 comes from a reconsideration of Leitenberg et al.'s (1992) findings. Given evidence that adults with histories of childhood sexual abuse often have Insecure attachment orientations (Alexander, 1992) and that these attachment orientations are related to maladaptive coping strategies (Brennan & Shaver, 1995), it may be that Leitenberg et al.'s participants tended to use the coping strategies associated with more psychological distress because they had Insecure attachment orientations. This interpretation is supported by the apparently nonrelational nature of the maladaptive coping strategies (e.g., avoidance) reported by the more distressed participants. However, Leitenberg et al. did not investigate the possible importance of attachment, and their operationalization of coping in terms of the specific aftereffects of childhood sexual abuse plus their low return rate from a convenience sample of nurses make this study difficult to interpret.

Alexander (1993) suggested that adults' resolution of post abuse interpersonal problems and dysfunction may require talking about the abuse, but that ability to discuss the abuse requires a feeling of interpersonal security. That is, Alexander's work further suggests that security of attachment orientation may mediate the effects of childhood maltreatment on adult well-being through the effects of attachment on ability to discuss one's experiences and feelings.

In sum, as indicated by relation 5, attachment theory and research suggest that adults' attachment orientations are related to their characteristic ways of coping with stress (Alexander, 1992; Crittenden & Ainsworth, 1989). More specifically, adults with Secure relative to Insecure attachment orientations may be more likely to seek support from others in times of stress and to avoid negative coping strategies.

Supportiveness of intimate relationships and coping. Some evidence indicates that people's characteristic coping strategies are related to the supportiveness of their intimate relationships (relation 6 in Figure 1). Rutter (1985), for example, argued that satisfying marital relationships are protective, in part because they allow partners to cope better with stressful events. This is inherently logical, because people who are not involved in supportive intimate relationships have less opportunity to use some kinds of coping strategies (i.e., relational coping strategies) than people who are involved in such relationships. Along these lines, Moeller et al. (1993) found that about 40% of the women in their sample named partners and/or friends as the individuals who were most helpful in their coping with their histories of childhood maltreatment.

It is also likely, however, that coping strategies influence the supportiveness of intimate relationships. For example, people who use negative coping strategies that interfere with social relationships (e.g., alcohol or drug abuse) are less likely to be able to maintain an intimate relationship than those who do not. (For a thorough review of the connections between coping and social support, see Pierce, Sarason, and Sarason, 1996.) In the present model,

then, supportiveness of intimate relationships and coping strategies are conceptualized as bi-directionally and noncausally related.

Gender as a Moderator of the Relations Between Childhood Maltreatment, Attachment, Intimate Relationships, Coping, and Adult Well-Being

Many studies of the long-term effects of childhood maltreatment ignore gender differences and many sample exclusively females. Haskett, Marziano, and Dover's (1996) review of 126 physical maltreatment articles published between 1989 and 1994 revealed that, of 77 articles that involved adults, only 48% included males at all and only 35% included an equal proportion of males and females. Research articles that involved children, however, were much more equitable in that about 60% included an equal representation of boys and girls.

Studies of sexual abuse are even more likely to exclude males and, as a result, the sexual abuse of boys is seriously understudied (Lisak, 1993, 1994). The exclusion of males from childhood sexual abuse research is probably not due to any minor prevalence or impact of childhood sexual abuse on boys. Indeed, according to some estimates approximately 10 to 15% of males have been sexually victimized before or during mid-adolescence (Finkelhor et al., 1989). Instead, the tendency to exclude males is probably due to psychologists' interests, the availability of research funding, and cultural myths about who can be a victim (Lisak, 1993). Lack of male disclosure due to cultural attitudes and fears of being labeled homosexual may also be factors (Kideckel, 1991).

The failure to study men's well-being following childhood maltreatment may obscure important gender differences. In the case of sexual abuse, at least one study has found that male survivors have difficulty seeing themselves as victims in a culture that insists that men are strong and invincible (Lisak, 1994), a concern unlikely to be shared by female survivors. Runtz and Schallow (1997) found other evidence of important gender differences in the experience of childhood maltreatment. Female introductory psychology students were more likely than male students to report childhood sexual abuse. Male participants' childhood sexual abuse perpetrators were much more likely to be female (74% vs. 6% for female participants), women reported more severe physical abuse than did men, and men were less likely than women to view their childhood maltreatment experiences as negative. These differences, however, did not obscure gender similarities: male and female participants were equally likely to report childhood physical abuse, most participants saw their maltreatment as negative, and male and female participants reported equivalent experiences pertaining to most abuse variables (e.g., duration, frequency, age at onset, relationship to offender, severity of abuse, use of force, threats, physical harm, coercion).

Both research and theory suggest that gender may moderate many of the relations between childhood maltreatment, attachment, supportiveness of intimate relationships, coping, and adult well-being, discussed above. In terms of gender differences in the effects of child maltreatment, Luthar and Zigler (1991) reviewed several longitudinal studies of the resilience of children at risk

and noted some evidence that males show more vulnerability than females during the first decade of life and less during the second. However, Dunn (1993) noted that the men in her small sample seemed to be more affected by childhood maltreatment than the women. The existence of gender differences in effects of maltreatment on well-being (relation 1 in Figure 1) is therefore unclear. It should be noted, however, that women consistently report more psychological distress than men (for a review see Gore and Colten [1991]).

In contrast, research informed by attachment theory suggests that the relation between childhood maltreatment and attachment (relation 2 in Figure 1) is not moderated by gender. Crittenden (1992) found that, on average, adequately reared boys and girls were Securely attached to their mothers, marginally maltreated boys and girls displayed both Secure and Anxious patterns, neglected girls and boys demonstrated Anxious or Avoidant patterns, and girls and boys who were both abused and neglected displayed Avoidant patterns. However, Carlson et al. (1989) found that, whether maltreated or not, boys (14%) were less likely to be Securely attached to their mothers than girls (50%), and boys (67%) were more likely to be Disorganized than girls (36%). Thus, although gender may not moderate the relation between maltreatment and attachment, there may be a main effect of gender on attachment.

There may also be gender differences in the effects of attachment orientation on the supportiveness of adult intimate relationships (relation 4 in Figure 1). In their study of intimate partners' behaviour during a discussion of a recurring point of conflict, Rholes et al. (1998) found gender differences in the

association between an Avoidant orientation and the provision of support to a partner with whom one was in conflict. Avoidant women provided support to their husbands despite the conflict, whereas Avoidant men did not. Men's failure to provide support may stem from widely held stereotypes about appropriate relationship behaviour for men and women. Women, for example, are expected to take primary responsibility for the maintenance of intimate relationships, and men are expected to be independent. Rholes et al. (p. 183) noted that the male sex role facilitates the expression of the "prototypical emotional and behavioural features of the Avoidant orientation." It is culturally acceptable for men to withdraw and distance themselves from others. For Avoidant women, however, it may be much more difficult to express the distance-creating behaviours of the Avoidant orientation because the female sex role includes being the "relationship maintainer." Thus, women with strong Avoidant orientations may have suppressed their Avoidant behaviour in order to avoid the experimenters' negative judgments.

Concerning the relation between childhood maltreatment and supportiveness of intimate relationships (relation 10 in Figure 1), based on a consideration of gendered social roles there are solid theoretical reasons to expect gender differences in the relational aftereffects of childhood maltreatment. Crittenden and Ainsworth (1989, p. 453) suggested that the aggressive behaviour of some boys from physically violent homes is due to "the sense of competence and control that comes from taking what one wants." Similarly, they suggested that the promiscuous behaviour of some adolescent

girls from maltreating homes is due to “the attempt to find security and acceptance by giving what others want” (Crittenden & Ainsworth, 1989, p. 453). Thus men with histories of childhood maltreatment might offer little support to their partners, while women with similar histories might provide emotional and practical support that extends them beyond their personal limits.

In sum, gender might moderate the relations depicted in Figure 1. In particular, there is reason to believe that the effects of childhood maltreatment on adult well-being will differ for men and women. As well, gender likely moderates the effects of attachment orientation on intimate relationships.

Purpose and Rationale

Given the preceding literature review, two studies were designed to examine the effects of childhood maltreatment on adults' well-being, as mediated by adult attachment orientation, supportiveness of intimate relationships and characteristic coping strategies, and as moderated by gender. As illustrated in Figure 1 and as explicated above, childhood maltreatment and other childhood attachment experiences (e.g., a supportive relationship with a nonmaltreating adult) are likely to influence adult attachment orientation. Maltreated children who do not enjoy a relationship with a supportive adult may mature into adults who have Insecure attachment orientations, whereas similarly maltreated children who enjoy the protective effects of a relationship with a supportive adult may develop Secure attachment orientations, despite their maltreatment histories.

As described above, these adult attachment orientations may affect the types of intimate relationships in which adults become and remain involved. That is, adults with Secure relative to Insecure attachment orientations may be better able to form and maintain supportive intimate relationships. Similarly, adult attachment orientation may influence characteristic coping strategies in that adults with Insecure attachment orientations, compared to Secure adults, may be less likely to use coping strategies that involve other people.

Finally, a person's psychological and physical well-being may be influenced by both the supportiveness of their intimate relationships and their characteristic coping strategies. Experiences of childhood maltreatment may also have direct, nonmediated effects on well-being, but these effects are likely to be weak in comparison to the mediated effects.

This research parallels Alexander's (1992, p. 189) perspective that the "long-term effects of sexual abuse, although obviously related to the specific nature of the abuse, are better understood according to a classification of the important attachment relationships concurrent with the abuse." This research expands the scope of inquiry in that it considers forms of maltreatment other than sexual child abuse and recognizes the potential impact of adult relationships and coping strategies on adult psychological and physical well-being. In addition, this research addresses suggestions for future research made by Roche et al. (1999) in that it assesses the attachment-mediated effects of childhood maltreatment using data from a community (and student) sample and uses multiple measures of both relationships and adult well-being.

The first study was exploratory and used a combination of paper and pencil measures and interviews to collect data about the childhood experiences, adult relationships, and adult well-being of a small sample of students and people from the community. The main purpose was to investigate people's own understandings of the connections between their childhood experiences (of childhood maltreatment in particular) and adult relationships. As such, it provided a preliminary investigation of the links between some of the main conceptual variables outlined in the model described above. A second purpose of the *Exploratory Interviews* study was to pre-test the utility of various paper and pencil measures for use in a larger study.

The second study was a larger study of 130 students and community members designed to test the explanatory power of the mediated model described above.

Study One

Childhood Experiences, Adult Relationships, and Psychological Well-Being: Exploratory Interviews

Qualitative studies of the impact of childhood maltreatment on adults' psychological well-being have provided valuable information about the persisting negative effects of childhood maltreatment and the types of coping that survivors use. For example, Dunn (1993) interviewed men and women about the effects of maltreatment and other adverse childhood experiences that occurred due to their mothers' psychiatric problems. Similarly, Silver, Boon, and Stones (1983) used open-ended questions in their mailed survey of women's experiences of incest, and Lisak (1994) interviewed men about the effects of boyhood sexual abuse on their lives. In terms of qualitative explorations of factors that might mediate the links between childhood experiences and adult relationships, Himelein and McElrath (1996) interviewed women about their coping with histories of girlhood sexual abuse, as did Perrott et al. (1998).

Equivalent qualitative research to explore negative aftereffects of other types of childhood maltreatment has not, apparently, been conducted. In addition, issues such as the problematic or helpful role of interpersonal relationships in the lives of adults with histories of childhood maltreatment has not been explored using qualitative methodology. This exploratory interview study is a step toward remedying these deficits.

Method

Participants

In line with Kvale's (1996) suggestion that interviewing five to fifteen respondents usually provides an adequate basis for thematic analysis, steps were taken to recruit about ten volunteers with diverse backgrounds. Five women and two men were recruited from the community by means of an advertisement¹⁴ in a local community newspaper, one man was recruited through a notice posted to an electronic newsgroup, and four women and one man were recruited from the Carleton University Subject Pool, for a total of 13 participants. Participants from the community were offered a \$10 honorarium for their time, whereas student participants were offered course credit. The researcher met with all participants in individual sessions in an office at Carleton University, with the exception of one interview that took place in the participant's home.

The study involved both completion of a paper and pencil package of quantitative measures and an audio-recorded semi-structured interview. As noted above, the main purpose of administering the quantitative measures to participants in this study was to test their utility for use in the second study. Meaningful analyses of the quantitative data (i.e., for purposes of hypothesis testing) are not possible due to the small number of participants, but

14. The notices read: "Men and women needed for a survey and interview about childhood experiences and adult relationships. Call Wendy at: 520-2600, ext. 2679." Additional notices substituted the words "childhood abuse" for "childhood experiences." Notices directed to students invited them to leave their name and

participants' scores on measures will be used where possible to enhance understanding of their experiences. All participants gave their informed consent to participate in the study and were debriefed upon their completion. (See Appendix A for a copy of the informed consent and debriefing forms.)

MEASURES

The packages were constructed so that the order of the questionnaires varied randomly, except that the "Background Information" questionnaire was always presented first and the "Anything Else?" questionnaire¹⁵ was always presented last. (See Appendix B for a copy of the survey package.)

Background information. Participants were asked to describe their gender, age, level of education, ethnicity, sexual identity, number of children, gross family income, family of origin income during their childhood, employment status, current living arrangements, history of living within an institution (e.g., prison) and psychotherapy experiences. (See Appendix B for a copy of the survey package.)

Predictor Variables: Childhood Maltreatment and Positive Childhood Relationships

Childhood experiences of maltreatment. Demaré (1992, 1996; Demaré & Briere, 1994) developed and tested the Childhood Maltreatment Questionnaire (CMQ), a 110-item retrospective self-report measure consisting

telephone number on a sign-up sheet, or to drop by the researcher's office during regular business hours.

15. This was an open-ended question that invited participants to describe any other aspects of their childhood or adulthood experiences that they felt were relevant.

of the Psychological Maltreatment Questionnaire (PMQ), Physical Abuse Questionnaire (PAQ) and Sexual Abuse Questionnaire (SAQ). Respondents describe maltreatment inflicted by a parent or parental figure before the age of 18 years. Use of the CMQ with two large samples of university students (Demaré, 1996; Demaré & Briere, 1994) and a smaller community sample of women with histories of childhood sexual abuse (DiMito, 1998; Kristiansen, Mantifel, DiMito, Hovdestad, & Brommit, 1998) indicates that the measure is internally consistent. Demaré (1996; Demaré & Briere, 1994) found that alpha reliability coefficients for the 12 PMQ subscales were between .67 and .91, alpha was .90 for the PAQ, and alphas were between .82 and .96 for the three sexual abuse subscales. In addition, previous research indicates that the severity of childhood maltreatment as assessed by the CMQ correlates as expected with more severe distress during young adulthood, suggesting that the measure has predictive validity (Demaré, 1996; Demaré & Briere, 1994).

In accordance with previous work, five types of childhood maltreatment were assessed (National Clearinghouse, 1997; Ney et al., 1994). A 30-item version of the CMQ was used to evaluate participants' experiences of physical neglect (e.g., "fail to care for your injuries when you were physically hurt"), emotional neglect (e.g., "appear to be disinterested in you and your life"), psychological abuse (e.g., "speak to you in a way that frightened you"), physical abuse (e.g., "spank you hard enough to cause bruising, swelling, or bleeding"), and sexual abuse (e.g., "engage in vaginal or anal intercourse with you"). Each of these five types of maltreatment was assessed by six items answered on

five-point scales (1 = never, 5 = very often). The items assessing physical neglect were drawn from the PMQ, those assessing physical and sexual abuse were drawn from the PAQ and the SAQ, respectively, and those assessing emotional neglect were taken from the PMQ Deny Emotional Response subscale (Demaré, 1992). The psychological abuse measure is composed of six items representing the Controlling, Degrading, Rejecting, and Verbal Terrorism subscales of the PMQ. Items were selected based on their face validity and based on earlier findings that the items had high correlations with the overall subscales from which they were drawn (Kristiansen et al., 1998). Re-analysis of the Kristiansen et al. data indicated that the subscales created for this study were internally consistent (α 's ranged from .82 to .93 and mean inter-item r 's ranged from .54 to .77).

In addition to this measure, participants' self-definitions of their childhood experiences of maltreatment and the duration of that maltreatment were assessed. All participants chose between two statements about childhood physical, sexual, and psychological abuse and neglect that may have been inflicted by a parent or caregiver. For example: "I was physically abused as a child between the ages of ____ years and ____ years" or "I was not physically abused as a child by any of my caregivers."

Positive childhood attachment experiences. Two measures were used to assess the positive characteristics of participants' childhood relationships. The extent to which participants had experienced supportive childhood relationships was evaluated using Irwin's (1996) Childhood Emotional

Support Scale (CES), in which participants use five-point scales (0 = no support, 4 = very strong support) to rate the emotional support available from 16 people they may have known in their childhoods (e.g., mother, father, school counselor, best friend). Scores are summed and higher sums indicate the availability of more extensive support from a greater number of people (Irwin, 1996). The psychometric properties of this measure were not published by Irwin and no other studies using this measure could be found.

In addition, participants completed the Parental Care subscale of Parker et al.'s (1979) Parental Bonding Instrument¹⁶ in which four point scales (4 = very like, 1 = very unlike) are used to describe a parent's behaviour (e.g., "Spoke to me with a warm and friendly voice). This measure was developed from a factor analysis of a larger pool of items based on data collected from a mixed student and community sample (Parker et al.). The Care subscale has been found to have good test-retest reliability over a period of three weeks, good split-half reliability and, based on interviews with approximately 43% of the original sample, the concurrent validity is also very good (Parker et al.). Recent research has demonstrated that scores on the Care subscale are positively correlated with measures of perceived closeness to parents (Myers, Brewin, & Winter, 1999) and negatively correlated with reports of childhood physical and verbal abuse, for both men and women (Belt & Abidin, 1996), suggesting that

16. The other scale of the Parental Bonding Instrument (Overprotection) is a measure of coercive and controlling parenting practices, and was not used because it is redundant with measures of psychological abuse and emotional neglect. Parker et al. (1979) indicated that the scales could be appropriately used singly or in concert.

the measure has good construct validity. Participants completed the Care subscale of the Parental Bonding Instrument in terms of only the parent (or parental figure) to whom they felt emotionally closer, rather than for both parents.

Mediating Variables: Adult Attachment, Relationships, and Coping

As described above, attachment orientation, close relationships, and characteristic coping strategies might be important mediators of the relation between childhood maltreatment and adult well-being. Consequently, two measures of adult attachment, two measures of participants' relationships with their partners and best friends, and one measure of means of coping with a problem were used.

Adult attachment orientation. In their extensive review of the attachment literature, Griffin and Bartholomew (1994) noted three approaches to the conceptualization and measurement of individual differences in adult attachment, each of which makes implicit assumptions about the nature of attachment. The dimensional approach, which indicates an individual's position along one or more continuous dimensions, implies that the effects of each dimension are independent of the effects of other dimensions. For example, the valence of an individual's internal working model of the self and of another may be two dimensions used to understand attachment. The typological or categorical approach to understanding adult attachment is directly derived from the original attachment research with infants in the Strange Situation. This approach is fundamentally different from the dimensional approach because it

implies that there are different kinds of people in the world. A prototype approach combines the first two approaches. "A prototype is an ideal category member defined in terms of the most common features of members of that category" (Griffin & Bartholomew, 1994, p. 23) and all members of that category correspond to the prototype to a greater or lesser extent.

Griffin and Bartholomew (1994) demonstrated that Bartholomew's (1990, 1993; Bartholomew & Horowitz, 1991) four-category model of attachment is a prototype approach based on two underlying dimensions referred to as Avoidance (i.e., the valence of the internal working model of others) and Anxiety (i.e., the valence of the internal working model of the self). Similarly, Brennan et al. (1998) demonstrated that the Avoidance and Anxiety dimensions underlie all attachment measures. Given this, Brennan et al.'s (1998) 36-item Experiences in Close Relationships Scale (ECL), was used to measure adult attachment orientation. It assesses respondents' positions along both the Avoidance dimension (e.g., "I prefer not to show a partner how I feel deep down") and the Anxiety dimension (e.g., "I worry about being abandoned"). Participants use scales ranging from "disagree strongly" (1) to "agree strongly" (7) to describe their general experience of adult intimate relationships. Brennan et al. reported item-total correlations between .60 and .73 for the Avoidance subscale and .50 to .67 for the Anxiety subscale.

Following Alexander (1993) and O'Hearn and Davis (1997), pilot participants' adult attachment orientation was measured using Bartholomew and Horowitz's (1991) Relationship Questionnaire, which briefly describes four

adult attachment styles (Secure, Preoccupied, Dismissing, and Fearful) and asks respondents to rate the personal appropriateness of each description using 7-point scales (where 1 = “not at all like me” and 7 = “exactly like me”). This measure has demonstrated convergent validity in that respondents’ self-ratings are similar to interviewer and peer ratings, and correlate well with measures of theoretically related constructs such as interpersonal warmth and emotional expressiveness (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). Brennan and Shaver (1995) reported good test-retest reliability for a three category version of this measure (Secure, Avoidant, and Anxious) in their sample of 128 college students (46% male): 70% had the same attachment style 8 months later.

Participants also used a five-point measure, created for this study, to indicate the level of change or stability in their adult-life interpersonal orientations (1 = no change and 5 = once felt completely different).

Supportiveness of current intimate relationships. Pierce, Sarason, and Sarason (1991) developed the Quality of Relationships Inventory (QRI) by factor-analyzing data from 210 undergraduate students (45% male) concerning their relationships with their mothers, fathers, and friends. Twenty-five items define three factors: a support dimension measures the extent to which one partner in the relationship can rely on another (e.g., “To what extent can you turn to this person for advice about problems?”), a depth dimension assesses the extent to which the relationship is valued and the partners are committed to it (e.g., “How significant is this relationship in your life?”), and a conflict

dimension measures angry or ambivalent feelings toward the partner (e.g., “How upset does this person sometimes make you feel?”). Convergent validity of this measure is suggested by the positive correlations between the support dimension of the QRI and the care subscale of the Parental Bonding Instrument, and by the strong negative correlations of the depth and support measures with a measure of loneliness (Pierce et al., 1991).

Belt and Abidin's (1996) sample of 159 parents (59% women) used the QRI to describe their perceptions of the social support offered by their spouses and the three scales were internally consistent (alphas ranged from .89 to .91). Following Belt and Abidin's method (1996), participants completed the QRI in terms of their relationships with their intimate partners, using scales ranging from “not at all” or “never” (1) to “always” or “extremely” (4). Interviewees who did not have an intimate partner completed the measure in terms of their latest relationship, provided that relationship had ended within one year. These participants also indicated how long ago their relationships ended. Participants who had been single for more than one year did not complete the measure. Additional questions assessed the amount of contact in the relationship (e.g., “see each other once a week,” “live together”), the partner's gender, and the duration of the relationship.

In addition, participants completed Hendrick's (1988) seven-item Relationship Assessment Scale (RAS), a measure of relationship satisfaction in which participants answer questions about their satisfaction with their intimate relationships (e.g., “How well does your partner meet your needs?”) using five-

point scales where higher scores indicate more satisfaction. Based on her sample of 57 dating couples, Hendrick (1988) reported that the RAS has good internal consistency ($\alpha = .86$) and correlates well with longer, psychometrically valid measures of relationship satisfaction. Further, the RAS correlated well with other measures of love, commitment, and investment in a relationship and predicted whether or not couples would still be together several months after the first measurement (Hendrick, 1988). More recently, Hendrick, Dicke, and Hendrick (1998) confirmed that the RAS correlates well with other measures of relationship satisfaction in samples of college students and ethnically diverse married couples. Further, couples seeking marital therapy scored significantly lower on the RAS than a sample of married parents of college students, and data from a sample of 65 university students (35% male) indicated test-retest reliability of .85 over a period of six to seven weeks (Hendrick et al., 1998).

In sum, the RAS is well-validated and reliable. Participants responded to each item using five-point scales (where scores of 1 indicate low satisfaction and scores of 5 indicate high satisfaction). Participants who were not currently in an intimate partnership completed the measure according to their experiences with their last intimate relationship if it had ended within the past year. One question, designed for this study, was added to the RAS to assess lifetime changes in the quality of participants' intimate relationships.

Participants also completed the QRI and the RAS in terms of their relationships with their best friends.

Characteristic ways of coping. The Coping Strategies Inventory is a

72-item eight-factor measure based on the Ways of Coping Checklist (Folkman & Lazarus, 1980) that Tobin, Holroyd and Reynolds (1984) modified and expanded. The measure was developed and refined using factor-analyses of survey data from over 1400 students (Tobin, Holroyd, Reynolds, & Wigal, 1989). Although these survey data were produced by a special population, Tobin et al. (1989) argued that students as a group are likely to demonstrate a range of coping styles and that a student population is thus an appropriate population with which to develop a coping measure. A series of hierarchical factor-analyses of these data provided evidence for the existence of seven coping subscales supported by the literature (problem solving, wishful thinking, problem avoidance, social support, cognitive restructuring, self-criticism, and emotional expression) plus an additional subscale called "social withdrawal" (Tobin et al., 1989). Alpha coefficients for all subscales were above .71 and two-week test-retest reliability coefficients ranged from .67 to .83 (Tobin et al., 1989). Cook and Heppner (1997) reported similar findings.

This measure has been used in various recent studies, yielding results that support its reliability and validity. For example, in one study positive problem solving orientations were associated with the problem-engagement subscales of the Coping Strategies Inventory whereas negative problem solving orientations were associated with the problem disengagement subscales (D'Zurilla & Chang, 1995).

The 40-item short form of the Coping Strategies Inventory (CSI) developed by Tobin et al. (1989) was used to assess participants' coping. While

thinking about an important problem they had faced within the past month, participants responded to the items using scales ranging from “not at all” (1) to “very much” (5). Participants then briefly described the problem they had been considering and used a five-point single-item measure developed for the present study to indicate whether their characteristic ways of coping with problems had been different at an earlier time in their lives.

Criterion Variables: Psychological Distress and Physical Health

Previous research indicates that both psychological and physical health can be impaired by experiences of childhood maltreatment. Thus, measures of symptoms of psychological distress, physical health symptoms, and health concerns were used.

Psychological distress. As a measure of their psychological distress, participants completed Briere’s (1995) 100-item Trauma Symptom Inventory (TSI). The TSI was specifically designed to assess post-traumatic symptoms including the lasting sequelae of childhood maltreatment. This measure lists various post-traumatic symptoms, and respondents use four-point scales, ranging from “never” (0) to “often” (3), to describe their experience of these symptoms within the past six months. These symptoms are organized into ten clinical scales, namely: anxious arousal (e.g., “feeling jumpy”), depression (e.g., “wanting to cry”), anger/irritability (e.g., “wanting to hit someone or something”), intrusive experiences (e.g., “suddenly remembering something upsetting from your past”), defensive avoidance (e.g., “pushing painful memories out of your mind”), dissociation (e.g., “feeling like things weren’t real”), sexual concerns

(e.g., “bad thoughts or feelings during sex”), dysfunctional sexual behaviour (e.g., “having sex with someone you hardly knew”), impaired self-reference (e.g., “feeling like you don’t know who you really are”), tension reduction behaviour (e.g., “starting arguments or picking fights to get your anger out”). The tension reduction behaviour subscale consists of one unique item plus seven items shared with other scales (e.g., anger/irritability). The other nine subscales do not have overlapping items. Briere (1995) reported mean alpha coefficients above .84 for the ten clinical scales, based on data collected from a variety of large samples (e.g., student, clinical, general population).

In addition to the ten clinical subscales, three validity scales (response level, atypical response, and inconsistent response) allow screening out of respondents whose responses may be meaningless due to under- or over-endorsement tendencies, random responding, language difficulties, or some other factor. The clinical scales of the TSI have proven construct validity in that men and women without histories of trauma score lower than those with trauma histories (Briere, 1995). Similarly, convergent validity of these scales has been demonstrated by their significant correlations with validated measures of similar constructs (Briere, 1995). Finally, TSI scores were used to accurately predict the presence of PTSD in most members of a large general population sample (Briere, 1995).

Following Himelein and McElrath’s (1996) strategy, a single item that read “How satisfied are you with your life as a whole?” was used to assess participants’ life satisfaction (where 1 = “completely dissatisfied” and 7 =

“completely satisfied”). Campbell, Converse, and Rodgers (1976) reported that the eight-month stability correlation for this measure was .43. A single-item measure developed for this study assessed participants' perceptions of lifetime changes in their emotional well-being.

Physical health. Participants completed Runtz's (2001) 54-item General Health Scale (GHS). Runtz expanded Attanasio, Andraski, Blanchard and Arena's (1984) Psychosomatic Symptom Checklist to include a broader range of physical symptoms, including some symptoms hypothesized to be sequelae of childhood sexual abuse for women (e.g., symptoms related to genital pain). Respondents use six-point scales to describe the frequency of occurrence of each symptom within the past six months (0 = never occurs, 5 = occurs daily). Based on factor analyses of data from 775 university women, Runtz (2001) identified five subscales: muscular/skeletal (14 items, e.g., backache), sensory/nervous system (12 items, e.g., irritable bowel syndrome), stomach/abdominal/chest (9 items, e.g., nausea), vaginal/genital/bowel (8 items, e.g., genital pain), allergies/cold/flu (8 items, e.g., stomach flu). The five subscales of the GHS have alpha reliabilities between .61 and .79, and correlate well with health-related attitudes and behaviour (e.g., visits to a physician) (Runtz, 2001). In addition, the total score (i.e., sum of all 54 items) correlates well with validated measures of psychological distress, and the total GHS score and the five subscale scores were higher for women who reported childhood physical abuse than for women who did not (Runtz, 2001). Vaginal/genital subscale scores were higher for women who reported girlhood

sexual abuse than for women who did not, but no other mean differences were significant. In sum, although the GHS is a new measure, early indicators suggest that it could usefully assess post-maltreatment physical symptoms.

Participants indicated on a five-point scale how much the symptoms they described using the checklist interfered with their day-to-day lives (1 = not at all, 5 = extremely). They also indicated whether or not they had any chronic health problems, whether or not they took medications to control any health problems, and how many times in their lives they had gone to a hospital emergency room for their own health-care problem. Based on previous research by Salmon and Calderbank (1996) participants were asked questions regarding their number of visits to a general practitioner within the past six months, their hospital admissions in the past two years, their total number of lifetime surgical operations, and their lifetime number of skeletal fractures. An additional item based on Salmon and Calderbank's research read: "Compared to others my age, my physical health is..." and participants indicated "very poor," "fair," "good," or "excellent." A single-item measure designed for this study assessed participants' perceptions of lifetime changes in their physical health.

Interviews

The individual, audio-recorded interviews were conducted immediately after participants completed their survey packages. The researcher reviewed the completed questionnaire with each participant and asked about the clarity of the instructions, the emotional difficulty of completing each questionnaire, and the completeness of the package (i.e., were there any additional questions that

should have been asked?). This was followed by a semi-structured interview designed to explore participants' understandings of the ways their childhood relationships with their caregivers (whether maltreating or not) have influenced their adult lives. (See Appendix C for a copy of the interview schedule.) During the interview, participants were asked to describe the positive and negative aspects of their current or recent intimate relationships, if applicable. They were next asked if they felt there was any connection between the nature or quality of those relationships and their childhood experiences with their parents or other caregivers. This was followed by a similar line of questioning regarding relationships with best friends. Finally, participants were asked if they had anything else to add.

At the end of the interview participants were asked about any distress caused by completing the questionnaire and they were thoroughly debriefed and provided with a list of emergency contact numbers (e.g., the Ottawa Distress Centre). (See Appendix D for a copy of the debriefing form.) In addition, participants who experienced continuing distress were urged to re-contact the researcher for a referral to a qualified therapist for an immediate consultation.¹⁷ In accordance with a suggestion made by the participants in Kristiansen and Brown's (1999) study of female survivors of childhood sexual abuse, consent was obtained to re-contact each participant by telephone one week after the interview to confirm that there were no negative effects of the

17. Arrangements were made in advance for a licensed clinician to provide a counseling session within a week of any participants' request.

interview and to convey additional thanks for their participation.

Results

The participants will be described in terms of their demographic characteristics, their experiences of childhood maltreatment, and their level of psychological distress. Thematic analyses of the interview data regarding the connections between childhood experiences and adult relationships will then be described.

Background Information

Participants were given pseudonyms to facilitate discussion of their experiences. These pseudonyms and demographic information about each participant are presented in Table 2. The participants' ages ranged from 19 to 53 years ($M = 32.9$, $SD = 11.5$ years). They had, on average, 15.3 years of formal education ($SD = 3.6$ years), indicating that most participants had some post-secondary education. Most participants (69.2%) were full or part-time students. Some were employed full or part-time (30.8%) and several were unemployed. Participants' yearly family incomes ranged from under \$15,000 to over \$75,000, with a mean of about \$55,000 per year.

About half (53.8%) of the participants had one or more children, and participants tended to live with a partner (38.5%), and/or with their children (30.8%), or with roommates (23.1%), although Mary and Kanjana lived with their families of origin and Craig lived alone. Most participants were heterosexual (92.3%) and Kerry was bisexual. Fatima, Monica, Christine, and Vivian were married. Kanjana and Kerry had boyfriends but did not live with

Table 2

Participants' Demographic Characteristics and Childhood Experiences of Maltreatment

Pseudonym	Age	Employment / Family income	No. of children	Years in therapy	Self-defined maltreatment	Mean scores on CMQ subscales				
						ψ A	EN	PA	PN	SA
Fatima	27	Full-time student / not reported	2	0	None	1.00	1.00	1.00	1.00	1.00
Craig	22	Full-time student / \$35,000 - \$44,999	0	0	None	1.67	2.17	1.17	1.00	1.00
Melanie	19	Full-time student / \$65,000 - \$74,999	0	0	Psychological abuse*	3.50	1.50	1.33	1.83	1.00
Monica	32	Full-time student / \$15,000 - \$24,999	0	3.5	Psychological abuse	2.50	2.75	1.67	2.33	1.00
Sarah	41	Employed full-time / \$55,000 - \$64,999	1	1	None	3.00	4.00	1.17	2.17	1.00
Mike	45	Employed full-time / \$75,000 or more	1	1	Sexual, psychological abuse	2.50	3.67	1.50	1.67	2.08

Note: CMQ = Childhood Maltreatment Questionnaire, ψ A = Psychological abuse, EN = Emotional neglect, PA = Physical abuse, PN = Physical neglect, SA = Sexual abuse. CMQ subscale scores could range from 1 ('never') to 5 ('very often').

*During the interview, this participant also reported experiencing extrafamilial sexual abuse.

Table 2 (cont'd)

Participants' Demographic Characteristics and Childhood Experiences of Maltreatment (cont'd)

Pseudonym	Age	Employment / Family income	No. of children	Years in therapy	Self-defined maltreatment	Mean scores on CMQ subscales				
						ψ A	EN	PA	PN	SA
Joe	37	Full-time student / Under \$15,000	0	5	Physical, sexual, psychological abuse, neglect*	3.17	4.00	1.83	1.67	1.00
Christine	42	Part-time student / \$75,000 or more	1	1	Physical, psychological abuse	4.33	3.00	2.00	1.50	1.00
Doug	45	Full-time student / \$75,000 or more	3	4	Physical, psychological abuse, neglect*	3.17	4.50	1.67	1.67	1.00
Kerry	22	Homemaker / Under \$15,000	1	1	Physical, psychological abuse, neglect	4.00	3.67	1.67	2.50	1.00
Kanjana	22	Full-time student / \$45,000 - \$54,999	0	0	None	3.50	3.50	2.50	2.50	1.00
Mary	21	Full-time student / \$45,000 - \$54,999	0	3	Psychological abuse, neglect	4.17	4.00	3.17	1.67	1.00
Vivian	53	Employed part-time / \$65,000 - \$74,999	1	6	Physical, psychological abuse, neglect	4.67	3.50	4.00	2.50	1.00

Note: CMQ = Childhood Maltreatment Questionnaire, ψ A = Psychological abuse, EN = Emotional neglect, PA = Physical abuse, PN = Physical neglect, SA = Sexual abuse. CMQ subscale scores could range from 1 ('never') to 5 ('very often').

*During the interview, this participant also reported experiencing extrafamilial sexual abuse.

them. Mary and Melanie were single. Sarah and Joe were divorced and single, and Craig's 18-month relationship with his girlfriend had ended about six months before the interview. Doug and Mike were divorced or separated but both had been in relationships with girlfriends for a little under a year.

Concerning their families of origin, many participants reported that as they grew up their families had just enough money to get by (61.5%), although 30.8% reported growing up with a comfortable amount of money. Vivian reported growing up without enough money for necessities. One participant, Mike, had lived in foster care as a child.

Thirty percent of the participants had never been in therapy and the rest had spent between one and six years in therapy. Thirty percent were currently in therapy. Of the nine participants who had been in therapy, Mike was the only one who did not find therapy at least moderately helpful.

Quantitative Measures of Childhood Maltreatment

Participants described their experiences of childhood maltreatment using a set of four single-item questions and the 30-item version of the CMQ. In terms of the single-item measures of childhood maltreatment (described in the "self-report" column of Table 2), six of the ten participants who answered the question about being neglected by caregivers indicated that they had not been neglected, but the remaining four indicated that they had experienced from three years to an entire childhood of neglect ($M = 13.5$ years). Four participants (30.8%) reported that they had not been psychologically abused by any caregivers, but the remaining participants reported psychological abuse lasting

from two years up to their entire childhood (18 years), with an average duration of 11.1 years. Seven participants (58.3%) reported that they were not physically abused by any of their caregivers, five reported physical abuse that lasted between three and 15 years ($M = 9.2$ years), and one (Kanjana) declined to answer the question, citing cultural differences in definitions of abuse. Most (84.6%) participants indicated that they had not been sexually abused by any of their caregivers. However, two participants (Mike and Joe) reported sexual abuse that lasted between two and three years. Two participants (Melanie and Doug) disclosed extrafamilial sexual abuse during the interview which was not assessed in the survey. Overall, nine participants self-reported experiences of some kind of childhood maltreatment (6 women, 3 men) and four did not (3 women, 1 man).¹⁸

When responding to the CMQ, respondents typically described the behaviour of their mothers and fathers (46.2%), their mothers (30.8%), or their mother, father, and an older sibling (7.7%). However, Melanie described the behaviour of a babysitter and Mike described his foster family members. Participants' mean responses on the six items of each subscale were calculated to provide five maltreatment scores for each participant, presented in Table 2.

Examination of these scores indicates much variation in participants' experiences of psychological abuse and emotional neglect, but little variation in their experiences of sexual abuse. That is, participants' scores on the measure

of psychological abuse ranged from 1.00, indicating that they were never psychologically abused,¹⁹ to 4.67 indicating that they were “often” or “very often” psychologically abused. Similarly, scores on the emotional neglect subscale ranged from 1.00 to 4.50, and scores on the physical abuse subscale ranged from 1.00 to 4.00. In contrast, there was much less variability in participants’ experiences of physical neglect (scores ranged from 1.00 to 2.50) and sexual abuse (scores ranged from 1.00 to 2.08).

Participants’ responses to the CMQ were generally consistent with their self-reports of neglect and abuse. Two of the four participants, Fatima and Craig, who self-reported no childhood maltreatment, had the lowest scores on the CMQ measure. However, there were some interesting inconsistencies. Three participants under-reported their experiences of maltreatment. Kanjana, for example, self-reported no maltreatment but had quite high CMQ scores, particularly on the items measuring emotional neglect and psychological abuse. Similarly, Mary described herself on the self-report measure as psychologically abused and neglected, but not physically or sexually abused. Her CMQ physical abuse score, however, suggested that her parents “sometimes” physically abused her. As well, Sarah indicated no abuse or neglect on the self-report

18. During the course of the interview, however, one of the women, Sarah, indicated that her childhood relationship with her parents might be characterized as emotionally neglectful.

19. Only Fatima indicated that no instances of psychological abuse had ever occurred. She described herself as belonging to a culture that “worships the value of the family” and indicated that she had never experienced an incident of maltreatment of any type within her family of origin. All other participants indicated some level of negative childhood treatment on at least three of the five subscales.

measure but her mean CMQ scores suggested that she was “often” emotionally neglected and “sometimes” psychologically abused.

Three participants (Melanie, Joe, and Doug) described extrafamilial childhood sexual abuse in the interview that was not assessed on the CMQ measure. This discrepancy was due to the CMQ questions' focus on the behaviour of caregivers. Melanie's abuser was an older male adolescent acquaintance, and Joe indicated that his sexual abuser was a man whom he would have, at the time of the abuse, described as a friend or mentor. Doug did not describe the identity of his abuser(s), except to say that the abuse was extrafamilial.

Summary. Participants reported greater variation in experiences of psychological abuse, emotional neglect, and physical abuse compared to experiences of sexual abuse and physical neglect, which were more rare. All but one participant reported some level of childhood maltreatment on the CMQ. Three participants reported childhood maltreatment on the CMQ, but did not self-identify as someone who had experienced that form of childhood maltreatment. This is in keeping with Berger, Knutson, Mehm, and Perkins' (1988) earlier research that indicates that people are reluctant to describe themselves as physically abused.

Level of Psychological Distress

Briere (1995) provided normative data for the ten TSI subscales for younger (18 to 54 years of age) and older (over 55 years of age) women and

men.²⁰ These data are based on a stratified random sample of 836 owners of registered vehicles and people with listed telephone numbers living in any one of the 50 United States (Briere, 1995). Normative data for women aged 18 to 54 years are reproduced in Table 3. Table 3 also presents the female participants' scores on each subscale. The scores of participants who reported little or no childhood maltreatment on the CMQ are at the top of Table 3, and the scores of those who reported more childhood maltreatment are at the bottom. Most of Fatima's, Melanie's, Monica's, and Sarah's TSI subscale scores are less than or equal to population norms. In contrast, many of the subscale scores reported by Christine, Kerry, Kanjana, and Mary are higher than population norms. Indeed, each of these women has at least one subscale score that is 1.5 standard deviations or more above the norm, indicating a clinical level of distress. Mary's scores are particularly troubling: on seven of the ten subscales her scores are at a clinical level. Vivian's scores represent an exception to this association of higher CMQ scores with higher TSI subscale scores. Vivian's scores on all subscales are higher than population norms, but, particularly in terms of dissociation, dysfunctional sexual behaviour, and impaired self-reference, these differences are very slight. Vivian's maturity (i.e., age 53 years) and stable life circumstances (i.e., financial security, long-lasting marriage) are two likely reasons for her low level of trauma symptoms, despite her very harsh childhood experiences.

20. Participants' scores on the validity scales were within acceptable limits Briere (1995).

Table 3

Female Participants' Trauma Symptom Inventory Scores

Name	AA	D	AI	IE	DA	DIS	SC	DSB	ISR	TRB
Normative sample	7.68 (5.22)	7.10 (6.13)	8.31 (6.24)	6.03 (5.55)	7.15 (6.15)	5.46 (5.00)	4.06 (5.27)	2.29 (3.94)	6.46 (5.94)	2.66 (3.35)
Fatima	7	7	7	5	10	3	0	3	8	0
Melanie	3	2	7	11	11	4	13	5	9	6
Monica	7	1	2	6	2	14	2	0	0	0
Sarah	5	4	10	5	3	9	4	1	8	4
Christine	13	10	25	10	8	4	1	1	7	7
Kerry	12	9	15	8	10	13	13	15	18	9
Kanjana	7	14	12	17	19	13	8	8	18	4
Mary	17	23	17	17	15	17	9	4	21	13
Vivian	12	10	10	8	10	6	8	3	7	4

Note: Sample means are shown for the normative sample, with standard deviations in parentheses. AA = Anxious arousal, D = Depression, AI = Anger/irritability, IE = Intrusiveness of experiences, DA = Defensive avoidance, DIS = Dissociation, SC = Sexual concerns, DSB = Dysfunctional sexual behaviour, ISR = Impaired self-reference, TRB = Tension reduction behaviour.

The association between level of childhood maltreatment and level of trauma symptoms noted for most female participants was not evident among the male participants. As shown in Table 4, Mike reported extremely low levels of trauma symptoms, despite his experiences of emotional neglect and psychological and sexual abuse. In contrast, Craig reported clinical levels of defensive avoidance, dysfunctional sexual behaviour, and tension reduction behaviour, even though he did not report childhood maltreatment. The two other male participants, Joe and Doug, reported multiple types of childhood maltreatment and had elevated TSI scores on several subscales. In particular, Joe reported clinical levels of anger and irritability, intrusive experiences, dysfunctional sexual behaviour, and tension reduction behaviour. Similarly, Doug, whose CMQ-reported level of childhood maltreatment was the highest of the male participants, reported levels of anxious arousal, depression, intrusive experiences, dissociation, sexual concerns, and impaired self reference that were, in some cases, more than three standard deviations above the population norms.

Summary. Some participants who had experienced high childhood maltreatment reported high psychological distress on the TSI subscales, but others did not. In addition, the connection between higher levels of childhood maltreatment and higher TSI scores seemed stronger for the female participants than for the male participants.

Table 4

Male Participants' Trauma Symptom Inventory Scores

Name	AA	D	AI	IE	DA	DIS	SC	DSB	ISR	TRB
Normative sample	6.37 (5.48)	5.00 (5.73)	7.69 (6.03)	4.21 (5.05)	5.62 (6.25)	4.47 (4.74)	4.30 (5.20)	2.32 (4.20)	5.00 (5.62)	2.38 (3.29)
Craig	2	9	6	9	14	4	4	11	9	7
Mike	5	2	4	3	2	5	1	1	1	1
Joe	8	9	21	11	9	6	4	10	10	8
Doug	16	20	11	21	13	19	15	5	13	6

Note: Sample means are shown for the normative sample, with standard deviations in parentheses. AA = Anxious arousal, D = Depression, AI = Anger/irritability, IE = Intrusiveness of experiences, DA = Defensive avoidance, DIS = Dissociation, SC = Sexual concerns, DSB = Dysfunctional sexual behaviour, ISR = Impaired self-reference, TRB = Tension reduction behaviour.

Qualitative Data: Childhood Experiences and Adult Relationships

The main question of interest in the interviews concerned participants' understandings of the connections between their childhood experiences of maltreatment and their adult relationships with their partners and friends. The interviews usually took 45 to 60 minutes, although the interview with Doug lasted about two hours and the interviews with Kanjana and Kerry lasted only about 15 minutes.²¹ Many of the interviewees described the interview as a positive experience, and those who described childhood maltreatment were particularly likely to thank the interviewer for listening.²²

A thematic qualitative analysis was conducted on the transcribed interviews, as recommended by Rubin and Rubin (1995). Following transcription, all interviews were reread. Themes raised by the interviewer in each interview (e.g., post-maltreatment difficulties in close relationships, positive change over the lifespan) were the starting point for coding of the data. As participants' expressions of these themes were noted in the margins of each transcription, additional themes became evident (e.g., participants' reluctance to label their experiences 'maltreatment'). As each additional theme emerged, all interviews were re-examined for evidence of that theme. Themes were not mutually exclusive; the same interview passage might be an expression of

21. Neither detailed notes nor an audiotape record were available for the brief interview with Kanjana. The tape recorder malfunctioned during the interview with Fatima, and Mary declined to be recorded. However, some notes are available for both these interviews.

22. Joe reported distress during the one-week follow up telephone call. He was given the therapist's name and telephone number and urged to call her for a

multiple themes.

Coding the interview data according to these themes allowed comparisons of what different people said. Findings will be described in terms of the following themes: struggles with definitions of experiences as maltreatment, problems with beginning relationships, problems with trust and intimacy, problems with violence and verbal abuse, importance of partner support, and positive lifetime changes.²³

Struggling with personal definitions of maltreatment. In keeping with the inconsistencies in the two quantitative measures of childhood maltreatment, defining their own experiences as “maltreatment” was difficult for some participants. In part, this was due to “making excuses” for their parents. For example, Sarah said that, as a child, she had not been

in the kind of relationship with my parents that I wanted to be with, you know, that I saw other people having relationships with their moms or

consultation, but he did not. He agreed to a second follow up telephone call one week later, and at that time he stated that the period of emotional upset had ended.

23. Most participants described some type of childhood maltreatment during the interviews, but Kanjana, Fatima, and Craig did not. The interview with Fatima was mostly about her present day relationships with her husband, her children, her mother, and her extended family, and the ways those relationships and childrearing practices differed in Iranian and Canadian cultures. The interview with Craig touched on subjects such as his inability to understand why he and his ex-girlfriend had drifted apart. Craig indicated that he did not see any clear links between his relationship with his parents and his relationship with his ex-girlfriend, although he had thought about it. As indicated above, notes from the interview with Kanjana were very sketchy. One noteworthy comment from the interview with Kanjana was this: her boyfriend was like a “second parent” in that her relationship with him had replaced her relationship with her parents as the central relationship in her life. Although these three interviews were interesting in themselves, their content was not relevant to the other ten interviews, which were about connections between childhood maltreatment and adult relationships. The qualitative analyses are therefore based on the other ten interviews.

their dads or whatever. And mine was extremely cold. And, and, it was extremely difficult for me to answer these [questions about childhood maltreatment]. I didn't feel neglected, uhm, because I always had food clothing and shelter.

She continued: "it wasn't really neglect ... they just didn't have time for us [her and her siblings]. ... They're still that way." Later in the interview, however, Sarah suggested that perhaps her experiences could be described as "emotional neglect."

Vivian was very clear that her childhood experiences constituted physical and psychological abuse and indicated that at one time she had been extremely angry at her mother. However, she also made excuses for her mother, noting that her mother had psychological problems and did not have friends to provide emotional support. In terms of the severe psychological maltreatment her mother had inflicted (e.g., telling Vivian daily that she wished Vivian had never been born), Vivian noted that "I, in effect, *did* ruin her life."

Mike struggled with labeling his experiences as "sexual abuse." His abuse occurred within an ongoing relationship with an older foster brother who was, on the surface, nurturing. Mike struggled with seeing the abuse as the abuser's responsibility. "Not to say that I wasn't maybe not even a willing partner. Of course, I was ten years old. ... [But] the man didn't tie me up." He also noted that he would continue to spend time with the man who abused him. Not until years after the fact did Mike realize that his abuser had exploited him, and only in the week between his first contact with the researcher and the

actual interview had he considered the ways that the abuser met his emotional needs when Mike was a seriously neglected ten-year-old boy. He noted: "I get really mad, too, when I think about that." A large part of his anger seemed to be related to his abuser's betrayal of his childhood trust (i.e., the way the abuser pretended to care for him in order to exploit him).

Doug's realization of the emotional importance of his childhood maltreatment was also delayed. He stated that he had had a "mental recognition" for some time that he had been sexually, physically, and emotionally abused as a child, but that the full realization (i.e., including emotions) did not come until a time of crisis in his life when he happened to be attending a work-related lecture about long-term effects of childhood sexual abuse. Prior to that time, he had considered his abuse as something that did not matter.

In sum, some participants struggled with defining their experiences as maltreatment, and those struggles were related in some cases to a tendency to make excuses for the perpetrators. However, the issue of calling one's maltreatment history what it is, and of attributing responsibility to the perpetrators is not simple. Relationships in which maltreatment occurs are complex and may involve both love and hate. It may be that an adult can both attribute full responsibility to a perpetrator *and* recognize that the perpetrator acted as she or he did in large part due to the stressors in her or his life.

Problems with beginning relationships. Participants described problems in beginning both intimate relationships and friendships, and linked

these problems to their experiences of childhood maltreatment. Sarah described at length her inability to begin a romantic relationship. She felt that her parents' coldness plus her family's constant moving from one place to another throughout her childhood had left her "not knowing what to do with relationships." Although she had chosen to be alone for some years after she left her ex-husband, she now wanted to begin a close relationship with a man she knew but said that she "hasn't a clue" how to become close to someone in a romantic way.

Mary similarly expressed intense loneliness and shyness. Within the year before the interview, she had experienced intense attraction to a male classmate and went to great lengths to arrange her class schedule so that they would spend time together. She was devastated and angry when he rejected her advances. At the time of the interview she had similar feelings for another male classmate. Mary felt that she had never experienced emotional closeness to another person. She linked her current difficulties to the lack of positive attention from her parents and to her parents' frequent arguments with each other before their divorce.

In contrast, Vivian described actively and deliberately choosing her husband of 30 years. She pursued a relationship with him because he had exceptionally high grades in college and "I wanted a very smart child." As well, she said that:

I chose my husband largely [pause] I chose him among other things because his family life was so normal, or, what I perceived to me to be

normal. ... When I met him and met his family I mean to me that was the centre. This was someone who came from the real world and would probably ground me in the real world.

Vivian noted that her desire for a relationship with this man may have been at her own expense. "I think I was so happy to find somebody who wasn't a total wacko I would have done absolutely anything." She continued: "Certainly at the beginning I would do nothing to cause any kind of argument because I knew what was the result of arguments." When Vivian disagreed with her mother as a child, her mother was physically abusive and would threaten to abandon Vivian, so Vivian "decided that I would be the perfect person, the perfect partner. I don't think it worked very well, but I tried."

Doug described problems in beginning friendships, and he related these problems to his childhood experiences. He described a "tendency of not wanting people to get too close to me." When he did become emotionally close to people, due to his "black and white" thinking about people he would trust them completely and become quickly very close. Doug noted that such relationships usually involved the other person's dependency on him, or need of something from him. He found that he "tend[ed] to feel used by the end" of such relationships, and he attributed this to his childhood experiences, where emotional closeness to someone was the beginning of his extrafamilial sexual abuse.

Problems with trust and intimacy. Doug related his problems with beginning relationships to his "very strong trust issues," and similar problems

with trust and intimacy within relationships were reported by most other participants. These problems took the form of fears of being exploited or abused (which were linked in some cases to doubts about their own self-worth) and fears that people could not be relied upon to provide help. In terms of intimacy, participants expressed desire to withdraw when conflict arises in a relationship, separation between emotional and physical intimacy, and doubts about their own capability to feel love for another person.

In general terms, Vivian doubted her own ability to truly connect emotionally to another person: “I don’t even know – God, this is going to sound awful – I don’t even know if I can love somebody.” (She expressed this sentiment despite having earlier described her horror of conflict but her willingness to “fight until the world ended” if it was necessary to protect her son.) Mike, who was raised in many different foster homes, felt that he was not able to develop a consistent, lasting relationship with any caregivers: “I didn’t get to love them at all.” He believed that this had left him with an adult inability to feel love for more than one person at a time (i.e., both his child and a partner).

Many participants described fears about emotional and physical intimacy with partners and explicitly linked these fears to their childhood experiences.²⁴

In terms of emotional intimacy, Mary desperately wanted to be close to

24. Monica indicated that she felt it was unwise within a relationship to “divulge your whole entire self” because to do so might cause a partner to lose interest. She did not link this feeling to her childhood relationships with her parents or bullying peers and, when asked about any connections between her childhood experiences and her

someone, but noted: "When you open up to a person you give them the power to hurt you." Intimacy was something that was both desired and feared.

Similarly, Doug's tendency to question people's underlying motives and his certainty that no one person could meet all his emotional needs led to a near break-up with his partner at the time of the interview.

Christine noted problems in trusting men because "the main man in my life did not rescue me from my mother. He stepped aside. He knew what was going on. ... I guess he just figured - that's the way it was. He wasn't going to step in and stop it. And none of us [her and her siblings] had broken limbs so he could ignore it." It took her a long time to trust her husband: "I couldn't quite believe that anybody cared that much about me. Like, that I was worthy enough to be cared about that much."

Kerry had similar problems with emotional closeness to men. She noted that her father had "never really been there for me so I didn't really count on males for that. I'm a lot closer emotionally to my female friends."

In terms of difficulties with emotional closeness, Joe felt that he had "turned into his Dad." He explained:

I really don't like to be emotionally available as often as I probably should be in a relationship. I'd sooner just retreat or withdraw. ... That's sort of my inner feeling is I want to do that but because of the recovery I know that that's not a good thing and so I force myself ... as much as I can, to

relationship with her partner, she replied that it was "difficult to say because a lot of it could be happening indirectly or unconsciously."

not be like that - to not be emotionally unavailable or physically unavailable, which is what my Dad is.

Joe's experiences of childhood sexual abuse had led to a separation between emotional and physical intimacy.

There's certainly, I think, a large, a huge connection between the sexual abuse that I was subjected to and my sexual relationship with partners in that ... I used to say I don't think I've ever made love. I've had sex with people but I don't think I've ever actually made love to somebody.

He continued:

It is a direct [connection] as far as I can see. The sex was to win favour. Or to win something else. ... My abuser would offer drugs or alcohol ... so my performance always had this other gift attached to it. You know, if I would do this then I would get that. And love wasn't part of it, you know?

In terms of fears of physical intimacy, Sarah suggested that perhaps "people who have a lack of emotional support as a child have higher walls. Either that or they're really clingy." She noted that realizing that a casual friend is about to hug her is "almost enough to cause a panic attack."

Trusting that others would provide help if necessary was an issue for Joe. "I sort of expect that people will abandon me if, you know, something goes wrong. ... Nobody really has – except perhaps my Dad and my abuser – but there's still part of me that sort of expects that people won't be there to help if I ask for help."

Trusting the constancy of a partner's love was an issue for Mike. He said: "Because of my past ... [pause] ... sexual experiences I have a lot of anxiety around sex." But trying to avoid sex with his partner also leads to problems because "sometimes when you push things away they don't come back." Mike's abuse-related concerns about physical intimacy were just part of the problem he saw in his relationship; his fears about losing his partner's love were at least as important. Like Joe, Mike felt that problems regarding sex in relationships had led to the ending of earlier relationships, and he wanted to make changes in his life so that it did not happen with his present partner. He was considering disclosing his history of sexual abuse to his partner "to reverse this trend" but was reluctant to do so because "that would mean trusting."

Melanie also found that her sexual abuse made it difficult to share physical intimacy with her first partner. "I found it tough to start a relationship with a guy because I thought this is just nasty! I don't even want to deal with this. So it was very slow - my relationship."

Problems with violence and verbal abuse. All participants were asked by the interviewer about conflict within their relationships with their partners and best friends. Participants described both their own abusive behaviour and others' abusive behaviour toward them.

In terms of participants' reports of their own abusive behaviour, Vivian, for example, noted that during disagreements with her partner "especially when we were first married I would react – I would be sometimes physical. I would hit him, which I shouldn't have. I mean, he's quite large, so he fended for himself.

But I would become very irrational very quickly.”

Joe described a family tradition of witty, cutting remarks and verbal put-downs. Although he now realizes that these types of jokes are hurtful and is trying to change his behaviour, he had not yet broken the habit of interacting in this manner with his friends. He believed that this affects his relationships in part because he can have friendships only with others who find this acceptable.

Christine described hyper-sensitivity to aversive things like loud noises and being struck, even accidentally. She felt that her senses were “always tingling” because, as a child, she never knew when she would next be struck. This sensitivity seems on the surface to be a nonrelational aftereffect of abuse but because Christine’s “explosive temper” could be easily triggered, it had relational implications.

Christine discussed the nature of conflict with her child and the links she saw between this relationship and the verbal and physical abuse her own mother had inflicted. “I have the same bad habit of yelling too much, but I don’t yell the way she did, and I don’t use the words she did.” She continued:

My mother had quite an explosive temper, and I probably have very much the same thing. I think [partner] at one point when [child] was really young was actually quite concerned whether or not I would hit [child].

And I remember sitting on my hands to avoid it. I yelled instead.

Christine also reported that she sometimes talks to her partner in an abusive way, but that he protests and insists she stop when she does so.

Although participants had problems with behaving in verbally or

physically abusive ways, they did not seek conflict. Conversely, Vivian noted that she will “do almost anything to avoid severe argument and conflict” with her partner. This willingness to be accommodating had costs. Vivian described a friendship with an older female friend who talked to her in an abusive way, similar to the way her mother talked to her. “I just find that the need to try and please this kind of person is disturbing. ... I want her to say ‘You’re good.’ But she is never going to say it, as my mother never did. But you try to re-create history.”

Similarly, Kerry noted some concerns about the type of man with whom she tended to have relationships. She was usually attracted to dominant men who she saw as similar to her father. “I kind of – I usually go for domineering, like, males. Rather than, like, equal ones or ones who let me have the power. ... Usually they’re more dominant.”

Some participants indicated that there were positive effects of their difficult or abusive childhood experiences. Monica, for example, felt that because she had been struck as a child for being rude to her father, she would never be rude to her partner, and Vivian described striving to avoid any conflict with her partner, except in regard to very important issues.

Positive changes. All participants were asked about any positive changes in their lives, and many described what they saw as important differences between their present and earlier lives. These changes had to do both with accepting abusive behaviour less often from others and behaving abusively to others less often. Some participants also indicated that they were

more able to be emotionally open in their close relationships, compared to earlier stages in their lives. Therapy was an important cause of the positive changes in participants' lives.

In terms of behaving in self-protective ways, Sarah, for example, described being suicidal before she left her husband about 15 years ago. She also noted that in order to avoid being alone at that time she had spent a lot of time with an unpleasant, demanding woman (whom she now called a "former friend"), and that she had gone to bars by herself for the same reason. "I don't need to be not alone so much, you know, because I have made other friends. And I don't feel so abandoned as I did when I threw my ex [partner] out." Similarly, Sarah described becoming able to "set boundaries" around what she would accept from her parents. For example, she would not allow them to talk to her about her weight or her job because these topics inevitably led to verbal attacks.

Melanie also noted positive changes in her relational life. Her adolescent disclosure to her parents of the sexual abuse she had endured meant they felt they had failed her because she had not told them of it immediately after the first incident. Melanie found that her earlier shyness and reticence to talk to her mother were entirely overcome, and that they now spoke on the telephone several times a week. "I would be shy or nervous to go up and talk to her [mom] - I wouldn't want to concern her because she was very busy with four daughters and a full time job."

Joe had deeply considered important changes in his life, especially

changes that had to do with his behaviour in relationships with partners:

I'm a recovering drug addict and part of the recovery process for me has been to try to experience my feelings instead of running from them in any kind of way, like by smothering them with drugs or sex or just denying that I have feelings, or something. So in this past relationship – having learned from previous relationships that because of my sexual abuse there were some sexual things that I didn't want to do and some that I did want to do and there were issues around when it was OK for her to touch me or ... [breaks off]. And instead of just ignoring those things and perhaps, you know, going on to do something I didn't want to do or something like that, I learned that this was not at all healthy and not the way to recover. ... So we would – when these things came up – I would make a big effort to talk about it, to say that this is what's going on with me now and, you know, I don't want you to do that today. ... So that was a real change. Previously I would ... sabotage things, without explaining why."

By "sabotaging things," Joe was referring to passively withdrawing from his partner (e.g., not returning telephone calls) and thus causing the end of the relationship. Joe talked at length about his struggles to become able to emotionally connect to a partner, and his success. "I used to say I don't think I've ever made love. I've had sex with people, but I don't think I've ever actually made love to somebody. I think that's probably not true anymore." Joe felt that at least a few times he had experienced true emotional connection with a

sexual partner.

The positive changes that several participants described involved successful struggles to not behave toward their own children as their parents had behaved toward them. Christine, for example, said: "it's a very conscious effort on my part not to be my mother." She also noted that she yells at her child less than she did when the child was younger, and that she has taught her child to say "I'm a person. You should respect me" when Christine speaks rudely or abusively.

Similarly, Doug noted that as he began his family with his ex-wife "there was a real conscious decision not to be like my parents. I really felt that the way I had been brought up was not the way that I wanted to bring my own children up." Specifically, Doug wanted to teach his children that hugging and other physical nurturing was normal and healthy. However, Doug at first believed that corporal punishment was appropriate. But when he noticed that his children physically withdrew from him when he became angry, he promised them that he would not hit them again, even if he became very angry, and he was able to keep that promise. Doug also described taking care to direct his anger at his children's behaviour, rather than at them as people.

Vivian also described quite intense struggles to raise her child differently than her parents had raised her. "I swore that I would never – that history would not repeat itself." She described deliberately distancing herself from her toddler-aged son (e.g., getting a babysitter or simply putting him into his crib or playpen and locking herself in the bathroom) to give herself time to calm down so that

she could control herself. She said:

...so I would never lay a hand on him because that was my first impulse. And I said it was going to stop and it did. I mean it would never go to the next generation. ... but ... you want to knock him across the room because that's what happened to you. ... And I'm sure I did things – I never hit him or you know beat him, but I certainly – probably spoke more harshly than I would have liked, or jerked him at times when I shouldn't have. And then stopped myself.

She also indicated that she would have immediately left her husband if he had hit their son.

Several participants described therapy as the source of positive change. For example, referring to her parenting behaviour and her sometimes explosive anger, Christine noted: "I think you can only deal with something when you understand where it comes from." Therapy helped her explore the causes of these things that troubled her. It helped other participants, too.

Monica found that therapy as an adult had helped her overcome what she called a "sociability disability." She had experienced ridicule and bullying from her childhood peers, as well as physical punishment by her father, and had felt very badly about herself. (Childhood therapy had not been helpful.) She felt that this low self-esteem was the reason she had once accepted emotional abuse and disrespectful behaviour from intimate partners. At the time of the interview, Monica described herself as much more relaxed and confident, and in a positive, supportive relationship with her husband.

In another example, Joe noted that negative feelings related to his boyhood sexual abuse became very salient after he successfully completed a drug rehabilitation programme. "So when these feelings started coming up I went back to [those who ran the programme] assuming that, you know, this must happen. I'm not the first, I'm sure, who got clean and then all this crap comes up." A big part of his abuse-related therapy had to do with learning to identify and then experience his own emotions. His ability to understand and express his own emotions was a big part of the positive change in his relationship with his ex-partner.

However, not all participants reported positive changes in their lives, and some of those who did report positive change saw its cause quite differently. Vivian attributed positive changes in her life to the passage of time, rather than to therapy:

I'm 53 years old. I don't give a damn! It's been a long time. ... If you had [interviewed] me in my 30s you would have gotten a completely different reaction because I was much more volatile then. And in my 20s, really volatile. Now I don't give a damn. And I think you'll find that people in remembering it - age makes a big difference. ... I just figure you've got to get on with it at some point. Grow up and get on.

Later in the interview, Vivian again attributed positive change mostly to circumstance, rather than to her own efforts: "I had nowhere to go but up!" Similarly, she suggested that having by chance given birth during her 30s, rather than younger, and being well educated helped her to avoid mistreating

her son. She did, however, note that: “Had I been stupid enough to marry an abusive husband or had I been stupid enough to not restrain myself and abuse my child I don’t think I’d be where I am now.”

In contrast, Mary felt that she had been happier as a child than she was at the time of the interview, and that any change in her life had been negative. And Kerry said that she could not answer the question about change because “I really live in the present.”

Several participants expressed a positive orientation to anticipated future change in their lives. For example, Joe said: “I believe, deep down, that either you’re progressing or you’re regressing. ... So I try to keep my mind and my eyes open to what areas I could make progress in.” Monica and Doug made similar comments.

Importance of partner support. Melanie described the ways that her high school boyfriend supported her when she disclosed her experiences of sexual abuse to him and then to her parents. Similarly, Christine described her strong relationship with her husband of 16 years and the ways that experiencing adversity together and talking for hours had cemented their relationship. However, she noted that she also needed close relationships with others (e.g., her female best friend).

Doug described his partner of about one year as a “very positive” influence on his life. He and his partner were very open with each other about their respective histories of childhood maltreatment and the continuing issues caused by those histories. He said that they spent a lot of time talking about

their feelings and about what they wanted from the relationship and “trying to help the other person to see themselves for who they really are” (i.e., to see their own positive qualities). Referring both to his history of childhood maltreatment and to other difficult life experiences, Doug said: “The only way that we can get through anything that’s distressing ... is through the impact of a positive significant other. And without that we’re not capable of getting beyond.”

Summary. As was indicated by the inconsistency in the paper and pencil measures of childhood maltreatment, participants’ narratives demonstrate that defining one’s childhood experiences as neglect or abuse is not straightforward. Participants noted a lasting negative impact of childhood maltreatment on problems with beginning relationships and problems with trust and intimacy within new and established relationships. Some participants also noted that tendencies to hurt others and to be hurt by significant others were related to childhood maltreatment. On the positive side, participants also described the benefits of supportive relationships with their partners, as well as important positive changes in their lives.

Discussion

Findings indicate that people from both the community and the psychology research participant pool are willing to respond to an advertisement and participate in a research project concerning the connections between childhood experiences and adult relationships. In fact, many participants were grateful to the interviewer for listening to their accounts of childhood maltreatment, as other abuse researchers have also reported (e.g., Shapiro &

Levendosky, 1999). Questions about how childhood experiences relate to adult relationships make sense to people. People who had negative childhood experiences (whether or not they were willing to call them “abuse”) seemed particularly willing to consider ways that their childhood relationship experiences relate to their adult relationships. Thus, the general rationale underlying the mediated model proposed above seems sound.²⁵

In addition to implications for the second study, this study also contributes to further understanding of the complex nature of maltreatment within children’s relationships. Several participants struggled with defining their experiences as maltreatment. Of the 13 participants, most reported some level of childhood maltreatment on the Childhood Maltreatment Questionnaire. Fatima was the one exception, and her indication that no incidents of maltreatment, not even the mildest forms of emotional neglect (e.g., “fail to praise you when you deserved it”), had ever happened to her is difficult to interpret. Although her report might be historically factual, it might also represent a tendency to under-report experiences of childhood maltreatment. Kanjana, Mary, and Sarah demonstrated this tendency, in that they did not describe themselves on the self-identification items or during the interview as people who had experienced all the forms of childhood maltreatment that they indicated on the CMQ. Mike also struggled with labeling his experience “sexual abuse.” No participants over-reported their experiences of childhood

25. This study also demonstrated the utility of the survey package. Changes made on the basis of these participants’ comments will be described below.

maltreatment, based on comparison of the self-identification items and the CMQ items.

This finding is in keeping with Berger et al.'s (1988) exploration of nearly 5000 university students' ideas about the "physical discipline" and physical abuse they had experienced in their childhoods. Berger et al. found that 20% of the students had been hit by their parents in ways other than spanking, and that 12% had been injured by their parents in the context of physical punishment. Although most of the injuries were bruises, 2% of the participants required medical services. However, of the nearly 9% of students who were judged by the researchers (using stringent criteria) to have experienced physical abuse, only 2.3% defined themselves as abused, whereas 6.3% described themselves as not abused.

In terms of participants' psychological distress, there was no simple relation between more childhood maltreatment and higher Trauma Symptom Inventory subscale scores. The women who reported the least childhood maltreatment also tended to have the lowest TSI scores (e.g., Fatima, Monica), and women who reported more childhood maltreatment tended to report higher TSI scores (e.g., Mary). But this was not always the case. Mary, for example, reported childhood experiences comparable to Vivian's or Christine's experiences. But Mary's symptoms of psychological distress were much higher than Vivian's or Christine's. Differences in relationships and perhaps age can explain at least part of this difference. Vivian and Christine were middle-aged, had been married for some years, and both had a child. Mary, in contrast, was

very young and very lonely, and was living with a parent who continued to be psychologically abusive. She was also actively seeking a close relationship, and attributed much of her distress to the absence of such a relationship in her life.

The connection between childhood maltreatment and adult psychological distress is even more complex when gender is considered. Although Doug reported both the highest level of childhood maltreatment of any of the men and the highest level of TSI symptoms of any of the participants, Mike, who reported a level of childhood maltreatment only a little lower than Doug's, reported extremely low TSI symptoms. Further, Doug and Joe had both spent some years in therapy, whereas Mike had not, but both their symptom levels were much higher than Mike's. At the time of the interview Mike had more stable living arrangements (i.e., in terms of his partner and his job) than either Joe or Doug. As well, Joe and Doug both noted that they had experienced traumas other than childhood maltreatment that may have caused elevated TSI scores. Supportive relationships and experience of other traumas may be important to the connection between childhood maltreatment and adult psychological well-being. However, there may also be additional unmeasured causes of Mike's extremely low reported level of psychological symptoms.

In terms of implications of maltreatment for adults' lives in relation to their partners and children, participants who reported childhood maltreatment all reported some problems in their relationships. For some, these problems concerned initiating intimate relationships and friendships. Other problems involved emotional trust and physical intimacy within ongoing relationships. As

well, some participants reported difficulties protecting themselves from ongoing verbal attacks and, conversely, with controlling their own verbal and sometimes physical aggression against their partners and/or their children. Many participants could insightfully describe connections between their childhood relationships to their caregivers (and other significant adults) and persisting problems in their adult relationships. This is consistent with attachment research and theory, which posit that internal working models of self and other are formed during early childhood, persist into adulthood, and guide people's behaviour in relationships. It is also consistent with literature that examines the relational impact of trauma. For example, Riggs, Byrne, Weathers, and Litz (1998) studied the quality of the intimate relationships of Vietnam war veterans and found that symptoms of emotional numbing had a unique and important negative impact on intimate relationships. This is similar to problems described by Joe in the present study.

In contrast, some participants noted that their intimate relationships had improved, compared to an earlier time in their lives, and noted therapy and the effects of aging as causes of these positive changes. These positive lifetime changes were somewhat inconsistent with the lifelong stability presumed by attachment theory. Participants' reports of choosing to parent their children very differently from their own experiences of being parented, for example, are contrary to attachment research that finds inter-generational stability in attachment orientation (e.g., Main & Hesse, 1990; van IJzendoorn, 1995a). Similarly, participants' reports of becoming able to express negative emotions to

a partner, rather than emotionally or physically avoiding the situation, suggest changes in attachment orientation.

In sum, this study provides further evidence that there are connections between childhood maltreatment, adult relationship problems, and adult well-being, but that the link between childhood maltreatment and adult problems is far from absolute.

Findings of this study have several implications for future research. Because some participants under-report their experiences of childhood maltreatment, multi-item measures of childhood maltreatment should be used in further research. Another implication is that asking participants about positive changes in their lives may provide valuable information. Related to this, it may be important in future research to include adults of varying ages, because the life changes that a sample of young university students could report are necessarily more restricted than those that might be reported by a more age-diverse, older sample.

Study Two

Mediators and Moderators of the Effects of Childhood Experiences on Adult Well-being

The findings of the first study supported conclusions from the literature review: a mediated model might be a useful way to understand the long-term effects of childhood maltreatment. That is, findings indicated that childhood experiences of maltreatment were related to adult relationship difficulties and that relationships were important to participants' levels of psychological distress.

Mediated models of the relation between childhood maltreatment and adult well-being have been tested by several researchers. For example, Shapiro and Levendosky (1999) tested the mediating role of attachment and coping in the relation between childhood maltreatment and psychological distress of female adolescents. Whiffen et al. (1999) examined the mediating and moderating roles of attachment and intimate partner support in a study of 60 women with histories of childhood sexual abuse. Similarly, Roche et al. (1999) examined attachment as a mediator of the effects of girlhood sexual abuse on women's trauma symptoms, and Runtz and Schallow (1997) tested the mediating roles of social support and coping in the relation between childhood maltreatment and psychological adjustment of male and female university students. No researchers to date, however, have developed or tested a model as comprehensive as the one outlined in Figure 1 and described above. Further, most mediated models have been tested using data from

samples that are restricted in terms of the types of childhood maltreatment assessed as well as in terms of the ages and gender of participants. Therefore, the main purpose of this study was to test the mediated model described earlier (shown in Figure 1) using data from a mixed community and student sample of men and women.

As described in the *Exploratory Interviews* study, people with histories of childhood maltreatment may experience not only persisting personal and interpersonal distress, but also important positive changes in their lives. Once pervasive but later resolved (or partially resolved) problems in the psychological, behavioural, and interpersonal domains of childhood maltreatment survivors' experience have not been the subject of research interest. Further understanding of these changes may be important for clinical work and also simply to provide hope to people struggling with severe post-maltreatment problems. A second purpose of this study was to assess participants' ideas about changes in their attachment orientations, quality of intimate relationships and friendships, ways of coping with problems, and level of distress.

Method

In contrast to the *Exploratory Interviews* study, this study involved a larger sample and used quantitative measures to test a model rather than explore people's experiences in depth. Participants were asked to read a cover letter in lieu of signing an informed consent form, and a debriefing letter was included with the survey package. The debriefing letter included contact

numbers for the researcher and for several 24-hour crisis hot-lines. (See Appendix D for copies of the cover letter and debriefing form.)

Measures

Several changes were made to the survey package, based on feedback from the participants in the first study. All changes are detailed in Appendix B. The only major change was the deletion of Bartholomew and Horowitz's (1991) *Relationship Questionnaire*. Several participants in the *Exploratory Interviews* study found this measure confusing and contradictory. Participants remarked that they could rate the applicability to their lives of each of the sentences making up the paragraph-long descriptions, but they could not do so for the paragraphs in their entirety. Examination of participants' responses confirmed that it would be very difficult to classify participants into one of the four attachment styles based on their responses to this measure.

Several minor modifications were made to the questions about childhood maltreatment. Based on several participants' comments that the question about their self-definitions of childhood neglect seemed an overly harsh way to describe their experiences of parental coldness and indifference, the question was refined to include both physical and emotional neglect. In addition, instructions were added regarding how to indicate that a type of maltreatment was presumed to begin at birth. A scaled item with space to write an elaboration was added to assess directly participants' ideas about connections between their childhood and their adult relationships (described below).

As in the *Exploratory Interviews* study, participants first provided basic

demographic information. They then completed questionnaires relevant to predictor variables (i.e., childhood experiences of five types of mistreatment and positive childhood relationships), mediating variables (i.e., current attachment orientation, the supportiveness of their current or recent intimate relationships, ways of coping with life stressors), and criterion variables (i.e., their psychological and physical well-being). The survey packages were constructed such that questionnaires were presented in a random order, except that the "Background Information" questionnaire was always presented first and the "Anything Else?" questionnaire was always presented last.

Procedure

Advertisements were placed in local community newspapers between March and August of 2000. With minor variations, the notices read: "Men and women needed for survey of childhood experiences/adult relationships. Call Wendy at 520-2600, ext. 2679." A few of the notices read "childhood abuse" instead of "childhood experiences," and the words "and women" were deleted in later notices because early responses from women outnumbered those from men.

The nature of the survey and its purpose (i.e., to learn more about the connections between childhood experiences and adult relationships, coping, and well-being) were described to callers. The mechanics of the process were also explained: a package including instructions, questionnaires, a debriefing form, and a stamped, addressed return envelope were mailed to interested people. The researcher stressed several things during the initial telephone

contact with potential participants. First, all adults were welcome to participate: there were no criteria in regard to specific positive or negative childhood experiences or adult relationships. Second, it was stressed that participation was voluntary, confidential, and anonymous. That is, potential participants were told that receipt of the survey package in no way compelled them to complete it. (All were, however, encouraged to return the survey by mail once they had finished as much of it as they were willing or able to answer.) As well, potential participants were told that anything they discussed on the telephone with the researcher would be held in confidence and that all survey packages were in identical return envelopes with no identifying features. Potential participants were also warned that some of the questions (i.e., about experiences of abuse, violence) might be upsetting to some people. Finally, consent to re-contact participants about a week after the researcher mailed the package was solicited, and almost all participants agreed.²⁶

Participants were also recruited from the Carleton University Introductory Psychology Research Pool. Twenty-five student participants were tested in small groups by a research assistant in a classroom at the University. Additional student participants were recruited through a notice on the Research Notice Board that invited them to either leave a telephone number where they could be reached or stop by the research lab during regular business hours to pick up a survey package. Potential student participants were informed about the

26. A few participants were not willing to give their real names, telephone numbers, or other identifying information.

voluntary and confidential nature of the survey, as described above. Most brought the completed packages back to the research lab within 48 hours of picking them up, although some opted to return them by mail. Students received course credit for their participation.

Results

The initial quantitative analyses examined the demographic characteristics of the sample, the internal consistency of the multi-item measures, and the descriptive statistics of participants' scores on the conceptual variables of the study. The main analyses assessed the fit between the proposed model and the data. This involved four steps. First, a series of correlational analyses between the predictor and criterion variables was conducted. Second, the simple correlations of each of the mediating variables with both predictor and criterion variables were computed. Third, structural equation modeling was used to test the mediated model. Fourth, a series of hierarchical regressions was conducted to assess the importance of gender to the observed relations.

To gain insight into the generality of the findings, correlational analyses examined the extent to which participants' demographic characteristics were related to the predictor and criterion variables. These analyses allowed assessment of the extent to which participants' demographic characteristics provided alternative explanations for significant relations observed among the variables.

To explore the concept of important lifetime changes, noted by participants in the *Exploratory Interviews* study, a supplementary set of quantitative analyses examined participants' scores on measures of change in four domains of their lives. Finally, content analyses of participants' responses to the two open-ended questions provide additional information.

DEMOGRAPHIC INFORMATION, DATA REDUCTION, AND DESCRIPTIVE STATISTICS

Demographic Information

Usable questionnaires²⁷ were received from 130 participants, which represents a return rate of 73.9%. Detailed demographic information is presented in Table 5. Just over half of the participants were female, and they were on average 33 years old ($M = 32.92$, $SD = 12.91$, range = 18 to 75 years). Most participants were recruited by newspaper advertisement or by a notice on the Carleton University research notice board, but about a quarter were recruited by a researcher or by a friend or acquaintance of a researcher.

The typical participant lived with a partner and was employed, or a student, or both. The sample was, on average, well-educated, with two years of post-secondary education ($M = 14.85$ years, $SD = 2.61$ years). The average annual family income was between \$45,000 and \$54,999. However, the distribution of incomes was bimodal: 23.2% of the sample reported a family income of less than \$15,000 whereas 26.4% of the sample reported incomes of

27. Three questionnaires were discarded due to concerns about their validity. A 26-year-old woman's questionnaire was excluded because her raw score was 23 on the Atypical response TSI validity scale (ATR). Scores above 13 indicate responses of questionable validity (Briere, 1995). Examination of the rest of her questionnaire indicated a strong tendency to endorse extreme items. Similarly, data provided by a 21-year-old male student who had participated for course credit was discarded because his ATR and Inconsistent Responding scores were above the suggested cutoffs. Examination of his questionnaire indicated that many items had been skipped. Finally, the questionnaire of a 38-year-old man was discarded. He did not answer the TSI but returned the TSI question sheet with comments about several items. Some of his comments indicated that his answers to the items would be different "as Ayra" or "as Susan." Examination of the rest of the questionnaire revealed many comments that were difficult to interpret. For example, on the CSI he wrote: "My Dad always to ask [sic] where is your sister? She is inside, not much has come out."

Table 5

Frequencies for Qualitative Sample Characteristics

Characteristic	N	%
Gender		
Female	73	56.2
Male	57	43.8
Method of learning about the study		
Newspaper advertisement	42	32.3
Carleton University research notice board	42	32.3
From someone they knew	32	24.6
Notice on internet newsgroup	6	4.6
Other	8	6.1
Living arrangements		
With partner	45	35.6
With roommate	27	20.8
Alone	24	18.5
With children	22	16.9
With parent(s)	21	16.2
Other	12	9.2
Employment status		
Work more than 30 hours/week	43	33.1
Full-time student	38	29.2
Work less than 30 hours/week	36	27.7
Unemployed	14	10.8
Part-time student	13	10.0
Other employment	13	10.0
Disability	11	8.5
Self-employed	11	8.5
Social assistance	9	6.9
Homemaker	9	6.9

Note: Percentages do not sum to 100 for variables where participants could make multiple responses.

Table 5 (cont'd)

Frequencies for Qualitative Sample Characteristics

Characteristic	N	%
Ethnic background		
“WASP,” British, European	53	40.8
Canadian	39	32.0
East Indian	6	4.9
Aboriginal	4	3.3
Asian	4	3.3
African	3	2.5
French-Canadian	3	2.5
Iranian/Muslim	2	1.6
American	2	1.6
Other	6	4.9
Sexual identity		
Heterosexual	113	91.1
Bisexual	7	5.6
Lesbian/gay	4	3.2

Note: Percentages do not sum to 100 for variables where participants could make multiple responses.

\$75,000 or more. Most participants (64.8%) had no children.

As shown in the second half of Table 5, most participants described their ethnicity as "WASP" (i.e., White Anglo-Saxon Protestant), British, or European, or simply as "Canadian." Others described themselves as East Indian, Aboriginal, Asian, African, or French-Canadian. Eight (6.2%) of the participants declined to describe their ethnic background. Most respondents (91.1%) described themselves as heterosexual. Most participants reported that in their childhood homes there was "a comfortable amount of money" (49.6%) or "just enough money to get by" (36.2%).

A series of independent samples *t*-tests indicated no gender differences in age, $t(128) = -0.28$, *ns*, education, $t(128) = 0.92$, *ns*, family income, $t(123) = 1.06$, *ns*, number of children, $t(128) = 0.66$, *ns*, nor family of origin finances, $t(125) = 0.94$, *ns*. However, a MANOVA revealed gender differences in participants' living arrangements, *Pillai's Trace* $V = 0.160$, $F(6, 123) = 3.91$, $p < .001$. The univariate analyses indicated that the only gender difference concerned living with a child or children: 21 women, compared to one man, indicated that they were living with children. A MANOVA testing for gender differences in participants' employment status was also significant, *Pillai's Trace* $V = 0.150$, $F(10, 119) = 2.11$, $p < .05$. The only gender difference was that women were more likely to identify themselves as homemakers (6.9%) than were men (0%). There were no gender differences in terms of how participants heard about the study, *Pillai's Trace* $V = 0.054$, $F(5, 124) = 1.42$, *ns*.

Descriptive Statistics and Interrelations Among the Childhood Predictor Variables

Two measures of childhood maltreatment were used: the Childhood Maltreatment Questionnaire and five self-identification items. As well, two questionnaires assessed participants' experiences of childhood support and caring.

Childhood maltreatment. Based on a principal component analysis,²⁸ four subscales were created from the 30-item CMQ. As shown in Table 6, these four subscales and the total CMQ were internally consistent, with α 's ranging from .75 to .97. Scale scores were therefore formed by calculating the mean of participants' responses.²⁹ Higher scores thus represent more frequent and/or more pervasive abuse.

As shown in Table 6, the descriptive statistics indicate that most participants experienced little childhood maltreatment. They experienced psychological maltreatment "rarely" or "sometimes" and physical and sexual abuse "never" or "rarely." However, examining the frequencies of participants' endorsement of the two extremes of these scales provides a fuller picture. Over

28. Items composing this measure were subjected to factor analysis because this measure was modified from its original form for this study. The process of analysis and the conclusions drawn from it are described in Appendix E. Similarly, items composing the CES, the QRI (partner and friend), and the health measures were subjected to factor analysis, described in Appendix E. As a general rule, measures were subjected to factor analysis only if there was doubt about their structure due to lack of relevant published data or due to modification of the measure for this study.

29. This measure was created by computing the mean of the four measures of childhood maltreatment, rather than the mean of the 30 items, to ensure that all four types of maltreatment were given equal weight.

Table 6

Scale Characteristics and Descriptive Statistics for Measures of Childhood Predictor Variables

Measure	Number of items	M inter-item correlation	α	Range	M	SD
Childhood Maltreatment Questionnaire (Total)	4	.49	.80	1.00 - 4.38	2.00	0.85
Psychological maltreatment	12	.71	.97	1.00 - 5.00	2.63	1.21
Sexual abuse	6	.79	.96	1.00 - 5.00	1.67	0.85
Physical abuse	6	.63	.90	1.00 - 5.00	1.63	0.85
Physical neglect	3	.51	.75	1.00 - 5.00	1.37	0.94
Years of emotional neglect	1	-	-	0.00 - 18.00	4.83	6.65
Years of psychological abuse	1	-	-	0.00 - 18.00	4.07	6.40
Years of physical neglect	1	-	-	0.00 - 18.00	2.04	4.85
Years of physical abuse	1	-	-	0.00 - 18.00	2.56	5.04
Years of sexual abuse	1	-	-	0.00 - 17.00	1.19	3.02
Parental Care	12	.57	.94	0.00 - 3.00	2.03	0.80
Childhood Emotional Support	15	.34	.89	0.13 - 4.00	1.80	0.90

a third of the participants (37.8%) indicated that they had not experienced any type of maltreatment from a parent or caregiver (i.e., their mean score on the 30 items was 1.50 or less). Most participants (84.4%) had experienced no sexual abuse from a parent or caregiver. Those who did experience sexual abuse, however, experienced a high level of it: one in ten participants (11.1%) indicated that they experienced sexual abuse “very often.” The pattern was quite different for the other three types of maltreatment. Over half of the participants had not experienced any physical abuse (65.9%) or physical neglect (56.6%), and among those who had, only a very few had experienced these forms of maltreatment “very often” (1.6% and 0.8%, respectively). Finally, only about a quarter of the participants (24.2%) had never experienced parental or caregiver psychological maltreatment, whereas 10.2% indicated that psychological maltreatment happened “very often.”³⁰

Men and women reported an equivalent level of childhood maltreatment on all four measures, *Pillai's Trace* $V = 0.003$, $F(4, 121) = 0.10$, *ns*. Participants recruited by someone they knew were no more or less likely than other participants to report any type of childhood maltreatment, *Pillai's Trace* $V = 0.041$, $F(4, 121) = 1.30$, *ns*.

30. Examining these frequencies is instructive because scores on some of these variables are not normally distributed. See Appendix F for a description of normality tests of all conceptual variables and the transformations undertaken to improve normality of the distributions. To maximize interpretability, all reported mean scores are based on the untransformed variables. However, correlational analyses and other inferential statistics are based on normal or transformed to normal variables.

Participants' scores on the four childhood maltreatment scales were intercorrelated, as shown in Table 7. In particular, the correlations³¹ between psychological maltreatment, physical neglect, and physical abuse were high ($r_s = .49$ to $.65$). In contrast, the correlations between sexual abuse and the other three forms of childhood maltreatment were more moderate ($r_s = .32$ to $.41$). These intercorrelations are very similar to those observed by Demaré (1996) in his sample of 1200 university students (60% female). However, level of sexual abuse experienced is correlated more strongly with experience of other forms of childhood maltreatment in the present sample, perhaps because Demaré measured both intrafamilial and extrafamilial sexual abuse. Given these significant intercorrelations, and given the fact that CMQ subscale scores related to other variables in the same way, only CMQ total scores will be considered in the subsequent analyses. (See Appendix G for correlations of CMQ subscales with conceptual variables. Any differences in the results observed with subscale scores will be reported in footnotes.)

The second measure of participants' experiences of childhood maltreatment required participants to self-define their experiences and to indicate the number of years that each type of caregiver maltreatment lasted. As shown in Table 6, some participants experienced childhood maltreatment spanning their entire childhoods (i.e., 18 years). Although some participants indicated that their parents continued to be, for example, psychologically abusive to them as young adults, an age of 18 years was arbitrarily set as the

Table 7

Intercorrelations Among Measures of Childhood Maltreatment

	2	3	4	5	6	7	8	9	10
1. Total childhood maltreatment	.30***	.24**	.26**	.23**	.18*	.24**	.17	.25**	.28**
2. Psychological maltreatment		.66***	.62***	.41***	.78***	.54***	.72***	.60***	.36***
3. Physical neglect			.49***	.41***	.57***	.49***	.54***	.48***	.42***
4. Physical abuse				.32***	.45***	.48***	.51***	.70***	.24**
5. Sexual abuse					.35***	.58***	.30***	.32***	.75***
6. Years of emotional neglect						.62***	.81***	.58***	.41***
7. Years of physical neglect							.56***	.64***	.60***
8. Years of psychological abuse								.75***	.38***
9. Years of physical abuse									.39***
10. Years of sexual abuse									-

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom ranged from 114 to 126 for all correlations.

end of childhood. Scores on these variables thus could not exceed 18 years. Consistent with the CMQ measures, participants described more years of emotional neglect and psychological abuse and fewer years of physical neglect, physical abuse, and sexual abuse. Between 75% and 80% of people indicated that they had never experienced what they would call physical abuse, sexual abuse, or physical neglect. In contrast, only about 60% indicated that they had not experienced any psychological abuse (66.2%) nor emotional neglect (57.7%).³²

In total, 61 people (36 women, 25 men) said that they had not experienced any type of childhood maltreatment, whereas 69 people (37 women, 32 men) said that they had experienced some type of childhood maltreatment. Participants' self-definitions of their experiences as childhood maltreatment did not depend on their gender, $\chi^2 (N = 130, df = 1) = .38, ns$.

As shown in Table 7, the durations of participants' self-defined experiences of childhood maltreatment were intercorrelated, indicating that participants who experienced several years of one type of maltreatment were also likely to have experienced several years of another type of maltreatment. For example, number of years of emotional neglect was strongly related to years of psychological abuse, as well as to years of physical abuse and neglect. As with the CMQ subscales, the correlations of years of neglect, psychological abuse, and physical abuse with sexual abuse were generally more moderate

than the intercorrelations among nonsexual types of maltreatment, although physical neglect correlated strongly with sexual abuse.

Participants' self-definitions of their childhood experiences correlated as expected with the CMQ assessments (see Table 7). For example, the correlations between CMQ-measured level of psychological maltreatment and number of years of both emotional neglect and psychological abuse were strong, as were the correlations between the two measures of physical neglect, physical abuse, and sexual abuse (ranging from .49 to .75). Although strong, these correlations were not perfect, and this is consistent with the discrepancy between self-reports and CMQ scores noted in the *Exploratory Interviews* study.³³

Positive childhood relationships. Two measures were used to assess the supportiveness of participants' childhood relationships. Parker et al.'s (1979) Parental Care subscale of the Parental Bonding Instrument was used to assess the quality of the emotional care participants received from a single important adult during their childhoods, and Irwin's (1996) Childhood Emotional Support measure was used to assess the level of childhood emotional support available to participants from various adults and peers.

In terms of quality of emotional care, most participants (68.0%) described their mothers, 18.0% described their fathers, 4.7% described their

32. In addition, two people (1.5%) indicated that they had experienced sexual abuse, but did not indicate the ages of onset and/or offset. This was also true for one person in regard to physical abuse, and two people in regard to emotional neglect.

grandmothers, and other participants described a sibling or other relative. Two participants (1.6%) described a social worker or other professional. The measure of emotional care was internally consistent, as shown in Table 6, and the average score indicates that most participants rated the 12 ways of showing caring as “moderately similar” to the behaviour of the adult they had in mind.

Parker et al. (1979) reported that a sample of 500 consecutive Australian patients of three general practitioners had a mean Care score of 2.24 in regard to their mothers and 1.98 in regard to their fathers. These scores seem comparable to the mean scores observed in this sample for mothers' care, ($M = 1.98$, $SD = 0.86$), and fathers' care, ($M = 2.04$, $SD = 0.59$), although potential cultural and historical differences make this comparison tentative. People who experienced high levels of caring from their primary caregivers during childhood were unlikely to experience childhood maltreatment as assessed by the CMQ total score, $r(126) = -.62$, $p < .001$.³⁴

In terms of amount of childhood emotional support from 15 adults and peers, some participants (20.0%) described childhood emotional support received from someone who could not be described using the 15 listed options. This person was usually a relative (e.g., cousin), a sports coach or Girl Guide leader, a friend's mother, or a step-parent. For each of the potentially supportive people who were listed, a response option allowed participants to indicate that

33. Strong positive skews in the self-report maltreatment duration variables could not be remedied through transformations. Given this, and given these variables' similarity to the CMQ subscales, they were not analyzed further.

there was “no such person” in their childhoods. The data were coded such that responses of “no such person” were equated with “no support” (i.e., a score of “0” was recorded for such items). As shown in Table 6, the 15 CES items were internally consistent. The mean score on this measure indicates that participants, on average, experienced emotional support “in some respects” during their childhoods.

Level of childhood emotional support was negatively correlated with the level of childhood maltreatment reported on the CMQ, $r(127) = -.57, p < .001$. That is, people who had more emotionally supportive adults and peers in their childhoods were less likely to experience childhood maltreatment. In addition, people who were better cared for by the significant adult they described using the Care measure also received more emotional support from more adults and peers, as measured by the CES, $r(127) = .54, p < .001$.³⁵

Descriptive Statistics and Interrelations Among the Mediating Variables

As noted above, attachment orientation, intimate partnerships, friendships, and coping strategies are potential mediators of the relation between childhood maltreatment experiences and adult well-being.

Adult attachment orientation. Using the Experiences in Close Relationships measure (ECL), participants’ adult attachment orientation was measured in terms of their anxiety about relationships and their tendency to

34. As shown in Table A of Appendix G, the correlation of care with experience of sexual abuse is somewhat weaker.

35. As shown in Table A of Appendix G, the correlations of childhood emotional support with physical and sexual abuse were somewhat smaller.

avoid emotional closeness within an intimate relationship. As indicated in Table 8, both the avoidance and anxiety subscales were internally consistent. The means of these two measures indicated that participants, on average, scored just below the scale mid-points. Consistent with recent developments in attachment theory (e.g., Brennan et al., 1998), these two dimensions of attachment were largely independent, $r(126) = .22, p < .05$.

Supportiveness of current relationships. Participants used the Quality of Relationships Inventory (QRI) and the Relationship Assessment Scale (RAS) to describe their relationships with their partners³⁶ and their best friends. Relationships with partners will be discussed first. The QRI was created to assess three dimensions of close relationships: support, conflict, and depth (Pierce et al., 1991). As shown in Table 8, the three subscales had good internal consistency. Higher scores on each subscale indicate more of that dimension within the relationship (i.e., more support, more conflict, more depth). Mean scores indicate that most participants felt that their partners were “usually” supportive, and that there was “quite a bit” of depth to the relationships, but that there was also “a little” conflict.

Hendrick’s (1988) seven-item RAS was used to assess respondents’ overall satisfaction with their intimate relationships. An item-analysis (summarized in Table 8) indicated that the items formed an internally consistent

36. Some participants (13.8%) did not complete the partner QRI or RAS because they had never had an intimate relationship or because their last relationship ended more than one year previously.

Table 8

Scale Characteristics and Descriptive Statistics for Measures of Mediating Relationship Variables

Measure	Number of items	M inter-item correlation	α	Range	M	SD
Anxiety	18	.44	.93	1.00 - 7.00	3.52	1.39
Avoidance	18	.50	.95	1.00 - 7.00	3.26	1.38
Relationship with partner						
Support	7	.59	.91	1.00 - 4.00	3.08	0.77
Conflict	12	.55	.93	1.00 - 4.00	2.26	0.72
Depth	5	.63	.90	1.00 - 4.00	2.99	0.87
Overall satisfaction	7	.66	.93	1.00 - 5.00	3.49	1.15
Relationship with best friend						
Importance	11	.48	.91	1.55 - 4.00	3.06	0.64
Conflict	12	.43	.90	1.00 - 3.75	1.65	0.54
Overall satisfaction	7	.54	.89	1.14 - 5.00	4.00	0.83

scale. The mean score on this scale indicated that, overall, people rated their level of satisfaction with their partners half a scale point above “average.”

Twenty-five participants completed the intimate relationship measures for an ex-partner in terms of their thoughts and feelings about their partner *during* the relationship. On average, these relationships had ended seven months ago ($M = 7.06$ months, $SD = 6.7$ months). As shown in Table 9, relationships with past partners were rated more negatively (e.g., less supportive, more conflictual) than relationships with current partners. This finding may be due to a retrospective bias or it may simply suggest that more difficult, less satisfying relationships are more likely to end.

Table 10 presents the intercorrelations among the various measures of participants' intimate relationships. The measures of relationship quality were logically intercorrelated: more conflict with a partner was associated with lower ratings of quality on all three measures (i.e., support, depth, overall satisfaction), and the relationships rated highly on any of the three measures of quality were likely to be rated highly on the others.

Turning to relationships with best friends, as shown in Table 8, 11 items assessing the importance of participants' best friendships formed an internally consistent measure, as did the 12 items of the conflict subscale. Mean scores on the QRI Friend subscales (shown in Table 8) indicate that, on average, participants felt that their relationships with their best friends were “usually” important to them and “never” to “sometimes” conflictual. An item-analysis of the seven RAS-Friend items (see Table 8) indicated that the measure is

Table 9

Quality of Respondents' Current and Past Intimate Relationships

Measure of relationship	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t-value</i>
Support				
Current	87	3.29	0.64	
Past	25	2.37	0.77	6.00***
Conflict				
Current	87	2.09	0.65	
Past	25	2.83	0.67	-5.01***
Depth				
Current	87	3.23	0.66	
Past	25	2.11	0.74	7.04***
Overall satisfaction				
Current	83	3.82	1.04	
Past	25	2.47	0.79	6.00***

*** $p < .001$. Two-tailed.

Table 10

Intercorrelations Among Measures of Partnership and Friendship

Measure	PS	PD	PC	RASP	IMP	CF	RASF
Partnership							
Support	-	.76***	-.61***	.78***	.23*	-.16	.18
Depth			-.45***	.82***	.11	-.03	-.02
Conflict				-.64***	-.07	.21*	-.10
Overall satisfaction					.15	-.06	.08
Friendship							
Importance						-.36***	.80***
Conflict							-.53***

* $p < .05$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 102 to 111 for correlations involving partnership variables and from 120 to 123 for correlations involving friendship variables. PS = Partnership support, PD = Partnership depth, PC = Partnership conflict, RASP = Overall satisfaction with partnership, IMP = Importance of friendship, CF = Conflict with friend, RASF = Overall satisfaction with friendship.

internally consistent for friendships. The mean score on the RAS indicated that, overall, people rated their satisfaction with their best friendships one scale point below the extreme positive.

Consistent with the findings regarding intimate relationships, examination of the correlations in Table 10 indicates that measures of conflict within a friendship, importance of a friendship, and overall satisfaction with the friendship were logically intercorrelated.

Some of the correlations between the partner relationship variables and the friendship variables (shown in Table 10) are worthy of note. People who had supportive relationships with their partners were also likely to have supportive relationships with their best friends. The same was true for conflict: people who had conflictual relationships with their friends were likely to have similarly conflictual relationships with their partners. Overall, however, measures of the characteristics of partnership and friendship did not correlate with each other.

Coping. As described above, Tobin et al.'s (1989) Coping Strategies Inventory measures several dimensions of coping, including problem- and emotion-focused engagement, and problem- and emotion-focused disengagement coping. A series of item analyses (summarized in Table 11) confirmed the internal consistency of subscales at the primary, secondary, and tertiary levels, and thus subscales were constructed at three levels. Mean scores on these scales are shown in Table 11. Of the primary-level factors, social contact and cognitive restructuring were the most endorsed types of coping; self-criticism and problem avoidance were least endorsed. Of the

Table 11

Scale Characteristics and Descriptive Statistics for Measures of Coping

Measure	Number of items	<i>M</i> inter-item correlation	α	Range	<i>M</i>	<i>SD</i>
Primary-level coping subscales						
Problem solving	5	.47	.81	1.00 - 5.00	3.39	0.92
Cognitive restructuring	5	.44	.80	1.20 - 5.00	3.23	0.88
Emotional expression	5	.53	.85	1.00 - 5.00	3.03	1.06
Social support	5	.67	.91	1.00 - 5.00	3.42	1.21
Problem avoidance	5	.30	.67	1.00 - 5.00	2.25	0.82
Wishful thinking	5	.47	.82	1.00 - 5.00	2.85	1.10
Self-criticism	5	.64	.90	1.00 - 5.00	2.40	1.13
Social withdrawal	5	.56	.87	1.00 - 5.00	2.40	1.09

Table 11 (cont'd)

Scale Characteristics and Descriptive Statistics for Measures of Coping

Measure	Number of items	<i>M</i> inter-item correlation	α	Range	<i>M</i>	<i>SD</i>
Secondary-level coping subscales						
Problem-focused engagement	10	.34	.84	1.20 – 5.00	3.31	0.76
Emotion-focused engagement	10	.54	.92	1.00 – 5.00	3.23	1.05
Problem-focused disengagement	10	.30	.81	1.00 – 4.70	2.55	0.82
Emotion-focused disengagement	10	.41	.87	1.00 – 5.00	2.39	0.92
Tertiary-level coping subscales						
Engagement	20	.32	.90	1.10 - 5.00	3.27	0.76
Disengagement	20	.28	.89	1.25 - 4.65	2.47	0.75

secondary-level factors, problem-focused engagement was most endorsed whereas emotion-focused disengagement was least endorsed.

Table 12 shows the correlations among the primary-level subscales. Greater use of any one type of engagement coping strategy (i.e., problem solving, cognitive restructuring, emotional expression, or social support seeking) was associated with greater use of other engagement coping strategies. The association between emotional expression and seeking social support was particularly strong. Similarly, greater use of any one type of disengagement coping strategy (i.e., problem avoidance, wishful thinking, self-criticism, social withdrawal) was associated with greater use of other disengagement coping strategies, with the exception that problem avoidance was not related to self-criticism. In addition, subscales that measure disengagement coping tend to be negatively correlated with those that measure engagement coping. However, self-criticism was not related to any engagement coping strategies, wishful thinking was not related to emotional expression nor social support, and problem avoidance was not related to cognitive restructuring.

The intercorrelations among the secondary-level subscales are shown in Table 13. Findings at this level are similar to those at the primary level. Participants who reported high use of one type of engagement coping were likely to also use the other type of engagement coping. Similarly, participants who reported high use of a disengagement coping strategy were also likely to report high use of the other disengagement coping strategy. Use of either engagement coping strategy was associated with less use of either

Table 12

Correlations Among Coping Strategies Inventory Primary-Level Subscales

Coping strategy	2	3	4	5	6	7	8
1. Problem solving	.44***	.34***	.34***	-.47***	-.37***	-.06	-.38***
2. Cognitive restructure		.29***	.29***	-.06	-.21*	.04	-.26**
3. Emotional expression			.70***	-.21*	-.03	-.08	-.25**
4. Social support				-.22**	-.05	-.06	-.38***
5. Problem avoidance					.43***	.09	.40***
6. Wishful thinking						.40***	.42***
7. Self-criticism							.35***
8. Social withdrawal							-

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 125 to 126.

Table 13

Correlations Among Coping Strategies Inventory Secondary-Level Subscales

Coping strategy	2	3	4
1. Problem-focused engagement	.41**	-.39***	-.23**
2. Emotion-focused engagement		-.16	-.26**
3. Problem-focused disengagement			.48***
4. Emotion-focused disengagement			-

** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom are equal to 126 for all correlations.

disengagement coping strategy, although the relation between emotion-focused engagement and problem-focused disengagement was nonsignificant. At the tertiary level, more use of disengagement coping strategies was related to less use of engagement coping strategies, $r(126) = -.33, p < .001$.

In sum, examination of the correlations at these three levels suggests that higher-level subscales “smooth out” variation in primary-level subscales. That is, the same pattern of relations between engagement and disengagement coping strategies is evident at all three levels. Therefore, to strike the best possible compromise between the benefits of specificity versus the benefits of a reduced number of variables, analyses will focus on the secondary-level coping subscales.³⁷

Intercorrelations among mediating variables. Because there are two levels of mediators in the proposed model, it is necessary to explore the correlations among them. The relations between attachment orientation and measures of relationship quality will be discussed first, followed by a discussion of the relations between attachment and coping strategies. Then, the correlations between relationship variables and coping will be explored.

Table 14 presents the correlations between the measures of participants’ attachment (i.e., avoidance and anxiety) and the measures of partner and friend relationships. Both avoidance and anxiety are clearly related to the quality of relationships with intimate partners. More avoidant participants report less

Table 14

Correlations Among Attachment and Relationship Variables

Relationship variables	Attachment	
	Avoidance	Anxiety
Partner support	-.44***	-.32***
Depth of partnership	-.46***	-.15
Conflict with partner	.29**	.40***
Overall satisfaction with partnership	-.54***	-.36***
Importance of friendship	-.22*	-.06
Conflict with friend	.11	.30***
Overall satisfaction with friendship	-.22*	-.20*

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 106 to 109 for measures of partner relationships and from 120 to 122 for measures of friendship.

partner support, more shallow relationships, more conflict with a partner, and less overall satisfaction with the partnership than do less avoidant participants. Similarly, more anxious participants report less partner support, more conflict with their partners, and less overall satisfaction with their partnerships than do less anxious participants.³⁸ Relations with friendships were similar in that more anxious and more avoidant participants had more conflictual and less satisfying friendships than did less anxious and less avoidant participants. However, the friendship measures were not as strongly nor as consistently related to attachment as were the intimate partnership measures.

In terms of the relation between attachment and coping, as shown in Table 15, more avoidant participants were less likely to use either kind of engagement coping strategy and more likely to use both kinds of disengagement coping strategies. Similarly, more anxious participants were less likely to use problem-focused engagement coping strategies, and more likely to use either kind of disengagement coping strategies.³⁹

Finally, as shown in Table 16, several measures of participants' relationships were related to their coping. Partner support was related to

38. Correlations conducted using data from the subsample of participants who were in an intimate partnership at the time of the study showed essentially the same pattern. However, in this subsample partner support did not relate to level of anxiety, $r(85) = -.18$, *ns*.

39. As shown in Table B of Appendix G, the problem solving aspects of problem-focused engagement coping were related to attachment more strongly than were the cognitive restructuring aspects.

Table 15

Correlations Among Attachment and Coping Variables

Coping strategies	Attachment	
	Avoidance	Anxiety
Problem-focused engagement	-.24**	-.34***
Emotion-focused engagement	-.40***	-.08
Problem-focused disengagement	.28***	.47***
Emotion-focused disengagement	.43***	.43***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom equal 124 for all correlations.

Table 16

Correlations Among Coping and Relationship Variables

Relationship variables	PFE	EFE	PFD	EFD
Partner support	.11	.21*	-.16	-.21*
Depth of partnership	.06	.15	-.19*	-.14
Conflict with partner	-.14	-.07	.36***	.25**
Overall satisfaction with partnership	.21*	.14	-.24*	-.20*
Importance of friendship	.26**	.52***	-.06	-.24**
Conflict with friend	-.06	-.10	.25**	.36***
Overall satisfaction with friendship	.31***	.48***	-.10	-.35***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: PFE = Problem-focused engagement coping, EFE = Emotion-focused engagement coping, PFD = Problem-focused disengagement coping, EFD = Emotion-focused disengagement coping. Degrees of freedom range from 106 to 109 for correlations involving partners and from 120 to 124 for correlations involving friendships.

emotion-focused coping: participants with more supportive partners used more emotion-focused engagement coping and less emotion-focused disengagement coping compared to those with less supportive partners. The depth of participants' relationships to their partners was related only to participants' use of problem-focused disengagement coping. Participants who experienced more conflict with their partners used more disengagement coping strategies, whether problem or emotion focused, than participants who were in less conflictual relationships. Similarly, participants who were more satisfied with their partners tended to use more engagement coping strategies and fewer disengagement coping strategies than did participants who were less satisfied with their partners. However, this correlation was in the expected direction but not significant for emotion-focused engagement coping.⁴⁰

The pattern of correlations in terms of participants' relationships with their friends was similar. Participants whose friends played a more important role in their lives used more engagement coping and less emotion-focused (but not problem-focused) disengagement coping than participants whose friendships were less important. The correlations of friendship satisfaction with the various coping strategies showed the same pattern. As was the case for partnerships, participants' level of conflict with their best friends related to their use of disengagement, but not engagement, coping strategies. Participants who

40. The pattern of correlations between partner relationship variables and coping variables was the same when analyses were restricted to participants who were currently in an intimate relationship. However, some of the significant correlations became slightly smaller and nonsignificant.

were in more conflictual friendships used more disengagement coping strategies than those who were in less conflictual friendships.⁴¹

Descriptive Statistics and Interrelations Among the Adult Well-Being

Criterion Variables

Participants' well-being as adults was assessed in terms of their psychological distress and their physical health symptoms.

Psychological well-being. As shown in Table 17, participants' experience of trauma symptoms in the last six months ranged from none at all to quite high. As noted above, standardized norms are available for the ten Trauma Symptom Inventory subscales for older (over 55 years of age) and younger (ages 18 to 54 years) women and men (Briere, 1995), and these are reproduced in Tables 18 and 19. As shown in the middle two columns of Table 18, younger women's mean TSI subscale scores were comparable, but consistently slightly higher than the scores of the standardization samples described by Briere (1995). The four female participants over 55 years of age also had scores that were higher than the norms, although not in the clinical range. As shown in Table 19, the mean scores of the male participants, both younger and older, were higher in the present sample than in the standardization sample in all cases. However, this difference exceeded 1.5 standard deviations only in the case of sexual concerns for older men.

41. As shown in Table C of Appendix G, social support aspects of emotion focused engagement coping, rather than the emotional expression aspects, were related to partnership variables. Similarly, it was social withdrawal, rather than self-criticism, that was related to the positive aspects of the relationship variables.

Table 17

Descriptive Statistics for Trauma Symptom Inventory Subscale Scores

Characteristic	Range	<i>M</i>	<i>SD</i>
Total TSI score	0.40 – 20.00	7.75	4.37
Anxious arousal	0.00 – 23.00	9.20	4.91
Depression	0.00 – 23.00	8.69	6.49
Anger/irritability	0.00 – 24.00	10.28	5.97
Intrusive experiences	0.00 – 23.00	7.18	5.52
Defensive avoidance	0.00 – 24.00	8.84	6.60
Dissociation	0.00 – 25.00	7.83	5.25
Sexual concerns	0.00 – 27.00	6.72	6.10
Dysfunctional sexual behaviour	0.00 – 26.00	5.11	6.12
Impaired self-reference	0.00 – 25.00	9.39	6.08
Tension reduction behaviour	0.00 – 17.00	4.29	4.09

Table 18

*Younger and Older Female Participants' Scores on TSI Clinical Scales
Compared to TSI Norms*

Scale	Younger		Older	
	Present	Norm	Present	Norm
Anxious arousal	9.04 (5.05)	7.68 (5.22)	13.50 (4.65)	6.10 (5.63)
Depression	8.12 (6.12)	7.10 (6.13)	11.75 (7.23)	5.55 (5.72)
Anger/irritability	10.00 (5.78)	8.31 (6.24)	12.75 (2.87)	5.37 (5.94)
Intrusive experiences	6.72 (5.19)	6.03 (5.55)	8.00 (5.16)	4.50 (5.56)
Defensive avoidance	8.43 (6.40)	7.15 (6.15)	8.50 (5.74)	5.98 (6.02)
Dissociation	7.43 (4.93)	5.46 (5.00)	6.25 (2.99)	4.31 (4.62)
Sexual concerns	5.26 (5.00)	4.06 (5.27)	5.75 (4.43)	1.71 (3.52)
Dysfunctional sex. behaviour	3.97 (5.11)	2.29 (3.94)	2.00 (2.00)	0.68 (1.47)
Impaired self-reference	8.85 (5.89)	6.46 (5.94)	10.75 (3.77)	4.13 (5.34)
Tension reduction behaviour	3.69 (3.50)	2.66 (3.35)	2.75 (2.06)	1.43 (2.06)

Note: Younger = Age 18 to 54 years. Older = Age 55 years and older. N = 69 for younger women in the present sample. N = 291 for younger women in the standardization sample. N = 4 for older women in the present sample. N = 120 for older women in the standardization sample. Means are presented, with standard deviations in parentheses.

Table 19

Younger and Older Male Participants' Scores on TSI Clinical Scales Compared to TSI Norms

Scale	Younger		Older	
	Present	Norm	Present	Norm
Anxious arousal	9.38 (4.42)	6.37 (5.48)	6.83 (2.24)	4.32 (4.38)
Depression	9.60 (6.73)	5.00 (5.73)	6.33 (8.43)	2.86 (4.02)
Anger/irritability	10.58 (6.26)	7.69 (6.03)	9.67 (8.14)	4.74 (4.74)
Intrusive experiences	8.04 (6.11)	4.21 (5.05)	5.33 (4.76)	2.94 (4.21)
Defensive avoidance	9.73 (7.06)	5.62 (6.25)	7.00 (6.51)	3.75 (4.98)
Dissociation	8.82 (5.77)	4.47 (4.74)	6.00 (5.55)	3.04 (3.29)
Sexual concerns	8.71 (6.94)	4.30 (5.20)	9.00 (8.25)	2.41 (3.61)
Dysfunctional sex. behaviour	7.29 (7.35)	2.32 (4.20)	3.83 (4.07)	1.03 (2.43)
Impaired self-reference	10.49 (6.23)	5.00 (5.62)	6.33 (7.81)	2.35 (3.62)
Tension reduction behaviour	5.47 (4.80)	2.38 (3.29)	3.33 (4.18)	1.22 (2.03)

Note: Younger = Age 18 to 54 years. Older = Age 55 years and older. N = 45 for younger men in the present sample. N = 267 for younger men in the standardization sample. N = 6 for older men in the present sample. N = 158 for older men in the standardization sample. Means are presented, with standard deviations in parentheses.

Table 20 shows the intercorrelations among the 10 clinical subscales. The subscales were, overall, very well intercorrelated: all correlations were significant at $p < .001$. Only a few of the correlations were comparatively small (i.e., less than .40), and these related to anger/irritability and dysfunctional sexual behaviour. Because the TSI subscales were highly intercorrelated, and given that an item-analysis indicated that there was acceptable internal consistency ($\alpha = .92$, M inter-item $r = .54$), the 10 clinical subscale scores were combined into one average measure of trauma symptoms.⁴² The mean score on this measure ($M = 7.75$, $SD = 4.37$, range = 0.40 to 20.00) cannot be compared to the scores generated by Briere's (1995) standardization sample because Briere did not compute a total TSI score.

Figure 2 shows the symptom profiles and total TSI scores for men and women according to their self-defined history of any type of childhood maltreatment. In general, men with maltreatment histories have the highest scores, followed by women with maltreatment histories. Men and women without maltreatment histories tend to score lower. However, this pattern does not hold for sexual concerns, dysfunctional sexual behaviour, and tension reduction behaviour, for which women with histories of maltreatment have scores comparable to men and women without maltreatment histories. A two-way MANOVA performed on the ten subscale scores indicated that men's and

42. Relations between TSI subscale scores and other conceptual variables followed the same pattern as relations between this measure and conceptual variables. For simplicity, analyses using only the total score will be reported in the text. Exceptions to the findings will be reported in footnotes.

Table 20

Correlations Among Trauma Symptom Inventory Clinical Subscales

	D	AI	IE	DA	DIS	SC	DSB	ISR	TRB
Anxious arousal	.69	.66	.57	.51	.58	.43	.39	.67	.51
Depression		.61	.50	.54	.54	.49	.43	.79	.57
Anger/irritability			.41	.30	.50	.43	.31	.67	.66
Intrusive experiences				.80	.50	.46	.45	.59	.44
Defensive avoidance					.45	.51	.49	.58	.47
Dissociation						.54	.53	.76	.53
Sexual concerns							.63	.58	.68
Dysfunctional sexual behaviour								.61	.66
Impaired self reference									.67

Note: D = Depression, AI = Anger/irritability, IE = Intrusive experiences, DA = Defensive avoidance, DIS = Dissociation,

SC = Sexual concerns, DSB = Dysfunctional sexual behaviour, ISR = Impaired self-reference, TRB = Tension reduction behaviour. All correlations are significant at $p < .001$, two-tailed. Degrees of freedom are equal to 121 for all correlations.

Figure 2
Trauma Symptom Inventory Scores for Men and Women, by Self-Defined History of Childhood Maltreatment

women's scores do not differ, *Pillai's Trace* $V = 0.125$, $F(10, 110) = 1.57$, *ns*. However, self-defined history of childhood maltreatment did make a difference to TSI scores, *Pillai's Trace* $V = 0.169$, $F(10, 110) = 2.24$, $p < .05$. The univariate analyses indicated that participants with maltreatment histories had higher scores on the anxious arousal, depression, intrusive experiences, defensive avoidance, dissociation, sexual concerns, and impaired self-reference subscales. Gender and maltreatment history did not interact, *Pillai's Trace* $V = 0.076$, $F(10, 110) = 0.90$, *ns*.

In terms of other variables relevant to understanding participants' psychological well-being, most participants (60.2%) had never been in therapy, but the remainder had experienced from one session to 30 years of therapy ($M = 1.93$, $SD = 5.17$ years), which they, on average, perceived as "moderately helpful" ($M = 3.04$, $SD = 1.21$). Only 14.5% of the participants were in therapy at the time of completing the survey.

In terms of life satisfaction, the mean score on this single-item measure indicates that participants, on average, felt more satisfied than their perception of the average level of life satisfaction ($M = 4.56$, $SD = 1.51$). Only 1.5% of the participants indicated that they were "completely dissatisfied" with their lives as a whole, and most (58.5%) indicated that they felt they were more satisfied than average, or completely satisfied.

Physical health. Various dimensions of participants' physical health were assessed using Runtz's (1997) General Health Scale (GHS) as well as single-item measures created for this study. An item analysis indicated that the

25 GHS items identified by a factor analysis (see Appendix E) formed an internally consistent measure ($\alpha = .90$, M inter-item $r = .26$). These items represented all five factors identified by Runtz's (2001) factor analysis (i.e., muscular/skeletal, stomach/abdominal/chest, sensory/nervous system, allergies/colds, and vaginal/genital) in addition to one item that did not load on any of Runtz's factors. Participants' average score on this GHS measure indicated that they experienced these symptoms occasionally in the last six months ($M = 0.93$, $SD = 0.62$, range = 0.00 to 2.80).

In terms of the single-item health measures created for this study, participants' scores are summarized in Table 21. Scores on a five-point scaled item indicated that participants' health symptoms interfered with their lives a little less than "somewhat." In terms of participants' self-rated health, the average score on this item indicates that most participants felt that their health was "the same" or "good" in comparison to their same-age peers. Most participants (68.5%) had not been admitted to a hospital at all in the last two years, and about a third (32.3%) of the participants reported never having had a surgical operation. On average, people reported three to four visits to their family practitioners within the last year for a medical problem, but 51.5% of the sample had gone twice or less. Similarly, about half of the participants (51.9%) reported no broken bones within their lifetimes, but 27.1% reported one broken bone and a few people reported several. In contrast, only 15.0% of participants indicated that they had never in their lives had to go to a hospital emergency room (ER) for a personal emergency. A small proportion of the sample (7.1%)

Table 21

Scale Characteristics and Descriptive Statistics for Measures of Physical Health

Measure	Number of items	<i>M</i> inter-item correlation	α	Range	<i>M</i>	<i>SD</i>
General Health Symptoms	25	.26	.90	0.00 – 2.80	0.93	0.62
Daily health problems	5	.38	.75	-	-	-

reported more than 15 ER visits in their lives. About a third (34.6%) of the participants indicated that they have a chronic health problem, and a few more (38.5%) indicated that they take medication for a health problem.

To reduce the number of variables assessing health and health-care services use, the single-item measures described above were subjected to Principal Component Analysis (described in Appendix F). Factor analyses identified two factors, defined by day-to-day health concerns and acute health emergencies, respectively. An item analysis confirmed the internal consistency of the measure of daily health concerns ($\alpha = .75$, M inter-item $r = .38$). The measure of participants' experience of acute health emergencies was not internally consistent ($\alpha = .47$, M inter-item $r = .23$) and thus was not analyzed further.

The measures of health symptoms, daily health concerns, and measures of psychological distress were intercorrelated, as summarized in Table 22. Participants' experience of more general health symptoms was related to more daily health concerns. Similarly, people with fewer health symptoms and fewer daily health concerns had higher life satisfaction. People with more psychological distress reported poorer general health and a higher level of daily health concerns. People who had lower psychological symptoms on the total

Table 22

Correlations Among Measures of Psychological Distress and Physical Health Problems

Measure	Life Satisfaction	General Health Symptoms	Daily Health Concerns
Trauma Symptom Inventory	-.57***	.48***	.42***
Life satisfaction		-.35***	-.36***
General health symptoms			.58***
Daily health concerns			-

*** $p < .001$. Two-tailed.

Degrees of freedom range from 120 to 129.

symptom measure were more satisfied with their lives as a whole than those who had higher symptoms.⁴³

Summary. Internally consistent scaled measures of each of the conceptual variables were created. Intercorrelations among the various predictor, mediating, and criterion variables indicated that the multiple measures assessed similar constructs. That is, measures of the positive aspects of participants' childhood experiences were negatively correlated with their experiences of childhood maltreatment. Measures of attachment and relationship quality were also logically intercorrelated, as were measures of health and well-being. Mediating variables were interrelated (i.e., attachment, friendship, partnership, and coping variables).

43. As shown in Table D in Appendix G, this pattern is consistent across all subscales, but correlations are weaker or nonsignificant in terms of dysfunctional sexual behaviour and tension reduction behaviour.

MAIN ANALYSES

The main analyses examined the effects of childhood maltreatment on adults' well-being, as mediated by adult attachment orientation, supportiveness of intimate relationships, and coping strategies, and as moderated by gender. In their now classic paper, Baron and Kenney (1986) explained that, for a mediating relation to be established, the predictor variables must be related to the criterion variables. Also, the presumed mediators must be significantly related to both the predictor and criterion variables. Accordingly, the first step in the main analyses involved computing simple correlations between the predictor (i.e., childhood experiences) and criterion variables (i.e., psychological and physical well-being). The second step of the main analyses involved computing simple correlations of each of the mediating variables with the predictor variables and the criterion variables. Third, the mediated model was tested using structural equation modeling. The final step involved a series of hierarchical regression analyses to explore the moderating role of gender on the observed relations.

Correlations Between Predictor and Criterion Variables

The key predictors of well-being in the present model are good and bad childhood experiences in relationship to caregivers. Table 23 presents simple correlations between the measures of childhood experiences and the TSI total score. In terms of positive childhood experiences, better parental care and more childhood emotional support were related to lower levels of most trauma

Table 23

Correlations of Childhood Predictor Variables with Adult Criterion Variables

Criterion Variable	CMQ	Care	CES
Total TSI score	.34***	-.27**	-.29***
Life satisfaction	-.21*	.12	.26**
General health symptoms	.30***	-.18*	-.14
Daily health concerns	.28***	-.18*	-.28***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: CMQ = Total childhood maltreatment, Care = Parental care, CES = Childhood emotional support. Degrees of freedom range from 119 to 121.

symptoms. The pattern was consistent across both these measures of childhood relationships: more positive childhood experiences were related to lower TSI scores.⁴⁴ In terms of life satisfaction and physical health, correlations with measures of childhood experiences are also presented in Table 23.

Participants who experienced more childhood maltreatment were less satisfied with their lives than those who experienced little or no childhood maltreatment, but this was not a particularly strong relation. Similarly, people who had a higher level of childhood emotional support, but not those who reported more parental care, were more satisfied with their lives than those who had less childhood support. In terms of measures of health, participants who experienced more childhood maltreatment and less positive childhood relationships had more health symptoms, and more daily health concerns. Correlations with childhood maltreatment are generally larger than those with the measures of positive childhood relationships.

Correlations of Mediating Variables With Predictor and Criterion Variables

The relations of each of the three sets of mediating variables (i.e., adult attachment, relationships, and coping) with the predictor and criterion variables will next be described. Table 24 shows the relations of avoidance and anxiety to childhood predictor variables. More avoidant participants reported more childhood maltreatment, less parental care, and less childhood emotional

44. As shown in Table E of Appendix G, Anger/irritability and tension reduction behaviour were not related to any of the measures of childhood experiences, neither positive nor negative. Intrusive experiences, defensive avoidance, and sexual concerns were particularly high for people who experienced severe maltreatment.

Table 24

Correlations of Attachment Subscales with Measures of Childhood Experiences

Childhood experiences	Avoidance	Anxiety
Total childhood maltreatment	.48***	.18*
Parental care	-.42***	-.16
Childhood emotional support	-.36***	-.25**

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 124 to 126.

support than less avoidant participants. Similarly, participants who had more anxiety about relationships⁴⁵ tended to report more childhood maltreatment and less childhood emotional support than did participants who were less anxious. However, these correlations were fairly small.

In regard to the relations of attachment orientation to the criterion variables, Table 25 shows the correlations of avoidance and anxiety with measures of well-being. High anxiety about relationships is related to higher total psychological symptoms.⁴⁶ High avoidance of relationship closeness is also related to higher psychological symptoms, but to a lesser extent. Anxious and avoidant participants are less satisfied with their lives than participants who are less anxious or avoidant in their attachment orientations. In terms of physical health, the correlations in Table 25 indicate that more avoidance and more anxiety are related to more physical symptoms and more day-to-day health concerns.

The next mediator of the proposed model is relationship supportiveness. Consequently, correlations between each of the seven measures of relationship supportiveness and the predictor and criterion variables were computed, and these are shown in Table 26. Participants' experiences of childhood maltreatment were, generally speaking, not related to the quality of their relationships with their partners. However, many of the correlations between the

45. As shown in Table F of Appendix G, only psychological maltreatment was related to anxiety about relationships; physical neglect and physical and sexual abuse were not.

46. As shown in Table G of Appendix G, avoidant attachment is not related to anxious arousal, intrusive experiences, dysfunctional sexual behaviour, nor tension reduction behaviour.

Table 25

Correlations of Attachment Subscales with Measures of Well-Being

Well-being Measure	Avoidance	Anxiety
Total TSI score	.30**	.58***
Life satisfaction	-.35***	-.44***
General health symptoms	.24**	.24**
Daily health problems	.20*	.18*

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 120 to 126 for all correlations.

Table 26

Correlations of Partner and Friend Relationship Variables with Measures of Childhood Experiences

Relationship variables	CMQ	Care	CES
Partner support	-.14	.24*	.32***
Depth of partnership	-.08	.20*	.22*
Conflict with partner	.11	-.12	-.23*
Overall satisfaction with partner	-.18	.26**	.28**
Importance of friendship	-.38***	.35***	.40***
Conflict with friend	.21*	-.09	-.12
Overall satisfaction with friend	-.39***	.34***	.34***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: CMQ = Total childhood maltreatment, Care = Parental care, CES = Childhood emotional support. Degrees of freedom range from 104 to 110 for correlations involving intimate partners and from 118 to 124 for correlations involving friends.

partner relationship variables and total childhood maltreatment were in the expected direction.⁴⁷ In contrast, participants' positive childhood relationships were related to measures of partner relationships. Participants who experienced more parental care and more emotional support reported more support from their partners, had deeper relationships with their partners, and were more satisfied with their relationships than were participants who experienced less supportive childhood relationships.⁴⁸ In addition, those who had more childhood emotional support reported less conflict with their partners than those who had fewer supportive childhood relationships.

In terms of relationships with best friends, participants' positive and negative childhood relationship experiences affected the quality of their friendships. As shown in the bottom of Table 26, participants who had experienced less childhood maltreatment and more childhood care and emotional support were more likely to have friendships that were an important source of support than were participants who had less positive childhood experiences. Participants' overall satisfaction with their friendships was similarly related to childhood maltreatment and positive childhood relationships. In contrast, level of conflict within best friendships was related only to the level of childhood maltreatment they experienced: those who had experienced

47. As shown in Table H of Appendix G, conflict with friends is related to neglect and physical abuse, but not psychological maltreatment nor sexual abuse.

48. These correlations were re-calculated using data only from participants who were presently in an intimate relationship (i.e., ex-partners were excluded). The correlations were equivalent, except for those involving childhood emotional support, which were greatly reduced: partner support, $r(85) = .18$, *ns*, depth of partnership, $r(85)$

childhood maltreatment reported more conflict than those who were not maltreated.

In terms of the connections between relationship variables and criterion variables, Table 27 shows the correlations of partner⁴⁹ and friendship variables with measures of psychological well-being. Conflict with partner and overall satisfaction with partnership are related to total TSI score, but the correlations of total TSI with partners' support and depth of partnership are nonsignificant (although in the expected directions).⁵⁰ The pattern of correlations between measures of participants' relationships with their best friends was similar to that of their partners. As shown in the lower half of Table 27, the importance to participants of their relationships with their best friends was not associated with significantly lower total psychological symptoms (although the correlation was in the expected direction). Similar to findings with intimate partners, conflict with best friends was related to higher levels of psychological symptoms. In terms of

= .08, *ns*, partner conflict, $r(85) = -.14$, *ns*, and overall satisfaction with partnership, $r(81) = .11$, *ns*.

49. These correlations were re-calculated, excluding participants who described their ex-partners rather than their current intimate partners. The patterns of correlations of psychological symptoms with intimate relationship support, conflict, and overall satisfaction are essentially the same, although a few correlations that were significant in the larger sample no longer reach significance.

50. As shown in Table I of Appendix G, participants who enjoyed greater support from a partner reported less dissociation, fewer sexual concerns, less dysfunctional sexual behaviour, and less impaired self reference. Similarly, participants who reported deeper commitments to their partners experienced fewer sexual concerns, less dysfunctional sexual behaviour, and less tension reduction behaviour. In contrast, conflict with a partner was related to almost all types of psychological symptoms; participants who were in highly conflictual relationships reported higher symptoms on all subscales except defensive avoidance. Those in the most conflictual relationships had particular problems with dissociation and impaired self reference.

Table 27

Correlations Between Relationship Variables and Measures of Well-Being

Relationship Variable	TSI	Life Satisfaction	GHS	Daily health
Partner support	-.18	.25**	-.24**	-.04
Depth of partnership	-.15	.18	-.15	.04
Conflict with partner	.38***	-.29**	.33***	.17
Overall satisfaction - partner	-.30**	.33***	-.22*	-.08
Importance of friendship	-.15	.10	-.12	-.07
Conflict with friend	.30***	-.15	.24**	.08
Overall satisfaction - friend	-.27**	.22*	-.24**	-.23**

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: TSI = Trauma Symptom Inventory total score, GHS = General Health

Symptoms. Degrees of freedom range from 103 to 111 for correlations involving intimate partners and from 117 to 125 for correlations involving friends.

overall satisfaction with friendships, less satisfaction was related to more psychological symptoms.⁵¹

Relationship variables were also related to life satisfaction, as shown in the second column of Table 27. High support and lack of conflict within an intimate relationship, as well as high overall relationship satisfaction, were related to higher life satisfaction. Similarly, participants' high satisfaction with their closest friendships was related to higher life satisfaction. However, correlations between life satisfaction and depth of partnership, importance of friendship, and conflict within friendships were not significant.

As shown in the next column of Table 27, participants who had more supportive and more satisfying relationships had fewer health symptoms than did participants with less supportive and satisfying relationships. Similarly, participants who reported more conflict in their relationships with their partners and friends experienced more health symptoms than participants in less conflictual relationships. Relationship variables were not generally related to other physical health measures. Less satisfaction with best friendships was related to more daily health concerns, but relationship variables were not otherwise associated with daily health concerns.⁵²

51. As shown in Table I of Appendix G, the importance of participants' friendships was related to their sexual concerns. In addition, conflict with friends was related to higher scores on most TSI subscales, but not to anxious arousal, anger/irritability, nor dysfunctional sexual behaviour. Similarly, overall satisfaction with friends was related to lower scores on most subscales, except anxious arousal, dissociation, dysfunctional sexual behaviour, and tension reduction behaviour.

52. The correlations with the partner variables were re-computed based on only those participants who were in an intimate relationship at the time of the study. The

Participants' coping strategies were related to both predictor and criterion variables. As shown in Table 28, both childhood maltreatment and positive childhood relationships were related to secondary-level coping strategies. Experience of more childhood maltreatment was generally related to less use of engagement coping and more use of disengagement coping, and experience of better childhood relationships was related to more engagement coping and less use of disengagement coping. These relations were stronger for emotion-focused engagement coping strategies than for problem-focused engagement coping. However, problem-focused disengagement coping was not clearly related to measures of childhood experiences.⁵³ Overall, more negative childhood experiences are related to less engagement coping and more disengagement coping, and more positive childhood experiences are related to more engagement coping and less disengagement coping.

In terms of the relation of coping strategies to criterion variables, Table 29 shows the correlations between secondary-level coping strategies and measures of well-being. Disengagement coping strategies, whether problem or emotion-focused, have a more consistent relation to measures of well-being than do engagement coping strategies. More use of disengagement coping is

pattern of correlations was the same, except that life satisfaction was no longer related to partner conflict, $r(85) = -.17$, *ns*.

53. See Table J in Appendix G for the correlations between measures of childhood experiences and primary-level CSI scores. It is clear that social support and social withdrawal are the more important variables in their subscales (i.e., emotion-focused engagement and emotion-focused disengagement, respectively), particularly in terms of social withdrawal versus self-criticism. The correlations in Table J also indicate that cognitive restructuring, but not problem solving, is related to more childhood emotional support. In addition, parental care and childhood emotional support are related to less social withdrawal coping, but not related to self-criticism.

Table 28

Correlations of Measures of Childhood Experiences with Secondary-Level Coping Strategies

Coping strategy	CMQ	Care	CES
Problem-focused engagement	-.17	.30***	.29***
Emotion-focused engagement	-.26**	.36***	.33***
Problem-focused disengagement	.20*	-.10	-.11
Emotion-focused disengagement	.33***	-.31***	-.15

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: CMQ = Total childhood maltreatment, Care = Parental care, CES = Childhood emotional support. Degrees of freedom range from 122 to 126.

Table 29.

Correlations of Secondary-Level Coping Subscales with Measures of Well-Being

Well-being measure	PFE	EFE	PFD	EFD
Total TSI score	-.35***	-.04	.54***	.50***
Life satisfaction	.36***	.20*	-.36***	-.38***
General health symptoms	-.32***	-.15	.36***	.38***
Daily health problems	-.21*	-.12	.22**	.36***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: PFE = Problem-focused engagement coping, EFE = Emotion-focused engagement coping, PFD = Problem-focused disengagement coping, EFD = Emotion-focused disengagement coping. Degrees of freedom range from 119 to 126 for all correlations.

related to more psychological symptoms, as well as to less satisfaction with life and more health symptoms and health problems. In contrast to the consistent findings in terms of disengagement coping, problem-focused and emotion-focused engagement coping relate in different ways to measures of well-being. More use of emotion-focused engagement coping relates to higher life satisfaction, but not to any other measures of well-being. In contrast, problem-focused engagement coping is related to the overall measures of psychological symptoms, and more use of problem-focused engagement coping is related to higher life satisfaction, fewer health symptoms, and fewer daily health concerns.⁵⁴

Summary. The predictor and criterion variables are correlated; childhood maltreatment and low levels of childhood care and emotional support relate to adult life problems as assessed by four measures. The mediating variables are,

54. Table K in Appendix G shows the correlations of the secondary level coping subscales with the Trauma Symptom Inventory subscales. Findings are consistent with those involving the total TSI score, except that problem-focused engagement is not related to dysfunctional sexual behaviour. Table L in Appendix G shows the correlations between primary level coping subscales and the TSI subscales. Consistent with findings at the secondary subscale level, problem solving and cognitive restructuring are related to most subscale scores, and in particular to depression and impaired self reference. Also consistent with findings at the secondary subscale level, emotional expression and social support are not related to TSI subscale scores. In terms of problem avoidance and wishful thinking, which together make up problem focused disengagement coping, examination of the correlations in Table L indicates that wishful thinking is more strongly and consistently related to higher TSI scores than is problem avoidance. Similarly, social withdrawal is more strongly related to higher TSI scores than is self criticism. Table M in Appendix G indicates that the relation between problem focused engagement and daily health concerns is due to cognitive restructuring rather than problem solving. Similarly, the relation between problem focused disengagement coping and daily health concerns is due to wishful thinking rather than to problem avoidance.

generally, well correlated with both the predictor and criterion variables.

However, level of childhood maltreatment was, unexpectedly, not related to the quality of participants' relationships with their partners. Further, measures of participants' physical health were related to only a few of the measures of participants' relationships with their partners. Although most measures of coping were related to the predictor and criterion variables, problem-focused disengagement coping was not well related to the predictors, and emotion-focused engagement coping was not well related to the criterion variables. Overall, Baron and Kenny's (1986) criteria for establishment of mediating relations are met. Thus, tests of the mediated model described in Figure 1 were undertaken.

Tests of the Mediated Model

Structural equation modeling theory. As described by Byrne (2001), and others (e.g., Hoyle, 1995), structural equation modeling (SEM) is a statistical method used to test hypotheses about causal relations among variables. The relations among variables are represented by regression equations, and are usually modeled pictorially. This process of formal statement of the relations among the entire system of variables is called model specification. A general structural equation model is composed of a measurement model and a structural model. The measurement model specifies the relations between measured variables and the unobserved (i.e., latent) factors that are believed to have caused the observed scores on these measured variables. Latent variables, by definition, are not measured, but their presence is implied by the covariances among two or more measured indicator variables. The structural model, in contrast, “prescribes relations between latent variables and observed variables that are not indicators of latent variables” (Hoyle, 1995, p. 3). That is, a structural model can specify relations among both latent and observed variables.

For purposes of hypothesis testing, models must be “overidentified” (Byrne, 2001). This means that the number of parameters to be estimated (e.g., regression weights, variances of latent variables) must be less than the number of data points (i.e., variances and covariances) that are available for analysis. An overidentified model has positive degrees of freedom that make it possible to reject the model. “Just identified” and “underidentified” models, in which there

are no degrees of freedom or negative degrees of freedom, respectively, are not useful. Overidentification of models can be achieved by imposing constraints on particular parameters.

Once a model has been specified, the observed data are analysed to determine their consistency with the model. A model is said to be acceptably consistent with observations if “goodness-of-fit” statistics fall within specified ranges. Byrne (2001) and Hoyle and Panter (1995) provide excellent overviews of the nature and use of these statistics. Five statistics that assess different aspects of model fit will be used here: Chi-Square (χ^2), Goodness-of-Fit Index (*GFI*), Comparative Fit Index (*CFI*), the Root Mean Square of Approximation (*RMSEA*), and Hoelter’s critical *N* (labeled “*H*”). These statistics will be briefly described.

The χ^2 value indicates how much a model deviates from a perfect fit; significant values indicate significant deviation from perfect fit (i.e., the model does not fit the data). The *GFI* is an absolute measure of fit because, in essence, it compares the hypothesized model to no model at all (i.e., an “independence model” that specifies no relations at all amongst the variables). The *GFI* measures the relative amount of variance and covariance in the sample covariance matrix that is jointly explained by the population covariance matrix (i.e., the proportion of variance accounted for by the model). It ranges from zero to 1.00, and values close to one indicate a good fit. The adjusted *GFI* (*AGFI*) takes account of the degrees of freedom and thus the complexity of the model (i.e., the number of parameters). The *CFI* also ranges from zero to 1.00,

and is also derived from comparison of the hypothesized model to the independence model, but it takes sample size into account. *CFI* values greater than .95 indicate good fit. *RMSEA* takes errors of approximation into account and indicates how well the model would fit the population covariance matrix, if parameter values were optimal. *RMSEA* values less than .05 indicate good fit, values ranging from .08 to .10 indicate mediocre fit, and values above .10 indicate poor fit. Finally, *H* is very different from the other fit indices because it assesses adequacy of sample size. A value of 200 or more indicates that the model represents the sample data well (Byrne, 2001). In sum, these fit indices are used to evaluate how much of the covariance matrix of the measured variables is accounted for by the tested model.

Byrne (2001) notes several advantages of SEM over other multivariate procedures. SEM is a multivariate procedure that is easily used to test hypotheses rather than simply to explore relations among variables (i.e., as in exploratory factor analysis), it estimates measurement error (rather than ignoring error), and SEM procedures can be used to analyse both latent and observed (i.e., measured) variables.

As described above, and summarized in Table 30, all of the childhood variables were significantly correlated with the well-being variables, with the exception that care was not related to life satisfaction, and Childhood Emotional Support (CES) was not related to General Health Symptoms (GHS). All of the mediating variables were related to the well-being variables, with the exception

Table 30

Correlations Among the Conceptual Variables

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. CMQ	-.622	-.570	.483	.176	-.136	.112	-.184	.212	-.387	-.167	.195	.330	.342	-.212	.302	.285
2. Care	.538	-.422	-.159	.235	.260	-.123	.260	-.094	.340	.298	-.095	-.307	-.270	.124	-.183	-.182
3. CES		-.361	-.251	.318	.280	-.229	.280	-.121	.341	.293	-.107	-.146	-.287	.262	-.136	-.285
4. Avoid.			.219	-.437	-.536	.293	-.536	.106	-.225	-.243	.284	.434	.300	-.352	.237	.204
5. Anxiety				-.319	-.357	.399	-.357	.303	-.200	-.335	.472	.433	.578	-.435	.236	.181
6. P.Supp.						-.613	.779	-.159	.176	.101	-.167	-.214	-.181	.246	-.244	-.037
7. P. Con.							-.643	.212	-.102	-.138	.362	.251	.384	-.292	.329	.173
8. RASP								-.055	.080	.206	-.245	-.201	-.298	.329	-.220	-.081
9. F. Conf									-.531	-.067	.254	.362	.304	-.150	.240	.078
10. RASF										.306	-.083	-.347	-.273	.224	-.235	-.232
11. PFE											-.388	-.228	-.348	.364	-.315	-.207
12. PFD												.475	.535	-.360	.363	.223
13. EFD													.500	-.381	.383	.357
14. TSI														-.573	.484	.421
15. SAT															-.354	-.364
16. GHS																.577
17. Daily																-

Note: CMQ = Childhood Maltreatment Questionnaire, Care = Parental care, CES = Childhood Emotional Support, Avoid. = Avoidant attachment, Anxiety = Anxiety about attachment, P. Supp. = partner support, P. Con. = partner conflict, RASP = Satisfaction with partner, F. Con. = friendship conflict, RASF = Satisfaction with friendship, PFE = Problem-focused engagement, PFD = Problem-focused disengagement, EFD = Emotion-focused disengagement, TSI = Trauma Symptom Inventory, SAT = life satisfaction, GHS = General Health Symptoms, Daily = Daily health concerns. Correlations in bold type are significant at the $p < .001$ level; those that are underlined are significant at the $p < .01$ level; those that are in regular font are significant at the $p < .05$ level; and those that are in italics are nonsignificant.

that partner support was not related to total TSI symptoms or daily health problems. Partner conflict and overall satisfaction with partnership were not related to daily health concerns. Conflict with best friends was not related to life satisfaction or to daily health concerns.⁵⁵ Three potential mediating variables were dropped from further consideration: Depth of partnership was not related to total TSI symptoms, life satisfaction, general health symptoms, or daily health problems. Similarly, importance of friendship was not related to any of the four outcome variables. Emotion-focused engagement coping was not related to total TSI symptoms, general health symptoms, nor daily health concerns. Its correlation with life satisfaction was significant, but small. These three variables were thus excluded from SEM analyses and are not shown in Table 30.

Confirmatory factor analyses. The maximum likelihood estimation procedures of AMOS (Analysis of Moment Structures; Arbuckle, 1999) were used for all SEM analyses. Before causal model testing began, two confirmatory factor analyses were conducted to establish the factor structure of the well-being constructs and the adult relationships constructs.

The hypothesis that adult well-being is best understood in terms of two constructs, psychological distress and physical health problems, was tested first

55. Parental care, childhood emotional support, partner support, partner conflict, overall satisfaction with partner, and conflict with best friends were included in the SEM analyses despite these nonsignificant correlations because they might contribute important variance to a latent variable.

with a confirmatory factor analysis, as shown in Figure 3.⁵⁶ Daily health concerns and General health symptoms (GHS) were conceptualized as indicators of the latent variable “Physical Health Problems.” Similarly, total TSI symptoms and life satisfaction were considered to be indicators of the latent variable “Psychological Distress.” The correlation between the two latent variables was assumed to be non-zero. This model provided a good fit to the data, $\chi^2(1, N = 118) = 0.16, ns, AGFI = 0.993, CFI = 1.000, RMSEA = 0.000, H = 2787$.

As shown in Table 31, GHS and daily health concerns contributed significant variance⁵⁷ to the Physical Health Problems latent variable, whereas total TSI score and life satisfaction contributed significant variance to the Psychological Distress latent variable. The latent variables are correlated at $r = .70, p < .001$.⁵⁸

The second confirmatory factor analysis tested the hypothesis that two distinct factors underlie the measures of friendship and intimate partnership

56. Following established conventions (e.g., Arbuckle, 1995) one path coefficient from each latent variable in each model was fixed at 1.0. This is necessary to establish a metric for the unobserved variables. As well, rectangles represent measured variables and ellipses and circles represent latent variables. Variables labeled “e” represent unmeasured error. Variables labeled “d” represent disturbance terms (in Figures 6 to 1 only). Disturbance terms are unmeasured variables that account for variance in endogenous latent variables that is not explained by the exogenous (predictor) variables.

57. Critical ratios (CR) are used to evaluate significance in SEM. A CR is the ratio of a statistic to its standard error. CRs greater than 1.96 indicate that an estimate is significant at $p < .05$.

58. Because Physical Health Problems and Psychological Distress were correlated, a second, one-factor model was designed and tested for comparison purposes. On this model, all four measured variables were considered to be indicators of a single latent variable labeled “Problems in Well-Being.” This model did not fit the data, $\chi^2(2, N = 118) = 14.82, p = .00, AGFI = 0.678, CFI = 0.899, RMSEA = 0.234, H = 48$. Thus, the two-factor model was retained.

Figure 3

Confirmatory Factor Analysis of Hypothesis that Two Factors Underlie Measures of Well-Being

Table 31.

Results of Confirmatory Factor Analysis of Measures of Adult Well-Being

Latent variable	β	SE	CR	B	R^2
Physical health problems					
General Health Sx	1.000			0.771	0.59
Daily health concerns	2.710	0.492	5.504	0.742	0.55
Psychological distress					
TSI total	1.000			0.863	0.75
Life satisfaction	-0.399	0.077	-5.191	-0.672	0.45

Note: β = unstandardized regression coefficient, SE = standard error,
 CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of
variance explained.

quality. As shown in Figure 4, three variables are presumed to indicate Partnership Quality (overall partnership satisfaction, partner support, and partner conflict), and two variables are presumed to indicate Friendship Quality (friend conflict and friendship satisfaction). These latent variables were presumed to be correlated in that people who enjoyed higher quality partnerships would also enjoy higher quality friendships. The model fit the data acceptably well, $\chi^2(4, N = 95) = 6.57, ns, AGFI = 0.901, CFI = 0.986, RMSEA = 0.083, H = 136$.⁵⁹ As shown in Table 32, the three measured partnership variables all contributed significant variance to Partnership Quality. However, conflict with a best friend did not contribute significant variance to Friendship Quality. In the remaining SEM analyses Friendship Quality was thus represented only by friendship satisfaction. Friendship satisfaction was not related to Partnership Quality, $r = -.11, ns$.

Testing the complete mediated model. As shown in Figure 5, a measurement model delineating all the associations between observed and latent variables was specified. The model included seven latent variables: Childhood Relationships, Adult Attachment, Partnership Quality, Coping, Physical Health Problems, and Psychological Distress, as well as one measured variable (friendship satisfaction [RASFI]). The indicators of each latent variable are shown in Figure 5. Based on the results of the confirmatory

59. Because the sample size was reduced by the high number of participants who did not describe a partner (or who had other missing data), analyses were re-run on the whole data set ($N = 130$), utilizing the means and variances estimation procedures that become necessary when data are missing. The model also fit these

Figure 4

Confirmatory Factor Analysis of the Hypothesis that Two Factors Underlie Measures of Relationships.

data acceptably well, $\chi^2(4, N = 130) = 8.15$, *ns*, *CFI* = 0.998, *RMSEA* = 0.090, *H* = 151. (*AGFI* cannot be computed when there are missing data.)

Table 32

Results of Confirmatory Factor Analysis of Measures of Adult Relationships

Latent variable	β	SE	CR	B	R^2
Partnership					
Satisfaction	1.000			0.896	0.80
Partner support	0.222	0.023	9.461	0.874	0.76
Partner conflict	-0.523	0.066	-7.906	-0.724	0.52
Friendship					
Satisfaction	1.000			0.788	0.62
Friend conflict	-0.642	0.636	-1.011	-0.684	0.47

Note: β = unstandardized regression coefficient, SE = standard error,
 CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of
variance explained.

Figure 5

Complete Measurement Model
(Covariances not shown).

factor analysis of the structure of social relationships, covariance between friendship satisfaction and Partnership Quality was constrained to zero. All other covariances were allowed to vary freely. (The 20 double-headed arrows necessary to show all the covariances among the latent variables and covariances of the latent variables with RASF are not shown, for aesthetic purposes.) The utility of the model to describe the 94 cases for which complete data were available was tested. The covariance matrix generated by AMOS was not positive definite, and was thus not an admissible solution.⁶⁰

The impossibility of generating an admissible solution with this model is probably due to the small sample size, relative to the number of parameters to be estimated. To solve this problem, four simpler models were specified, each of which involved a separate mediator (i.e., attachment, partnership, friendship, or coping). Shapiro and Levendosky (1999) followed a similar procedure in their SEM analyses of data from a sample of 80 participants. Each of the four mediated models was tested separately for Psychological Distress and Physical Health Problems.⁶¹

60. The analysis was re-computed using the entire data set ($N = 130$), and the covariance matrix generated by this analysis was also not positive definite.

61. As indicated by the confirmatory factor analysis, the latent outcome variables were correlated and may be causally related (i.e., Psychological Distress might lead to additional Physical Health Problems and vice versa). This means that the initially-specified model was nonrecursive, rather than recursive (i.e., it allowed for reciprocal or feedback effects). Problems arise with identifying nonrecursive models in SEM, and estimates cannot be calculated if models are unidentified. The identification procedure for nonrecursive models is complex, and is not described by Byrne (2001), and is described only tangentially by Arbuckle and Wothke (1999). To circumvent the need to identify a nonrecursive model, each model had either Psychological Distress or Physical Health Problems as the outcome variable. Statistical combination of the measures of Psychological and Physical Problems was an alternative possibility, but this was contra-indicated by the confirmatory factor analysis described above.

The four models involving prediction of Psychological Distress were tested first. Measurement models of the correlations among all the variables in each model were evaluated first, and modifications were made as necessary. Then, comparisons were made of the predictive power of direct and mediated structural models.

MEDIATORS OF THE DIRECT RELATION BETWEEN CHILDHOOD RELATIONSHIPS AND ADULT PSYCHOLOGICAL DISTRESS

Attachment. A measurement model of the associations between three latent variables was specified. The latent variables were Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Adult Attachment (indicated by the avoidance and anxiety subscales of the ECL), and Psychological Distress (indicated by total TSI score and life satisfaction). The utility of the model to describe the 119 cases for which complete data were available was tested. The covariance matrix generated by AMOS was not positive definite, and was thus not an admissible solution. No logical modifications to this model could be made to improve its fit to the data.

Because SEM analyses of the mediating role of attachment were impossible, two sets of regression analyses were instead undertaken. The first set examined the effects of CMQ total score, childhood emotional support, avoidance, and anxiety on TSI total, and the second set examined the effects of

these variables on life satisfaction.⁶² Results of the first simultaneous regression analysis indicated that 39.5% of the variance in TSI total score was explained by the four predictor and mediator variables, $F(4, 115) = 18.76, p < .001$. As shown in Figure 6, anxiety about relationships and CMQ total were the significant predictors. A second simultaneous regression indicated that 24.9% of the variance in avoidance was predicted by the two childhood variables, $F(2, 123) = 20.34, p < .001$, and, as shown in Figure 6, this effect was due to CMQ total. Finally, the two childhood variables together predicted 6.9% of the variance in anxiety, $F(2, 123) = 4.55, p < .05$. Thus, experiencing more maltreatment, as assessed by the CMQ total, relates to a higher level of relational avoidance. Avoidance does not, however, relate to more trauma symptoms when the other variables are also taken into account. However, high childhood emotional support is related to lower anxiety, which is, in turn, related to lower TSI scores. Effects of childhood variables on TSI scores may be partially mediated by the anxious component of adult attachment.

In terms of effects of childhood variables on life satisfaction, a second series of regression analyses was conducted to examine the mediating role of attachment. The first regression indicated that, taken together, the four variables predicted 26.5% of the variance in life satisfaction, $F(4, 121) = 10.92, p < .001$. As shown in Figure 7, both high avoidance and high anxiety were related to decreased life satisfaction. Neither childhood variable had direct effects on life satisfaction when avoidance and anxiety were taken into account.

62. Parental care was not included in either set of analyses because it was not

Figure 6

Attachment as a Mediator of the Direct Relation Between Childhood Relationships and Trauma Symptom Inventory Total Score

related to anxiety about relationships.

Figure 7

Attachment as a Mediator of the Direct Relation Between Childhood Relationships and Life Satisfaction

As in Figure 6, CMQ total predicted avoidance and childhood emotional support predicted anxiety. In sum, the effects of childhood predictors on life satisfaction were mediated by the two attachment variables.

Partnership quality. A model of Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Partnership Quality (as indicated by satisfaction with partner, partner support, and partner conflict), and Psychological Distress (as indicated by total TSI score and life satisfaction) was specified and tested. Only the three latent variables were allowed to covary. The model provided a poor fit to the data, $\chi^2(17, N = 101) = 31.86, p = .02, AGFI = 0.854, CFI = 0.950, RMSEA = 0.094, H = 87$. Based on interpretation of modification indices as suggested by Arbuckle and Wothke (1999) and Byrne (2001), the error terms for partner support and childhood emotional support were allowed to covary. This modification is logical in that people who fail to report support from their partners (or, conversely, who over-report support) may make similar errors in their reports of childhood emotional support. This link was also empirically sound in that the critical ratio associated with the estimate of this covariance was significant ($CR = 2.15, p < .05$).

This modification significantly improved the model fit to the data, $\chi^2 \text{ diff}(1, N = 101) = 4.85, p < .05$. No additional modifications to the model were feasible. Although the modified model did not fit the data acceptably well in terms of commonly-accepted criteria, $\chi^2(16, N = 101) = 27.01, p = .04, AGFI = 0.867, CFI = 0.963, RMSEA = 0.083, H = 98$, the potential mediating role of Partnership Quality was nonetheless explored.

A model of the direct effects of Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score) on Psychological Distress (indicated by total TSI and life satisfaction) is represented in Figure 8.⁶³ This model provided an acceptable fit to the data, $\chi^2(5, N = 119) = 3.55, ns, AGFI = 0.965, CFI = 1.000, RMSEA = 0.000, H = 369$. As shown in Table 33, Childhood Relationships explained a significant proportion of the variance in Psychological Distress.

A partnership-mediated model is shown in Figure 9. This model provided a poor fit to the data, $\chi^2(17, N = 101) = 27.46, p = .05, AGFI = 0.872, CFI = 0.965, RMSEA = 0.078, H = 101$. As shown in Table 33, poorer Childhood Relationships predicted more Psychological Distress, as well as lower Partnership Quality. However, Partnership Quality did not predict Psychological Distress. This suggests that Partnership Quality does not mediate the relation, but any interpretation of this poorly-fitting model must be cautious.

Friendship quality. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), satisfaction with friendship, and Psychological Distress (indicated by total TSI and life satisfaction) was specified and tested. The model provided a good fit to the data, $\chi^2(8, N = 112) = 4.18, ns, AGFI = 0.966, CFI =$

63. Testing a model of the direct effects of Childhood Relationships on Psychological Distress initially resulted in a nonadmissible solution. The problem was that the variance of the error term associated with total TSI score was estimated to be less than zero. To solve the problem, a value of zero was assigned to the variance of the error term. This is akin to assuming that this indicator (TSI total) was measured without error. This was an acceptable assumption because the TSI is a well-validated measure.

Figure 8

Direct Effects of Childhood Relationships on Psychological Distress

Table 33

Analyses of Direct (DM) and Partnership-Mediated Models (MM) of the Effects of Childhood Relationships on Psychological Distress

Latent variables	β		SE		CR		B		R^2
	DM	MM	DM	MM	DM	DM	MM	DM	MM
Childhood Relationships									
CMQ total	1.000	1.000					0.807	0.729	0.53
Parental care	-1.568	-1.641	0.225	0.305	-6.981	-5.370	-0.751	-0.694	0.48
Childhood Emotional Support	-4.538	-5.188	0.673	0.963	-6.747	-5.389	-0.703	-0.690	0.48
Psychological Problems									
TSI total	1.000	1.000					1.000	1.000	1.00
Life satisfaction	-0.296	-0.298	0.038	0.039	-7.734	-7.555	-0.580	-0.603	0.36
Partnership Quality									
Satisfaction with partnership	-	1.000					-	0.917	0.84
Partner support	-	0.212	-	0.022	-	9.600	-	0.840	0.71
Conflict with partner	-	-0.500	-	0.062	-	-8.014	-	-0.716	0.51
Child. Relations. → Psychological Distress	2.466	3.366	0.627	0.921	3.933	3.656	0.400	0.439	-
Child. Relations. → Partnership Quality	-	-2.790	-	1.188	-	-2.348	-	-0.290	-
Partnership Quality → Psychological Distress	-	-0.138	-	0.080	-	-1.721	-	-0.173	-

Figure 9

Partnership-Mediated Effects of Childhood Relationships on Psychological Distress

1.000, *RMSEA* = 0.000, *H* = 412. A structural model of satisfaction with friendship as a mediator of the Childhood Relationships-Psychological Distress relation was thus constructed and tested, as shown in Figure 10, for comparison to the model of the direct effects, shown in Figure 8. As shown in Table 34, Childhood Relationships predicted a significant proportion of the variance in RASF and Psychological Distress, but RASF did not predict Psychological Distress. Thus, friendship does not mediate the relation between Childhood Relationships and Psychological Distress.

Coping. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Psychological Distress (indicated by total TSI and life satisfaction), and Coping (indicated by problem-focused engagement, problem-focused disengagement, and emotion-focused disengagement coping scores) was specified and tested. The model did not fit the data, $\chi^2(18, N = 118) = 37.38, p = .005, AGFI = 0.867, CFI = .933, RMSEA = 0.096, H = 91$. Examination of modification indices for this solution failed to reveal any possible modifications to improve the fit.

A second attempt was made to fit a model of the relations among childhood variables, coping, and psychological problems. In this model, Coping was indicated only by the two disengagement coping measures (i.e., problem- and emotion-focused disengagement coping). This model provided an acceptable fit to the data, $\chi^2(12, N = 118) = 18.67, ns, AGFI = 0.908, CFI = .974, RMSEA = 0.069, H = 132$. As summarized in Table 35 and shown in Figure 11, more negative Childhood Relationships predict more use of

Figure 10

Friendship-Mediated Effects of Childhood Relationships on Psychological Distress

Table 34

*Results of Analysis of Friendship-Mediated Model of the Effects of
Childhood Relationships on Psychological Distress*

Latent variable	β	SE	CR	B	R^2
Childhood Relationships					
CMQ total	1.000			0.805	0.65
Parental care	-1.528	0.233	-6.837	-0.745	0.56
Childhood emotional support	-4.366	0.675	-6.471	-0.685	0.47
Psychological Distress					
TSI total	1.000			1.000	1.00
Life satisfaction	-0.291	0.039	-7.530	-0.581	0.34
Childhood Relationships → Psychological Distress	2.026	0.739	2.742	0.328	
Childhood Relationships → friend satisfaction	-0.978	0.219	-4.463	-0.468	0.22
Friend satisfaction → Psychological Distress	-0.298	0.309	-0.966	-0.101	

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of
variance explained.

Table 35

Results of Analysis of Disengagement Coping-Mediated Model of the Effects of Childhood Relationships on Adult Psychological Distress

Latent variable	β	SE	CR	B	R^2
Childhood Relationships					
CMQ total	1.000			0.828	0.69
Parental care	-1.521	0.214	-7.109	-0.748	0.56
Childhood emotional support	-4.311	0.635	-6.793	-0.694	0.48
Psychological Distress					
TSI total	1.000			1.000	1.00
Life satisfaction	0.297	0.038	7.771	0.583	0.34
Disengagement Coping					
emotion-focused	1.000			0.680	0.46
problem-focused	2.879	0.531	5.425	0.697	0.49
Childhood Relationships → Psychological Distress	0.766	0.628	1.220	0.128	
Childhood Relationships → Disengagement Coping	0.604	0.195	3.100	0.411	0.17
Disengagement Coping → Psychological Distress	2.806	0.601	4.666	0.688	

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of variance explained.

Figure 11

Disengagement Coping- Mediated Effects of Childhood Relationships on Psychological Distress

Disengagement Coping. In turn, more use of Disengagement Coping leads to more Psychological Distress. Inclusion of Disengagement Coping rendered nonsignificant the relation between Childhood Relationships and Psychological Distress.

In accordance with accepted procedures used to fit models such that they are as parsimonious as possible, the nonsignificant relation between Childhood Relationships and Psychological Distress was pruned (i.e., the model was re-specified such that this regression weight was presumed to be equal to zero). This modification did not improve the model's fit to the data, $\chi^2(13, N = 118) = 19.96, ns, AGFI = 0.908, CFI = .973, RMSEA = 0.068, H = 132, (\chi^2 \text{ diff } [1, N = 118] = 1.29, ns)$.

Summary. Negative childhood relationships, as indicated by measures of abuse and level of emotional support and caring experienced by a child, predict later psychological distress, as indicated by level of trauma symptoms and dissatisfaction with quality of life. This relation is mediated by use of disengagement coping strategies. In addition, the relation between childhood emotional support and adult trauma symptoms may be mediated by anxiety about relationships. Further, the direct relation between childhood relationships and life satisfaction is mediated by attachment variables.

Although findings indicate that quality of relationships with friends and partners do not mediate this relation, the poor fit of some of these models requires that conclusions are tentative.

MEDIATORS OF THE DIRECT RELATION BETWEEN CHILDHOOD RELATIONSHIPS AND ADULT PHYSICAL HEALTH PROBLEMS

In terms of models to test the mediators of the relation between Childhood Relationships and Physical Health Problems, a structural model of the direct effects is shown in Figure 12. This model provided an acceptable fit to the data, $\chi^2(4, N = 125) = 7.82, ns, AGFI = 0.909, CFI = 0.979, RMSEA = 0.088, H = 151$. As summarized in Table 36, all indicators contribute significant variance to their latent variables, and Childhood Relationships accounts for a significant proportion of the variance in Physical Health Problems. This direct model was used as a comparison for each of the four mediators of the relation between Childhood Relationships and Physical Health Problems.

Attachment. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Adult Attachment (indicated by the avoidance and anxiety subscales of the ECL), and Physical Health Problems (indicated by daily health concerns and General Health Symptoms) was specified and its fit was tested. This model provided an acceptable fit to the data, $\chi^2(11, N = 124) = 13.59, ns, AGFI = 0.924, CFI = 0.988, RMSEA = 0.044, H = 179$. As summarized in the lower half of Table 36, inclusion of Attachment in the model reduces to nonsignificance the relation between Childhood Relationships and Physical Health Problems. However, the relation between Attachment and Physical Health Problems was nonsignificant.

Figure 12

Direct Effects of Childhood Relationships on Adult Physical Health

Table 36

Analyses of Direct (DM) and Attachment-Mediated (MM) Models of the Effects of Childhood Relationships on Physical Health

Latent variables	β		SE		CR		B		R ²
	DM	MM	DM	MM	DM	MM	DM	MM	
Childhood Relationships									
CMQ total	1.000	1.000			0.813	0.820	0.67	0.67	
Parental care	-1.561	-1.536	0.216	0.198	-7.234	-7.744	-0.751	-0.751	0.56
Childhood Emotional Support	-4.498	-4.397	0.641	0.600	-7.017	-7.335	-0.709	-0.702	0.49
Physical Health Problems									
Daily health concerns	1.000	1.000			0.826	0.786	0.62	0.62	
General Health Symptoms	0.308	0.338	0.091	0.089	3.394	3.811	0.722	0.754	0.57
Attachment									
Avoidance	-	1.000			-	0.672	0.45	0.45	
Anxiety	-	0.496	-	0.179	-	2.768	-	0.333	0.11
Childhood Relationships → Health Problems	0.909	0.248	0.274	0.980	3.320	0.253	0.400	0.116	-
Childhood Relationships → Attachment	-	5.664	-	0.987	-	5.740	-	0.822	-
Attachment → Health Problems	-	-0.138	-	0.080	-	-1.721	-	-0.173	-

To make the model as parsimonious as possible, the nonsignificant relation between Childhood Relationships and Physical Health Problems was pruned (i.e., the model was re-specified such that this regression weight was presumed to be equal to zero).⁶⁴ This modified model also provided an acceptable fit to the data, $\chi^2(12, N = 124) = 13.62, ns, AGFI = 0.930, CFI = 0.993, RMSEA = 0.033, H = 190$. As shown in Table 37 and Figure 13, negative childhood relationships explained 72% of the variance in relational avoidance and anxiety. In turn, attachment predicted 24% of the variance in physical health problems.

Partnership quality. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Partnership Quality (indicated by satisfaction with partner, partner support, and partner conflict), and Physical Health Problems (indicated by daily health concerns and general health symptoms) was specified and its fit was tested. The error terms for Childhood Emotional Support and partner support were allowed to covary.⁶⁵

This model provided an acceptable fit to the data, $\chi^2(16, N = 106) = 24.03, ns, AGFI = 0.882, CFI = 0.973, RMSEA = 0.069, H = 115$. As shown in Figure 14 and Table 38, more negative childhood relationships predicted lower partnership quality. The relation between negative Childhood Relationships and more Physical Health Problems observed in the direct model (Figure 12)

64. This was an acceptable modification because inclusion of attachment reduced the direct relation to nonsignificance.

Table 37

Results of Analysis of Pruned Attachment-Mediated Model of the Effects of Childhood Relationships on Physical Health Problems

Latent variable	β	SE	CR	B	R^2
Childhood Relationships					
CMQ total	1.000			0.819	0.67
Parental care	-1.539	0.199	-7.741	-0.752	0.56
Childhood Emotional Support	-4.404	0.601	-7.333	-0.703	0.49
Physical Health Problems					
Daily health concerns	1.000			0.783	0.61
General health sx's	0.341	0.089	3.821	0.757	0.57
Attachment					
Avoidance	1.000			0.652	0.43
Anxiety	0.508	0.176	2.894	0.330	0.11
Childhood Relationships → Attachment	5.660	0.987	5.734	0.846	0.72
Attachment → Physical Health Problems	0.155	0.048	3.259	0.486	0.24

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of variance explained.

65. The correlation between the error terms for partner support and CES was significant ($CR = -2.02$, $p < .05$).

Figure 13

Attachment Mediated Effects of Childhood Relationships on Adult Physical Health

Figure 14

Partnership Mediated Effects of Childhood Relationships on Adult Physical Health

Table 38

*Results of Analysis of Partnership-Mediated Model of the Effects of
Childhood Relationships on Physical Health Problems*

Latent variable	β	SE	CR	B	R ²
Childhood Relationships					
CMQ total	1.000			0.759	0.58
Parental care	-1.646	0.289	-5.694	-0.722	0.52
CES	-4.829	0.862	-5.602	-0.677	0.46
Physical Health Problems					
Daily health concerns	1.000			0.626	0.39
General Health Symptoms	0.501	0.190	2.642	0.918	0.84
Partnership Quality					
Partner satisfaction	1.000			0.904	0.82
Partner support	0.221	0.023	9.803	0.852	0.73
Partner conflict	-0.501	0.062	-8.137	-0.714	0.51
Childhood Relationships → Health Problems	0.565	0.317	1.784	0.281	
Childhood Relationships → Partnership Quality	-2.796	1.064	-2.629	-0.314	0.10
Partnership Quality → Health Problems	-0.039	0.029	-1.338	-0.171	

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R² = proportion of variance explained.

became nonsignificant when partnership quality was taken into account. However, partnership quality did not predict physical health problems. Thus, partnership quality does not mediate the relation between Childhood Relationships and Physical Health Problems.

Friendship quality. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), friendship satisfaction (measured variable RASF), and Physical Health Problems (indicated by daily health concerns and General Health Symptoms) was specified and its fit was tested. This model provided a good fit to the data, $\chi^2(7, N = 116) = 7.16, ns, AGFI = 0.940, CFI = 0.999, RMSEA = 0.014, H = 226$. As shown in Table 39 and Figure 15, more negative childhood relationships predicted less overall satisfaction with best friendships and more physical health problems. Friendship satisfaction did not predict Physical Health Problems, nor did its inclusion render nonsignificant the direct relation between Childhood Relationships and Physical Health Problems.

Coping. A model of the relations among Childhood Relationships (indicated by childhood emotional support, parental care, and total CMQ score), Coping (indicated by problem-focused engagement, problem-focused disengagement, and emotion-focused disengagement coping scores), and Physical Health Problems (indicated by daily health concerns and GHS scores) was specified and its fit was tested. This model did not fit the data, $\chi^2(17, N = 123) = 46.54, p < .001, AGFI = 0.837, CFI = 0.897, RMSEA = 0.119, H = 73$.

Table 39

*Results of Analysis of Friendship-Mediated Model of the Effects of
Childhood Relationships on Physical Health Problems*

Latent variable	β	SE	CR	B	R ²
Childhood Relationships					
CMQ total	1.000			0.819	0.67
Parental care	-1.486	0.289	-7.095	-0.740	0.55
CES	-4.271	0.633	-6.745	-0.689	0.47
Physical Health Problems					
Daily health concerns	1.000			0.866	0.75
General Health Symptoms	0.297	0.082	3.632	0.704	0.50
Childhood Relationships → Health Problems	0.785	0.314	2.496	0.337	
Childhood Relationships → Friendship satisfaction	1.032	0.211	4.882	0.497	0.25
Friendship satisfaction → Health Problems	0.149	0.132	1.128	0.133	

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R² = proportion of variance explained.

Figure 15

Friendship-Mediated Effects of Childhood Relationships on Adult Physical Health

As was the case with the coping-mediated measurement model of Psychological Distress, no modification indices were useful.

A new measurement model was specified in which Disengagement Coping was indicated by only the two disengagement indicators (i.e., problem- and emotion-focused disengagement coping). This model also provided a poor fit to the data, $\chi^2(11, N = 123) = 22.52, p = .02, AGFI = 0.880, CFI = 0.954, RMSEA = 0.093, H = 107$. No modification indices were useful. The potential mediating role of Disengagement Coping in the relation between Childhood Relationships and Physical Health Problems was nonetheless explored. As shown in Figure 16 and Table 40, more negative childhood relationships predicted more use of disengagement coping, which, in turn, predicted more physical health problems. Inclusion of disengagement coping rendered nonsignificant the relation between childhood relationships and physical health problems. Although these findings indicate that disengagement coping mediates the relation between negative childhood relationships and adult physical health problems, the poor fit of this model means that findings must be interpreted cautiously.

The nonsignificant relation between Childhood Relationships and Physical Health Problems was pruned (i.e., the model was re-specified such that this regression weight was presumed to be equal to zero). This modified model did not fit the data, $\chi^2(12, N = 123) = 24.41, p = .02, AGFI = 0.883, CFI = 0.951, RMSEA = 0.092, H = 106$. Thus, the results from the analysis of the modified model, shown in Table 41, must be interpreted cautiously. Findings

Figure 16

Coping-Mediated Effects of Childhood Relationships on Adult Physical Health

Table 40

Results of Analysis of Disengagement Coping-Mediated Model of the Effects of Childhood Relationships on Physical Health Problems

Latent variable	β	SE	CR	B	R^2
Childhood Relationships					
CMQ total	1.000			0.832	0.69
Parental care	-1.528	0.207	-7.380	-0.757	0.57
CES	-4.232	0.608	-6.963	-0.689	0.47
Physical Health Problems					
Daily health concerns	1.000			0.786	0.62
General Health Symptoms	0.343	0.067	5.099	0.754	0.57
Disengagement Coping					
emotion-focused	1.000			0.864	0.75
problem-focused	1.883	0.483	3.902	0.565	0.32
Childhood Relationships → Health Problems	0.379	0.271	1.400	0.181	
Childhood Relationships → Disengagement Coping	0.781	0.206	3.795	0.430	0.19
Disengagement Coping → Health Problems	0.573	0.203	2.830	0.497	

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of variance explained.

Table 41.

Results of Analysis of Pruned Disengagement Coping-Mediated Model of the Effects of Childhood Relationships on Physical Health Problems

Latent variable	β	SE	CR	B	R ²
Childhood Relationships					
CMQ total	1.000			0.830	0.69
Parental care	-1.542	0.210	-7.355	-0.762	0.58
CES	-4.224	0.611	-6.912	-0.685	0.47
Physical Health Problems					
Daily health concerns	1.000			0.769	0.59
General Health Symptoms	0.358	0.071	5.023	0.770	0.59
Disengagement Coping					
emotion-focused	1.000			0.816	0.67
problem-focused	2.047	0.457	4.480	0.581	0.34
Childhood Relationships → Disengagement Coping	0.803	0.203	3.958	0.467	0.22
Disengagement Coping → Health Problems	0.745	0.188	3.967	0.624	0.39

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R² = proportion of variance explained.

indicate that negative Childhood Relationships explain 22% of the variance in Disengagement Coping and that use of Disengagement Coping, in turn, explains 39% of the variance in Physical Health Problems.

Summary. Negative childhood relationships and childhood maltreatment predict adults' physical health problems. This relation is mediated by adult attachment orientation, and may also be mediated by use of disengagement coping strategies. Findings indicate that quality of relationships with friends and partners do not mediate this relation.

Relations Among the Mediators

A model of the relations among Attachment (indicated by avoidance and anxiety), Partnership Quality (indicated by satisfaction with partner, partner support, and partner conflict), satisfaction with friendship, and Coping (indicated by problem-focused and emotion-focused disengagement coping) was specified and its fit was tested. This model did not fit the data, $\chi^2(18, N = 100) = 40.38, p < .01, AGFI = 0.819, CFI = 0.919, RMSEA = 0.112, H = 71$. Modification indices suggested that allowing the error term for avoidance to covary with the error term for anxiety would improve the fit. Because this modification made theoretical sense (people who were reluctant to describe their avoidance of intimacy might also be reluctant to describe their anxiety about relationships), the model was thus respecified. However, the solution to this respecified model was not positive definite.

Therefore, two simpler models of the direct effects of Attachment on 1) partnership and friendship quality, and 2) disengagement coping were specified

and tested. A model in which Attachment (indicated by avoidance and anxiety) predicted Partnership Quality (indicated by satisfaction with partnership, partner support, and partner conflict) and satisfaction with friendship was specified and its fit was tested. The model provided an acceptable fit to the data, $\chi^2(8, N = 100) = 10.61, ns, AGFI = 0.910, CFI = 0.987, RMSEA = 0.057, H = 145$. As shown in Figure 17 and Table 42, Attachment predicted 72% of the variance in Partnership Quality, but did not predict satisfaction with friendship. Participants who were more avoidant and more anxious about their relationships in general had lower quality relationships with their current intimate partners than participants who had more Secure attachment orientations.

A model in which Attachment (indicated by avoidance and anxiety) predicted Coping (indicated by problem-focused and emotion-focused disengagement coping) was specified and its fit was tested. The solution to this model was not positive definite. The problem seemed to lie with multicollinearity of Attachment and Disengagement Coping: the estimated correlation between the two was $r = 1.22$ and the estimated value of the variance in Disengagement Coping not explained by Attachment (i.e., of the disturbance term) was negative.

Summary of Findings in Terms of Complete Mediated Model

Some overall conclusions can be drawn from the piece-meal testing of the mediated model shown in Figure 1. As shown in Figure 18, although childhood relationships were related to friendship quality, friendship quality was not related to attachment variables, nor to psychological distress or physical

Figure 17

Direct Effects of Attachment on Relationship Variables

Table 42

Results of Analysis of Direct Effects of Attachment on Partnership and Friendship Quality

Latent variable	β	SE	CR	B	R^2
Attachment					
Avoidance	1.000			0.623	0.39
Anxiety	0.961	0.256	3.758	0.500	0.25
Partnership Quality					
Satisfaction	1.000			0.916	0.84
Partner support	0.217	0.020	10.586	0.859	0.74
Partner conflict	-0.494	0.060	-8.238	-0.713	0.51
Attachment → Partnership Quality	-1.199	0.334	-3.594	-0.847	0.72
Attachment → Friendship satisfaction	0.081	0.044	1.865	0.224	.05

Note: β = unstandardized regression coefficient, SE = standard error,

CR = critical ratio, B = standardized regression coefficient, R^2 = proportion of variance explained.

Figure 18

A Schematic Model of the Relations Among Childhood Experiences, Attachment, Relationship Supportiveness, Coping, and Well-Being

health problems. Similarly, although partnership quality was related to childhood relationships, and to attachment orientation, it was not related to either of the well-being latent variables (i.e., neither psychological distress nor physical health).

Adult attachment, in contrast, mediated the relation between childhood relationships and both well-being latent variables. Based on the simultaneous regression analyses (summarized in Figures 6 & 7), childhood emotional support seems to be related to lower anxiety about relationships in adulthood, which is, in turn, related to lower Trauma Symptom inventory scores and more life satisfaction. Childhood maltreatment is related to more avoidance of relationships, which is related in turn to decreased life satisfaction.

Finally, harsher childhood relationships were related to more use of problem- and emotion-focused disengagement coping strategies, which were, in turn, related to increased psychological distress.

Gender as a Moderator of the Mediated and Direct Relations Between Childhood Maltreatment and Adult Well-Being

The small size of the sample, relative to the number of variables, made it impossible to use structural equation modeling to examine the potential moderating influence of gender on the direct and mediated relations described above. Therefore, interaction terms and hierarchical regression analyses were used to examine the importance of participants' gender to the relations described above. Interaction terms were created by multiplying every predictor variable from the models described above (i.e., CMQ total score, parental care, childhood emotional support, avoidance, anxiety, partnership satisfaction, partner support, partner conflict, friendship satisfaction, problem- and emotion-focused disengagement coping) by gender (dummy coded 1 = female and 2 = male). Hierarchical regressions were then conducted, with each predictor and gender entered on the first step and the interaction term entered on the second step.

Psychological well-being. As shown in Tables 43 and 44, there were no main effects of gender on TSI total score nor on life satisfaction. That is, female and male participants' scores did not differ. However, gender interacted with two of the eleven predictors of TSI total (CMQ and parental care), and with two of the eleven predictors of life satisfaction (CMQ and childhood emotional support). To understand how the effect of these variables on TSI total and life satisfaction differed for men and women, simple effects analyses were conducted. Regression analyses were conducted separately for men and for

Table 43

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of TSI Total Score

Step 1 and Step 2 Predictors	β	t -value	R^2 Change	F -value
1. CMQ	.340	3.94***		
Gender	.093	1.08	.125	$F(2, 118) = 8.45^{***}$
2. Interaction	.819	2.93**	.060	$F(1, 117) = 8.61^{**}$
1. Parental care	-.271	-3.10**		
Gender	.115	1.31	.086	$F(2, 119) = 5.62^{**}$
2. Interaction	1.035	2.02*	.030	$F(1, 118) = 4.07^*$
1. Child. Emotional Support	-.281	-3.22**		
Gender	.100	1.15	.092	$F(2, 120) = 6.10^{**}$
2. Interaction	-.246	-0.80	.005	$F(1, 119) = 0.64$
1. Avoidance	.321	3.69***		
Gender	.160	1.84	.115	$F(2, 119) = 7.73^{**}$
2. Interaction	.118	0.37	.001	$F(1, 118) = 0.14$
1. Anxiety	.571	7.61***		
Gender	.058	0.77	.337	$F(2, 119) = 30.23^{***}$
2. Interaction	-.028	-0.09	.000	$F(1, 118) = 0.01$
1. Partnership satisfaction	-.301	-3.18**		
Gender	.072	0.76	.094	$F(2, 101) = 5.25^{**}$
2. Interaction	-.141	-0.34	.001	$F(1, 100) = 0.11$
1. Partner support	-.175	-1.81		
Gender	.087	0.90	.040	$F(2, 103) = 2.15$
2. Interaction	.144	0.24	.001	$F(1, 102) = 0.46$

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

Note: CMQ = Childhood Maltreatment Questionnaire total score

Table 43 (cont'd)

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of TSI Total Score

Step 1 and Step 2 Predictors	β	<i>t</i> -value	R^2 Change	<i>F</i> -value
1. Partner conflict	.386	4.27***		
Gender	.106	1.18	.159	$F(2, 103) = 9.72^{***}$
2. Interaction	.268	0.68	.004	$F(1, 102) = 0.46$
1. Friendship satisfaction	-.267	-2.91**		
Gender	.030	0.33	.076	$F(2, 115) = 4.70^*$
2. Interaction	.668	1.15	.011	$F(1, 114) = 1.32$
1. PF Disengagement	.529	6.76***		
Gender	.047	0.59	.288	$F(2, 118) = 23.90^{***}$
2. Interaction	-.299	-0.81	.004	$F(1, 117) = 0.66$
1. EF Disengagement	.497	6.11***		
Gender	.356	1.43	.250	$F(2, 118) = 19.69^{***}$
2. Interaction	.315	0.60	.002	$F(1, 117) = 0.36$

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

Note: PF Disengagement = Problem-focused disengagement coping,

EF Disengagement = Emotion-focused disengagement coping

Table 44

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of Life Satisfaction

Step 1 and Step 2 Predictors	β	t-value	R^2 CHA	F-value
1. CMQ	-.211	-2.42*		
Gender	-.062	-0.71	.049	$F(2, 125) = 3.21^*$
2. Interaction	-.956	-3.41***	.081	$F(1, 124) = 11.62^{***}$
1. Parental care	.125	1.42		
Gender	-.059	-0.67	.019	$F(2, 126) = 1.21$
2. Interaction	-1.024	-1.97	.030	$F(1, 125) = 3.89$
1. Child. Emotional Supp.	.259	3.03**		
Gender	-.050	-0.58	.071	$F(2, 127) = 4.86^{**}$
2. Interaction	.887	3.00**	.062	$F(1, 126) = 9.00^{**}$
1. Avoidance	-.372	-4.42***		
Gender	-.120	-1.43	.138	$F(2, 125) = 10.00^{***}$
2. Interaction	.107	0.35	.001	$F(1, 124) = 0.12$
1. Anxiety	-.433	-5.36***		
Gender	-.021	-0.26	.189	$F(2, 125) = 14.62^{***}$
2. Interaction	.241	0.69	.003	$F(1, 124) = 0.47$
1. Partnership satisfaction	.332	3.63***		
Gender	-.063	-0.69	.113	$F(2, 106) = 6.72^{**}$
2. Interaction	.152	0.37	.001	$F(1, 105) = 0.14$
1. Partner support	.244	2.63**		
Gender	-.050	-0.95	.063	$F(2, 109) = 3.66^*$
2. Interaction	-.007	0.12	.000	$F(1, 108) = 0.00$

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

Note: CMQ = Childhood Maltreatment Questionnaire total score

Table 44 (cont'd)

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of Life Satisfaction

Step 1 and Step 2 Predictors	β	<i>t</i> -value	R^2 Change	<i>F</i> -value
1. Partner conflict	-.295	-3.22**		
Gender	-.070	-0.77	.090	$F(2, 109) = 5.40^{**}$
2. Interaction	-.032	-0.80	.000	$F(1, 108) = 0.01$
1. Friendship satisfaction	.236	2.60**		
Gender	.053	0.59	.053	$F(2, 121) = 3.39^*$
2. Interaction	-.953	-1.66	.021	$F(1, 120) = 2.75$
1. PF Disengagement	-.360	-4.28***		
Gender	-.007	-0.09	.130	$F(2, 125) = 9.34^{***}$
2. Interaction	.486	1.22	.010	$F(1, 124) = 1.49$
1. EF Disengagement	-.383	-4.56***		
Gender	.014	0.17	.145	$F(2, 125) = 10.60^{***}$
2. Interaction	-.159	-0.29	.001	$F(1, 124) = 0.08$

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

Note: PF Disengagement = Problem-focused disengagement coping,

EF Disengagement = Emotion-focused disengagement coping

women, and the variance explained by the predictor was compared to the error variance from the earlier hierarchical regression. The significance of this F -ratio was then determined.

In terms of the total level of childhood maltreatment experienced, CMQ total predicted 2.7% of the variance in female participants' TSI total scores, $F(1, 117) = 3.88$, *ns*. In contrast, CMQ total predicted 31.5% of the variance in male participants' TSI total scores, $F(1, 117) = 45.22$, $p < .001$. Similarly, CMQ total predicted none of the variance in women's life satisfaction scores ($R^2 = 0.000$), but 24.5% of the variance in men's life satisfaction scores, $F(1, 124) = 34.92$, $p < .001$. Variables other than childhood maltreatment may be more important to female participants' psychological distress, whereas male participants' psychological distress may be more directly linked to their experiences of childhood maltreatment.

In terms of parental care, the same pattern was observed. Only 2.6% of the variance in female participants' TSI total scores was attributable to poor parental care, $F(1, 118) = 3.47$, *ns*. In contrast, 18% of the variance in male participants' TSI total scores was attributable to poor parental care, $F(1, 118) = 24.05$, $p < .001$. The parental care and gender interaction term was not a significant predictor of life satisfaction. Childhood emotional support, however, interacted with gender to predict life satisfaction. Only 0.4% of the variance in women's life satisfaction was attributable to level of childhood emotional support, $F(1, 126) = 0.55$, *ns*, but 24.7% of the variance in men's life satisfaction

was attributable to level of childhood emotional support $F(1, 126) = 35.90, p < .001$.

Physical health. As shown in Tables 45 and 46, there were no main effects of gender on reported level of general health symptoms nor on level of daily health concerns. However, three of the eleven interaction terms were significant predictors of general health symptoms: the effects of childhood maltreatment, avoidant attachment orientation, and use of emotion-focused disengagement coping differed for men and women. Gender did not interact with any predictors of daily health concerns.

Simple effects analyses revealed that CMQ total predicted 0.6% of the variance in female participants' physical symptoms, $F(1, 122) = 1.20, ns$. In contrast, 25.6% of the variance in male participants' health symptom scores was predicted by CMQ total, $F(1, 122) = 51.45, p < .001$. Childhood maltreatment may be a much more important predictor of problems with physical and psychological health for men, compared to women.

In terms of the importance of gender to the effects of avoidant attachment orientation on health symptoms, only 0.7% of the variance in women's general health symptom scores was predicted by avoidance, $F(1, 123) = 0.97, ns$. In contrast, 19.5% of the variance in men's general health symptom scores was explained by avoidance, $F(1, 123) = 27.07, p < .001$.

The importance of avoidance for men's health might be explained by the effects of avoidance on relationships. Perhaps men who are avoidant in their attachment styles are less likely to be in a relationship than women who are

Table 45

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of General Health Symptoms

Step 1 and Step 2 Predictors	β	<i>t</i> -value	R^2 Change	<i>F</i> -value
1. CMQ	.303	3.54**		
Gender	-.096	-1.12	.101	$F(2, 123) = 6.87^{**}$
2. Interaction	.819	2.93**	.054	$F(1, 122) = 7.74^{**}$
1. Parental care	-.182	-2.07*		
Gender	-.074	-0.84	.039	$F(2, 124) = 2.52$
2. Interaction	.778	1.49	.017	$F(1, 123) = 2.23$
1. Child. Emotional Supp.	-.140	-1.58		
Gender	-.074	-0.83	.031	$F(2, 125) = 1.52$
2. Interaction	-.312	-0.99	.008	$F(1, 124) = 1.34$
1. Avoidance	.234	2.64**		
Gender	-.020	-0.23	.056	$F(2, 124) = 3.71^*$
2. Interaction	.866	2.82**	.057	$F(1, 123) = 7.94^{**}$
1. Anxiety	.242	2.78**		
Gender	-.077	-0.88	.062	$F(2, 124) = 4.07^*$
2. Interaction	.128	0.34	.001	$F(1, 123) = 0.12$
1. Partnership satisfaction	-.217	-2.29*		
Gender	-.077	-0.82	.054	$F(2, 106) = 3.05$
2. Interaction	-.252	-0.60	.003	$F(1, 105) = 2.14$
1. Partner support	-.247	-2.67**		
Gender	-.088	-0.95	.067	$F(2, 109) = 3.93^*$
2. Interaction	.438	0.79	.005	$F(1, 108) = 0.62$

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

Note: CMQ = Childhood Maltreatment Questionnaire total score

Table 45 (cont'd)

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of General Health Symptoms

Step 1 and Step 2 Predictors	β	t-value	R^2 Change	F-value
1. Partner conflict	.327	3.62**		
Gender	-.066	-0.73	.133	$F(2, 109) = 6.92^{**}$
2. Interaction	.255	0.65	.003	$F(1, 108) = 0.42$
1. Friendship satisfaction	-.265	-2.92*		
Gender	-.134	-1.47	.072	$F(2, 119) = 4.63^*$
2. Interaction	.804	1.40	.015	$F(1, 118) = 1.96$
1. PF Disengagement	.376	4.48***		
Gender	-.111	-1.32	.144	$F(2, 123) = 10.33^{***}$
2. Interaction	.231	0.58	.002	$F(1, 122) = 0.33$
1. EF Disengagement	.404	4.84***		
Gender	-.132	-1.58	.163	$F(2, 123) = 12.01^{***}$
2. Interaction	1.624	3.08***	.061	$F(1, 122) = 9.52^{**}$

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

Note: PF Disengagement = Problem-focused disengagement coping,

EF Disengagement = Emotion-focused disengagement coping

Table 46

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of Daily Health Concerns

Step 1 and Step 2 Predictors	β	t-value	R^2 Change	F-value
1. CMQ	.286	3.35***		
Gender	-.081	-0.95	.088	$F(2, 125) = 6.02^{**}$
2. Interaction	.506	1.79	.023	$F(1, 124) = 3.19$
1. Parental care	-.181	-2.07*		
Gender	-.074	-0.84	.039	$F(2, 125) = 2.53$
2. Interaction	.023	0.04	.000	$F(1, 124) = 0.01$
1. Child. Emotional Supp.	-.290	-3.42***		
Gender	-.094	-1.10	.090	$F(2, 127) = 6.26^{**}$
2. Interaction	.038	0.12	.000	$F(1, 126) = 0.00$
1. Avoidance	.197	2.23*		
Gender	-.041	-0.46	.043	$F(2, 125) = 2.83$
2. Interaction	-.196	-0.62	.003	$F(1, 124) = 0.38$
1. Anxiety	.189	2.15*		
Gender	-.090	-1.03	.041	$F(2, 125) = 2.65$
2. Interaction	-.167	-0.44	.001	$F(1, 124) = 0.19$
1. Partnership satisfaction	-.080	-0.82		
Gender	-.035	-0.36	.008	$F(2, 106) = 0.42$
2. Interaction	.086	0.20	.000	$F(1, 105) = 0.04$
1. Partner support	-.038	-0.40		
Gender	-.027	-0.28	.002	$F(2, 109) = 0.12$
2. Interaction	-.237	-0.41	.002	$F(1, 108) = 0.17$

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

Note: CMQ = Childhood Maltreatment Questionnaire total score

Table 46 (cont'd)

Results of Hierarchical Regression Analyses Examining the Moderating Role of Gender in Prediction of Daily Health Concerns

Step 1 and Step 2 Predictors	β	t-value	R^2 Change	F-value
1. Partner conflict	.172	1.82		
Gender	-.019	-0.20	.030	$F(2, 109) = 1.70$
2. Interaction	.163	0.39	.001	$F(1, 108) = 0.16$
1. Friendship satisfaction	-.268	-2.99**		
Gender	-.161	-1.80	.079	$F(2, 121) = 5.16^{**}$
2. Interaction	.713	1.25	.012	$F(1, 120) = 1.57$
1. PF Disengagement	.236	2.71**		
Gender	-.114	-1.30	.062	$F(2, 125) = 4.16^*$
2. Interaction	-.291	-0.71	.004	$F(1, 124) = 0.49$
1. EF Disengagement	.382	4.56***		
Gender	-.150	-1.79	.149	$F(2, 125) = 10.94^{***}$
2. Interaction	.837	1.55	.016	$F(1, 124) = 2.41$

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

Note: PF Disengagement = Problem-focused disengagement coping,

EF Disengagement = Emotion-focused disengagement coping

equally avoidant. To explore the importance of gender and relationship status to level of avoidance, a two-way ANOVA was conducted. Men reported less avoidance ($M = 3.00$, $SD = 1.16$) than did women ($M = 3.45$, $SD = 1.51$), $F(1, 124) = 4.73$, $p < .05$. As well, participants who were in an intimate relationship at the time of the study reported less avoidance ($M = 2.97$, $SD = 1.27$) than did participants who were not in a relationship ($M = 3.87$, $SD = 1.41$), $F(1, 124) = 10.53$, $p < .01$. The nonsignificant interaction indicated that effects were the same for men and women, $F(1, 124) = 2.37$, ns . Thus, the differential effects of avoidance on health for men versus women cannot be explained by differences in relationship status.

In terms of the importance of gender to the effects of emotion-focused disengagement coping on health symptoms, 3.6% of the variance in women's health symptoms scores was predicted by use of emotion-focused disengagement coping, $F(1, 123) = 5.71$, $p < .05$. The relation is stronger for men: 36.8% of the variance in men's health symptoms scores was explained by their use of emotion-focused disengagement coping, $F(1, 123) = 58.32$, $p < .001$.

Summary. When considering predictors of psychological and physical problems, gender similarities are evident. For both women and men, more childhood emotional support, less anxiety about relationships, more partner support, less conflict with a partner, and less use of problem-focused disengagement coping are associated with better psychological and physical health.

However, some gender differences are evident. Total level of childhood maltreatment experienced predicts psychological and physical health for men but not for women. A low level of parental care during childhood predicts psychological distress for men but not for women. An avoidant attachment style predicts physical health problems for men, but not for women, and the link between emotion-focused disengagement coping and more physical health symptoms is much stronger for men than for women.

These findings may be important in their own right, and also may have implications for the results of tests of the models described above. The direct effects of childhood experiences on psychological distress, noted in Figure 8, may exist only for men in this sample. As well, the effects of childhood maltreatment on adults' health symptoms (Figure 12) may actually be stronger for men than for women, although this link has been observed often in studies of the effects of abuse on women's health.

In terms of the role of gender in the relation between avoidant attachment and physical health problems, the relations observed in Figure 13 may be stronger for men than for women. Conversely, the connection between attachment and physical health may be equally strong for both sexes, but the relevant dimensions of attachment may differ. That is, Insecure attachment may be an important influence on health for both men and women, but for women this influence occurs exclusively through feelings of anxiety about relationships.

Similarly, although the link between disengagement coping and psychological distress may exist for both men and women (Figure 11), effects of

emotion-focused disengagement coping on health may be stronger for men than for women (Figure 16).

Alternative Explanations for the Observed Relations

Correlational analyses were conducted to identify any demographic characteristics of the sample that might provide alternative explanations for the relations described above. Table 47 summarizes the correlations between conceptual variables and participants' age, years of formal education, family income, family of origin income, and status as a student versus non-student participant. Level of education was not related to any conceptual variables. Similarly, family income was related only to life satisfaction: participants who had higher incomes were more satisfied with their lives. Because neither of these demographic variables were related to both predictor and outcome variables, they cannot provide alternative explanations for any relations between predictor and criterion variables.

Conversely, participants' age, student status, and family of origin income might confound the observed relations between predictor and criterion variables. Older participants reported more childhood maltreatment, less parental care, less childhood emotional support, and more daily health concerns. Participants whose families of origin had adequate or plenty of money reported less childhood maltreatment, more parental care, more childhood emotional support, lower TSI scores, more life satisfaction, fewer general health symptoms, and fewer daily health concerns than participants whose families of origin did not have much money. Compared to participants recruited through

Table 47

Correlations of Demographic Characteristics with Predictor and Criterion Variables.

Measure	Demographic Characteristics				
	Age	Education	Income	Family of Origin Income	Student Status
Childhood Maltreatment total score	.37***	-.12	-.16	-.54***	.34***
Parental care	-.30***	-.05	.05	.30***	-.24**
Childhood emotional support	-.30***	-.04	-.08	.40***	-.28***
TSI total score	-.09	-.31	-.09	-.19*	.01
Life satisfaction	.12	-.21	.29***	.18*	-.19*
General Health Symptoms	.06	-.12	-.10	-.18*	.01
Daily health concerns	.25**	-.06	-.16	-.32***	.24**

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom ranged from 118 to 129 for all correlations.

the student subject pool, nonstudents reported more childhood maltreatment, less parental care, less childhood emotional support, less satisfaction with their lives, and more daily health concerns. Partial correlations were conducted to test the possibility that these demographic characteristics provided alternative explanations for the observed relations between predictor and criterion variables.

The correlations of CMQ, parental care, and childhood emotional support with daily health concerns were examined after partialling out effects due to participants' age. Correlations of daily health concerns with CMQ, $r(125) = .21$, $p < .05$ and with childhood emotional support, $r(127) = -.23$, $p < .01$, remained significant. In contrast, the correlation of daily health concerns with parental care was substantially reduced when age was partialled out, $r(126) = -.12$, *ns*. This indicates that age may account for the earlier-observed relation between parental care and daily health concerns.

In terms of family of origin financial status as a potential confound, results of correlational analyses in which this variable was statistically controlled are summarized in Table 48. Prediction of TSI total scores by the three childhood predictor variables was not reduced by partialling out the effects of family of origin finances. However, the relation between CMQ total and life satisfaction was eliminated when family of origin income was partialled out. Similarly, the relations between parental care and general health symptoms and parental care and daily health concerns became nonsignificant when family of origin income was partialled out. The same was true for the relation between

Table 48

Correlations of Predictor and Criterion Variables, with the Effects of Family of Origin Finances Partialled Out

Measure	TSI total	Life Satisfaction	General Health Symptoms	Daily Health Concerns
Childhood Maltreatment total score	.27**	-.14	.23**	.14
Parental care	-.23**	-	-.14	-.09
Childhood emotional support	-.24**	.22*	-	-.18*

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom ranged from 115 to 124 for all correlations. The two correlations that are not shown were not significant at the bivariate level.

CMQ and daily health concerns. Thus, family of origin finances may provide an alternative explanation for four of the ten relations observed between childhood predictor variables and criterion variables.

In terms of student versus non-student status, the relation between more childhood maltreatment and less life satisfaction was eliminated when effects due to student status were partialled out, $r(125) = -.16$, *ns*. However, the relation between childhood emotional support and life satisfaction was maintained when effects due to student status were partialled out, $r(127) = .22$, $p < .05$. Student status might also be important to the relations between predictor variables and daily health concerns. Results of partial correlations show that the relation between daily health concerns and both CMQ, $r(125) = .22$, $p < .05$, and childhood emotional support, $r(127) = -.23$, $p < .01$, are maintained when effects due to student status are controlled. However, the relation between daily health concerns and parental care became nonsignificant when effects due to student status were partialled out, $r(126) = -.13$, *ns*.

In sum, the observed relations between CMQ and both life satisfaction and daily health concerns, as well as the relations between parental care and the two measures of physical health, might be confounded by the effects of family of origin income. However, most of the ten significant correlations between the predictor and criterion variables were unaffected by family of origin income. Student status also confounded two relations, between CMQ with life satisfaction and parental care with daily health concerns. Finally, parental care

was no longer related to daily health concerns when participants' age was taken into account.

POSITIVE LIFETIME CHANGES

Changes in attachment orientation, partnerships, friendships, coping, physical and psychological health problems reported by participants will be briefly described. Then the relations of these measures of change with potential predictors of life change such as demographic characteristics, childhood maltreatment history, and therapy history will be explored.

Descriptive Statistics and Construct Validity

In terms of attachment orientations, half of the participants (50.8%) once felt "completely different" or almost completely differently about their relationships with intimate partners (i.e., scored either 4 or 5 on the 5-point scale). One third (32.0%), however, have always felt "exactly this way" about their relationships with intimate partners (i.e., scored either 1 or 2). It is not possible to tell from this measure whether participants once felt more secure or more insecure about their relationships. Participants' perceptions that they would have answered the attachment measure differently at an earlier time in their lives were not related to their avoidance, $r(121) = .06$, *ns*, nor to their anxiety about relationships, $r(121) = -.07$, *ns*.

In terms of relationship changes, on average, participants' earlier relationships with partners were slightly more difficult than their current relationships ($M = 3.45$, $SD = 1.39$), and their earlier relationships with other friends were very similar to their present best friendships ($M = 3.06$, $SD = 1.33$).

A paired-sample *t*-test indicates that this difference is nonsignificant, $t(100) = 1.88$, *ns*. Participants' perceptions that they would once have answered the attachment measure differently were not related to changes in the quality of their partnerships, $r(99) = .16$, *ns*, nor to changes in the quality of their friendships, $r(114) = .09$, *ns*.

Participants who reported more positive changes in the quality of their intimate relationships reported more satisfaction ($r = .52$), more support ($r = .40$), more depth ($r = .41$), and less conflict ($r = -.34$) in their current intimate relationships than did participants who reported less change or negative change (all p 's < .001). The same pattern was observed for change in quality of friendships: participants who reported more positive change in their friendships reported more satisfaction ($r = .46$, $p < .001$), friendships that were more important to them ($r = .46$, $p < .001$), and less conflict with their friends ($r = -.20$, $p < .05$), than participants who reported less positive change.

In terms of lifetime changes in ways of coping with problems, most participants indicated that at one time in their lives their coping "was completely different" (27.6%) or they indicated one scale point below this scale end-point (27.6%). Relatively few participants (15.0%) indicated that their coping had always been exactly as they described it on the Coping Strategies Inventory (CSI). It is not possible to interpret the valence of changes in coping (i.e., whether change involved more or less adaptive ways of coping). However, participants who reported more change in their coping strategies used more emotion-focused engagement coping than did participants who reported less

change, $r(125) = .24, p < .001$. Change in coping did not relate to use of problem-focused engagement coping, nor to either measure of disengagement coping (r 's ranged from $-.04$ to $.08, ns$).

Most participants indicated that there had been some change in their lives in terms of their level of emotional distress: only 20.2% of people indicated that their level of distress had always been the same. The mean response ($M = 3.58, SD = 1.41$) indicated that, on average, participants' distress level was the same or a little less than it had always been. Over half of the participants (54.8%) indicated that they had once been more distressed, and 39.5% indicated that their formerly elevated level of distress was once "much higher." Conversely, 25.0% indicated that they had once been less psychologically distressed than they were at present, and 11.3% indicated that their distress was once "much lower." Participants who reported more positive change in their level of psychological distress reported lower TSI total scores, $r(117) = -.19, p < .05$, and more life satisfaction, $r(123) = .23, p < .05$, compared to participants who reported less positive change. Change in psychological distress was not related to either measure of physical health (r 's = $.06$ and $.00, ns$).

In terms of lifetime changes in physical health, the average score ($M = 3.43, SD = 1.25$) indicates that most participants rated their health as the same or a little worse than it had always been. Although 26.8% indicated that their health had always been as it was at the time of the survey, 23.6% indicated that it had once been "much better." Only 10.2% indicated that it had once been "much worse." More positive change in physical health was related to fewer

physical symptoms, $r(124) = -.33, p < .001$, lower daily health concerns, $r(126) = -.34, p < .001$, as well as lower psychological distress, $r(119) = -.26, p < .01$, and greater life satisfaction, $r(126) = .22, p < .05$. More positive change in physical health was also related to more positive change in level of psychological distress, $r(121) = -.20, p < .05$.

Predictors of Life Change

The life changes participants reported seem to be “domain specific” in that the measures of change are not well intercorrelated (M inter-item $r = .13$, range = $-.10$ to $.30$). Rather than a positivity bias or other general tendency to indicate a life full of change, perhaps individual differences in change scores can be explained by participants’ age. Older participants, presumably, have had more life experiences and more time in which to experience a great degree of change in various realms of their lives. They might thus be more likely to experience important changes in their types of relationships, coping, or levels of distress, compared to younger participants. However, age was not related to any of the level of change variables (r ’s ranged from $.03$ to $.17$, ns).

In contrast, participants’ gender did matter to their reported level of lifetime change. As shown in Table 49, men and women were equally likely to report change in their attachment orientations, and mean responses for both groups were near the mid-point. Similarly, men and women reported equivalent levels of change in their intimate partnerships. However, gender differences were observed in the other four change measures. Women were more likely than men to report that they were once in a more difficult friendship. They were

Table 49
Female and Male Participants' Reports of Life Changes

Domain of change	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i> -value
Attachment orientation				
Female	70	3.44	1.38	1.50
Male	52	3.06	1.38	
Partnership quality				
Female	59	3.59	1.49	1.18
Male	46	3.27	1.25	
Friendship quality				
Female	69	3.42	1.35	3.58***
Male	54	2.59	1.16	
Coping strategies				
Female	72	3.67	1.29	2.08*
Male	55	3.16	1.42	
Psychological distress				
Female	71	3.85	1.40	2.46*
Male	53	3.23	1.37	
Physical health				
Female	73	3.21	1.37	-2.49*
Male	54	3.73	1.00	

* $p < .05$. *** $p < .001$. Two-tailed.

also more likely than men to report that their characteristic ways of coping with stressors had changed. Women reported more positive change in their levels of psychological distress and physical health than did men.

Effects of therapy and childhood maltreatment. The findings of the *Exploratory Interviews* study suggest that some people with histories of childhood maltreatment overcome negative aftereffects of their maltreatment in the context of therapy. Several participants from the *Exploratory Interviews* study described overcoming negative aftereffects as an important change in their life. Thus, people who have experienced childhood maltreatment may note more changes in their lives than people who have not experienced childhood maltreatment, but therapeutic intervention might moderate this relation. That is, participants who experienced maltreatment and sought therapy to deal with it may report high levels of positive change, whereas participants who experienced maltreatment but did not engage in therapy may report little change. To test this possibility, interaction terms and hierarchical regression analyses were used to examine the importance of childhood maltreatment and therapy experience to participants' perceptions of their lives' changes. An interaction term was created by multiplying CMQ total score by therapy experience (dummy coded 1 = at least one therapy session and 2 = no therapy). Hierarchical regressions were then conducted, with each predictor and therapy experience entered on the first step and the interaction term entered on the second step.

As shown in Table 50, changes in attachment orientation, and quality of relationships with partners and friends were not predicted by childhood maltreatment experiences nor therapy experiences. Changes in coping, however, were related to therapy experience: participants who had been to therapy reported more coping change than those who had not participated in therapy. This, along with the earlier finding that coping changes relate to participants' use of emotion-focused engagement coping, suggests that participants' changes in coping were in a positive direction.

People who reported more childhood maltreatment were more likely than those who did not report childhood maltreatment to experience positive change in their level of psychological distress. Surprisingly, however, participation in therapy did not affect this relation. As well, changes in participants' physical health did not relate to their experiences of childhood maltreatment nor therapy.

Summary. There was no evidence of construct validity for the item intended to measure changes in attachment, and little for that intended to measure changes in coping. However, the relationship change items correlated as expected with other measures of the quality of friend and partnerships. This suggests that these measures might have construct validity. Similarly, the items that assessed changes in psychological and physical well-being correlated as expected with other measures of well-being.

Age was not related to the change items, but, on four of the six items, women reported more positive changes than did men. The importance of

Table 50

Results of Hierarchical Regression Analyses Examining the Role of Childhood Maltreatment and Therapy Experience in Prediction of Change Scores

Step 1 and Step 2 Predictors	β	t-value	R^2 Change	F-value
Attachment orientation				
1. CMQ Total	.057	0.56		
Therapy	.035	0.34	.003	$F(2, 118) = 0.16$
2. Interaction	.819	2.93*	.012	$F(1, 117) = 1.38$
Partnership Quality				
1. CMQ Total	.236	2.20*		
Therapy	.167	1.56	.050	$F(2, 101) = 2.67$
2. Interaction	-.196	-0.64	.004	$F(1, 100) = 0.04$
Friendship Quality				
1. CMQ Total	-.129	-1.27		
Therapy	-.207	-2.03*	.018	$F(2, 118) = 2.12$
2. Interaction	-.047	-0.16	.010	$F(1, 117) = 0.03$
Coping				
1. CMQ Total	.058	0.60		
Therapy	-.261	-2.72*	.085	$F(2, 122) = 5.64^{**}$
2. Interaction	.082	0.29	.001	$F(1, 121) = 0.09$
Psychological Distress				
1. CMQ Total	.194	1.99*		
Therapy	-.144	-1.47	.068	$F(2, 119) = 5.40^{**}$
2. Interaction	.215	0.76	.005	$F(1, 118) = 0.58$
Health				
1. CMQ Total	.126	1.27		
Therapy	.054	0.54	.013	$F(2, 122) = 0.80$
2. Interaction	-.044	-0.15	.000	$F(1, 121) = 0.02$

*p < .05. **p < .01.

personal, demographic characteristics to perceptions of personal change is unclear.

Qualitative Analyses

Analyses of participants' answers to two open-ended questions were conducted to provide more depth and enhanced understanding, beyond that provided by the quantitative findings. The first open-ended question asked participants to explain their answer to a five-point question about the extent to which they felt their childhoods affected their adult relationships. On average, participants felt that their childhoods affected their adult relationships between "moderately" and "extremely" ($M = 3.93$, $SD = 0.98$); about a third (32.6%) indicated "extremely." Very few participants (3.1%) indicated that their childhood did "not at all" affect their adult relationships. Most (82.3%) participants provided a written elaboration. These descriptions of the ways that participants' childhood experiences influenced their adult relationships ranged in length from a few words to several typed pages attached to the survey.

At the end of the survey package participants were asked to describe "anything else" that they thought might be relevant to the survey, whether or not the subject was specific to connections between childhood maltreatment and adult relationships, psychological well-being, or physical health. Because there was substantial overlap in the content of participants' answers to these two open-ended questions, answers to both were analysed together.

All comments were typed for ease of analysis. Then, comments made by each participant in response to both open-ended questions were reviewed.⁶⁶

Qualitative analyses proceeded in terms of thematic analysis, in which categorization schemes emerged from the data. Findings are reported with the intent to describe participants' comments as fully but succinctly as possible.

Many participants (30.8%) noted a link between their childhood relationships or their upbringing in general and their current lives but did not specify whether the present-day effects of their childhood experiences were negative or positive. For example, a 22-year-old woman with a history of psychological and physical abuse wrote: "although I feel as though my childhood has affected [her adult relationships], I am not sure how." Similarly, a 19-year-old man with no history of childhood maltreatment wrote: "How you are brought up directly relates to the relationships you have when you're older," and a 46-year-old man with no history of childhood maltreatment wrote: "How you interact with others is learned from how you see others interact. How you feel about yourself is based on how you think your parents value you (especially as a child)."

In contrast, four participants (3.1%) wrote comments to indicate that they felt their childhoods did not affect their adult relationships. An 18-year-old

66. Only 13.1% of participants did not comment in response to either open-ended question. Participants who identified themselves as people who had experienced childhood maltreatment were no more likely to decline to comment (16.4%) than those without any self-identified abuse histories (11.8%), $\chi^2(1) = .253$, *ns*. Similarly, women (11.0%) and men (17.9%) were equally unlikely to decline to comment, $\chi^2(1) = 1.256$, *ns*.

woman with no history of childhood maltreatment wrote: "My childhood does not affect my relationships because first of all, I have changed a whole lot. My nature – the way I interact has changed and I'm a lot more shy/reserved." A 24-year-old man with a history of psychological and physical abuse wrote: "If you where [sic] treated badly as a child doesn't mean you would grow up an [sic] do the same as others." A 32-year-old woman with no history of childhood maltreatment indicated that she felt that "what you are taught as a child and shown as a child carries over into adulthood" but also that the emotional, physical, and sexual abuse she suffered from her first spouse was more important to her current life than were her childhood experiences. She wrote: "My life has revolved more around abuse from my first spouse. ... This survey seemed to revolve more around ... childhood's problems." Similarly, a 20-year-old man with no history of childhood maltreatment wrote: "I think that many of my social inadequacies are the product of teenage stuff not childhood stuff."

A 41-year-old woman with no history of childhood maltreatment indicated that she was married at age 17 years and that "I consider those early years of marriage to have been formative as well, and completely changed my trusting, caring attitudes that I had previously developed as a child." Two other participants also saw their adult-life experiences as equal in importance to their childhood experiences. One, a 24-year-old man wrote: "Although my childhood and the neglect/abuse I grew up with has left me suffering with chronic depression, [an adult-life relational trauma] was the single most stressful event/situation I've experienced." He went on to describe the psychological and

physical health symptoms (e.g., loss of appetite, chest pains) he experienced following this trauma. In contrast, a 60-year-old man with no history of childhood maltreatment wrote: "I feel that the formative years of childhood seriously influence adulthood and the adult relationships. However they are not the total determinant. Some people with a poor childhood ... can easily overcome this poor beginning and have a fulfilling life and excellent adult relationships, and vice versa."

Many participants, however, wrote comments that indicated that their childhood experiences had negative effects on their adult relationships and on their adult psychological well-being. These comments will be described in terms of three overlapping themes: 1) experiences of childhood maltreatment led to adult psychological problems; 2) childhood maltreatment led to adult relationship problems; and 3) other negative childhood experiences (not necessarily maltreatment) led to adult relationship problems.

Twelve participants (9.2%) described psychological problems in their adult life (not clearly linked to relationship problems) that they felt were caused by their experiences of childhood maltreatment. These problems ranged from Dissociative Identity Disorder to low self-esteem to shame related to compulsive cross-dressing. For example, a 37-year-old woman with histories of psychological and physical abuse wrote: "I feel that as a result of my mother's abuse to me I have multiple personalities." A 54-year-old man with a history of childhood psychological and physical abuse wrote: "My quest for love affection and comprehension, encouragement I have lacked as a child ... cost me a

great deal, a price so high to pay, a search too long, by the time I find it my heart is full of scars. The sadness so very present in my life just won't let go of me." Similarly, a 26 year-old woman with histories of childhood sexual and psychological abuse wrote: "dysfunctional patterns I learned from childhood (self-destructiveness) seem to have perpetuated throughout adulthood; low self-esteem has continued."

This woman's words illustrated the complex synergy between self-concept and relationships: "there is a disparity between what is good for me [a relationship she was leaving] and what I can accept or welcome as a positive influence. I can only accept myself and be vulnerable to a point, after which I lie, escape, or shut down completely, which prevents not only a healthy relationship, but healthy self-concept as well."

Participants were more likely to describe difficulties in their adult relationships due to childhood maltreatment than they were to describe non-relational problems. Seventeen participants (13.1%) described relationship difficulties in their adult lives that they saw as caused by childhood maltreatment. Problems described were reminiscent of those described by the *Exploratory Interviews* participants and included problems with emotional closeness, trust, and intimacy, problems with showing affection, and fear of being hurt by an intimate partner.

In terms of problems with emotional closeness, these problems were not always linked explicitly to experiences of childhood maltreatment. A 35 year-old woman with a history of psychological maltreatment wrote simply: "Trusting

someone with personal/intimate feelings is difficult.” But some participants did make an explicit link between childhood maltreatment and their problems with closeness. A 58 year-old man with a history of childhood physical neglect, and psychological and sexual abuse wrote:

Being used (both sexually and emotionally) by an adult caused me to shut down my emotions when relating to people I like. I use humour to deflect people who wish to become involved with me. I also put up a wall against showing my emotions. ... I am unable to show or demonstrate my feelings (good or bad) to people with whom I would like to be close to. People who know me say that there is an emptiness in me.

Very like Joe in the *Exploratory Interviews* study, this man continued “As for my sexual side, I am very good in the mechanical part, however I would give myself a failing grade to the closeness and emotional side. (I believe this came about by the childhood abuse when I would disassociate myself emotionally from the act.)”

Four other participants also described problems with physical closeness. For example, a 59 year-old man wrote: “Childhood physical pain and sexual abuse in institutions greatly affected me as an adult. ... I was definitely affected sexually later in life, and absolutely affected insofar as my relations with women were concerned.” Similarly, a 35 year-old woman with a history of childhood psychological maltreatment and physical neglect wrote: “I prefer to be alone. I don’t trust people and I don’t like to have physical contact with anybody.”

Three participants explicitly noted their fears of being hurt by an intimate partner. For example, a 43 year-old woman with a history of childhood psychological, physical, and sexual abuse, and physical neglect, wrote: "I now have trouble with intimate relationships because of lack of trust. I fear ... being hurt by almost all people." Similarly, a 54 year-old woman with a history of childhood physical, sexual, psychological abuse, and neglect expressed "concern that I could have difficulty standing up for myself if I were to become involved with a man. (I still tend to fear being killed if I even show the wrong facial expression.)" This woman went on to write that "an intimate relationship is not high on my agenda right now simply because I have the priorities in my life that take my energy and enthusiasm and quite frankly men are a lot of work!"⁶⁷

Participants' fears of being hurt by an intimate partner were understandable. Eight (6.1%) described victimization by a past or current partner. For example, a 54 year-old man with a history of childhood psychological maltreatment and physical abuse wrote: "Certainly in connection with the way I was treated by my mother as a child: the way I have let my two earlier spouses treat me. I sure ain't the perfect man, but today I know, I should never have let a woman hit me, or treat me like a nobody." A 35 year-old

67. Another participant also indicated that she was single by choice because relationships were work. Another woman indicated that she had similarly chosen to be alone for some years during an earlier time in her life. A 40 year-old man who extensively described the abuse he had suffered and inflicted on others also indicated that he was presently choosing to be alone. He wrote: "I have chosen to be completely alone until I am healthy enough to engage in a relationship where I am not driven by old coping methods. Oddly, as uncomfortable as this lifestyle is, it is both wise and a catalyst for emotional growth. I may end up alone until I die, but, if I'm healthy, I won't mind."

woman with a history of childhood psychological maltreatment and physical neglect wrote: "At 17 I met my future husband. I got pregnant and my parents made me marry this guy, since the first year of living together he started to abuse of me [*sic*], but I confuse it with love and let it go."

In addition to the negative effects of childhood maltreatment on adult relationships, some participants (11.5%) noted that other (i.e., non-maltreatment) childhood experiences also had negative effects on their adult relationships. These experiences might be relational (e.g., parents' divorce) or nonrelational (e.g., childhood illness). For example, a 19 year-old woman who reported psychological maltreatment wrote: "My parents don't get along too well. We never really discussed things openly. So I grew the habit of internalizing my emotions. Now, I am shy and reserved, and I have problems showing affections (even though I feel affectionate inside)." A 23 year-old man with a history of childhood sexual abuse indicated that his "childhood health problems" that involved organ damage "affect all interactions." A 39 year-old woman with a history of psychological maltreatment similarly wondered whether her childhood cancer (that left her unable to bear children) "has not played some role in my misgivings about men and love and the chance for a successful love relationships and lifelong partnership with someone." A 20 year-old woman with no history of childhood maltreatment wrote: "Because I'm an only child, my social life as a child was lacking and as a result I'm very insecure and have very little self confidence."

Most notably, a 27 year-old man with no history of childhood maltreatment wrote a 1600 word essay about the ways his childhood and adolescent experiences have contributed to his adult life relational and psychological problems. In a summarized form, this is what he wrote:

I am inclined to think that my childhood experiences have had a great effect on my adult relationships. ... I have never suffered any kind of significant physical or other abuse by my caregivers or family, nor have they withheld any needed care. Although poor, my parents provided for me the best that could be reasonably expected and little of necessity was lacking. In all, I would have to reiterate that I am highly satisfied with my childhood care. I am currently in good physical health and always have been, and think I have a moderately positive self-attitude. With all these positive factors, it is then difficult to ascertain the causes of my current long-term clinical depression. I think many of the causes of these difficulties lie not with my family but with social environment and experiences: care of a different sort, a care given by society.

Childhood causes of this lack of meeting of social needs may have something to do with social attitudes presented to me as a child and adolescent, and my conclusions drawn from them. For instance, a major theme of discussion in society and in current events during my early adolescence was gender issues and equality. Early on, this made me examine my role in society as a male and critically observe the actions of others in intergender relations. ... Simplistic generalizations of the motives of men and women made me feel sensitive about my own romantic (love) attraction to the opposite sex, sexual feelings, and motives. ... Attempts at initiating romantic contact in my observation and experience were often found humorous (ridiculed) or considered as annoying or unwanted by the females subjugated to them (again a theme of discussion in the news and school curriculum). Naturally I believed in

the simplistic generalization of male-female relations that is still prevalent to this day – it was even taught in first year psychology classes this year here [at Carleton University] – that males are interested predominantly in one thing: physicality (including sex); and women are interested in higher things such as love, compassion, etc. ... Having a sense of social justice ... I understandably refrained from expressing much romantic and/or sexual interest in women assuming that:

1. Women are not really interested in sexual activity; it was only something they participated in to appease the men in their relationships

...

2. Women were naturally defensive when it came to advances. ... The mere misconstruction of any advances (platonic, romantic, any type) I may make as sexual ... would be embarrassing, even more so than the risks of rejection that such advances would have normally.

These ideas came not only from literature I read on gender issues, but also social interaction. My mother was a member of a local Womyn's Centre, and I accompanied her to many Centre activities when young. I remember one instance at the age of around eleven, to again [*sic*] feel embarrassed about my own gender ... while accompanying my mother on one of these activities. It was the last time I did accompany her there. I genuinely felt as if I was no longer welcome having passed from the domain of 'child' to 'adolescent male.' To a great extent, I am still ashamed to be a male.

... Something that happened in high school deeply affected the way I thought about relationships. [Description of a court case arising from sexual contact between a 16 year-old woman and an 18 year-old man at a party that this participant attended. This participant is certain that the sexual activity was initiated by the woman and entirely consensual. Participant concludes that sexual contact is risky.]

Yet the impetus and encouragement to find a companion in life – besides the obvious biological impetus and emotional needs – is everywhere. What is expected of you in life? Get married, raise a family. Turn on the radio and what are the songs about? Love and relationships. Books? Movies? Romance scripts. Advertisements? Desireability and sexuality is used everywhere to sell products. Favourite topic of gossip and conversation with friends? Sexuality and relationships. ... The combination of great social need for a companion and pressure from all sides in society to attain one, conflicting with the inability (from shame of desires and of being a male, fear of repercussions) in attracting one caused great emotional problems.

This is only one issue, although an important one, in my resultant social isolation which is the cause of my clinical depression. I believe that significant interaction between the sexes – including romance – during adolescence is important for the development of personality and self-confidence. The complete lack of such interaction in my life I feel is not only a missed opportunity but has been detrimental to my emotional and psychological health and development. This, coupled with other issues I can only mention here have contributed to a social isolation and chronic depression that threatens my education, career, and future.

This participant concludes with a short description of his geographical isolation from his aged, small family and his lack of close friends in his city of residence. “The long-term lack of a social safety net from friends, family, or romantic partners that is necessary for a healthy emotional lifestyle has understandably resulted in great academic and other difficulties.” It is clear that, although childhood maltreatment was described by many participants as an

important negative influence on their adult relationships, other factors can also be important.

Along these lines, five participants (3.8%) described negative relational effects of their fathers' absence during their childhoods. For example, a 54 year-old man with a history of psychological and physical childhood abuse wrote:

My father was a lumberjack away in camps most of the time. ... Myself, and my brothers would see him as a god. We were longing for him so much that we never saw any bad sides to him. ... It wasn't 'is fault he had to earn our living. Today I see some of our neighbours [who were] poor compare to us because their dad wouldn't work and stay home all the time. They look better off today than me. My dad being so absent definitely had a great influence on my adult relationships.

Similarly, a 42 year-old woman with a history of psychological maltreatment and neglect wrote: "Having grown up without a 'father figure' I feel it has undoubtedly affected my relationships with both female and male counterparts. Some women feel empowered and act positively without a father and others feel a negative response to 'father loss.'" A 19 year-old woman with a history of childhood psychological and physical abuse described an abusive relationship she had had when she was 16 years old with a 22 year-old man. She wrote: "I guess I was looking for a father figure because unfortunately my Dad was away working overseas for about 10 years on and off during my life."

Some participants (13.8%) described positive changes in their lives. A 54 year-old woman with a history of childhood physical, sexual, psychological abuse, and neglect wrote: "I like your time frames because people do change and evolve. ... If I had answered this even two years ago my answers would have been much more negative." Similarly, a 46 year-old woman with a history of childhood physical, sexual, psychological abuse, and neglect wrote: "I feel very good in my skin these days and am happier in general than ever before in my life." A 50 year-old woman with a history of childhood neglect and psychological maltreatment wrote: "I believe it is important for us to share our experiences for the purpose of making everyone aware that however traumatic your childhood – you can overcome all – to use a cliché – to not only survive but to thrive."

Several participants, however, were careful to note that they continued to have difficulties. A 43 year-old woman with a history of childhood psychological, physical and sexual abuse, and physical neglect, wrote: "August 27th, 1999 was the day I asked mother not to phone me anymore. We don't have any contact. It's the best thing that's happened to me. I'm happier than I've ever been but not yet free of upsets." Similarly, a 40 year-old woman with a history of childhood psychological maltreatment, neglect, and sexual abuse wrote: "Following a post-partum depression and several years of therapy I finally am starting to know and like who I am but unfortunately the adults in your life have a hard time relating to you and keep wanting you to be or get back to the way it was. My husband still believes I need to go get fixed (his words)!" These comments also

indicate the ways that adult-life relationships (e.g., with a parent or a partner) might be harmful.

In contrast, three (2.3%) of the participants noted that there had been important negative changes in their lives. For example, a 19 year-old woman with no history of childhood maltreatment wrote: "I moved from Montreal a year ago and I don't have a lot of friends. Therefore I'm not like I was a couple of years ago." More poignantly, a 47 year-old man with a history of neglect, psychological maltreatment, and physical and sexual abuse wrote: "During the 70s I made what would be equivalent in today's dollars to about \$240,000 annually. Now I earn less than 20K and can't seem to get out of the rut. ... At one time I felt like I owned the world but now sometimes feel like I'm wasting oxygen."

These few comments suggest that examining the role of childhood maltreatment on adult well-being should not obscure the importance of other factors. In addition, these comments serve as a reminder that examining positive changes in people's lives does not imply that all adult survivors of childhood maltreatment can quickly or completely "get over it."

In sum, although most participants made some comments about connections between their childhood experiences and their adult relationships, almost a third made very general comments that were difficult to interpret. Many participants did, however, clearly describe links between their childhood experiences of maltreatment (as well as other types of childhood experiences) and their problems in adult relationships. Although some participants described

severe ongoing problems with anxiety, depression, and other problems, others described positive changes in their lives.

General Discussion

Previous research has documented the long-term effects of childhood maltreatment on adults' psychological distress and physical health problems (e.g., Felitti et al., 1998; Lipman et al., 2001; Salmon & Calderbank, 1996). Some recent research has explored the effects of childhood maltreatment in the context of adults' important relationships (e.g., Whiffen et al., 1999), in the context of adults' attachment orientation (e.g., Alexander et al., 1997), and as affected by the use of particular coping strategies (e.g., Runtz & Schallow, 1997). Consistent with previous research, the present findings suggest that experiences of childhood maltreatment relate to psychological distress, and that this relation is mediated by participants' attachment and their use of disengagement coping strategies. As well, this research is consistent with research findings that childhood maltreatment is related to adults' physical health problems, and it also suggests that adult attachment orientation and use of disengagement coping strategies mediate this relation.

Findings will be discussed in the context of the relevant research and theoretical literatures. General findings will be discussed first, and then findings specific to each of the four mediating variables and the relations between them will be explored. Some qualifications that might need to be made to these findings will then be discussed. Limitations and strengths of this research and implications for future research will be explored.

The *Exploratory Interviews* study and the *Mediators and Moderators* study shed light on experiences of childhood maltreatment and people's

perceptions of their own experiences. Consistent with Berger et al.'s (1988) findings, participants in these studies struggled with personal definitions of childhood maltreatment. Some participants in the *Exploratory Interviews* study reported (on the Childhood Maltreatment Questionnaire) experiences entirely consistent with physical and psychological abuse, but did not self-define as people who had experienced those forms of abuse. Similarly, in the *Mediators and Moderators* study, correlations between the self-identification measures and the corresponding CMQ subscales were less than perfect, which indicates that similar inconsistencies in categorization occurred in the larger sample. Nonetheless, most participants' self-descriptions, in both studies, were consistent with the experiences they indicated using the CMQ.

Overlap in occurrence of various types of childhood maltreatment is a related issue. Two underlying assumptions of research that is aimed at uncovering specific effects of various types of maltreatment are that different types routinely occur in isolation, and that effects of various types of maltreatment can and should be disentangled. However, Mullen (1993) argued that the "unholy trinity" of childhood emotional neglect and physical and sexual abuse tend to co-occur, and Ney et al. (1994) found that few of the participants in their longitudinal study had experienced only one type of childhood maltreatment. Conversely, Moeller et al. (1993) found that 19% of their sample of female patients had experienced two types of childhood maltreatment, and 5% had experienced three types. Similarly, in Johnson et al.'s (1999)

population-representative sample, 9% reported one type of childhood maltreatment and 3% reported two or three types.

In the present sample, CMQ-assessed psychological maltreatment and physical neglect were strongly related ($r = .66$), but sexual abuse and physical abuse were less strongly related ($r = .32$). Degree of interrelation might depend on the type of maltreatment considered; perhaps emotional neglect is a precondition for any other types of maltreatment (and thus co-occurs with all other types) whereas physical and sexual abuse co-occur somewhat less often. It may also depend on the characteristics of the sample. Ney et al.'s (1994) finding of very high overlap in types of maltreatment experiences was based on a sample of young adults who had received some sort of social services intervention or sanction (i.e., criminal penalty). As indicated by the solution to a principal component analysis of participants' scores on the 30 CMQ items, at least four distinct (but overlapping) types of childhood maltreatment were evident in this sample.

In terms of the second assumption, that the effects of different forms of childhood maltreatment can be and should be disentangled, this assumption may also be problematic. Does the specific form of abuse matter very much in the long-term? Or does it matter more that a child was neglected, or hurt, exploited, or shamed in verbal, physical, or sexual ways, and that powerful others in the child's life failed to protect her or him from harm? Because most childhood maltreatment occurs in the context of ongoing relationships, the most

important effects of that maltreatment may be relational.⁶⁸ That is, perceptions of others as unhelpful at best and dangerous at worst might be developed in the context of childhood maltreatment and be maintained throughout life.

This idea is supported by the finding that all types of childhood maltreatment assessed by the Childhood Maltreatment Questionnaire (especially psychological maltreatment) were related to more avoidance within relationships. Children experiencing maltreatment may learn early in life that others are likely to hurt them, and thus are best avoided. Similarly, level of emotional support in childhood (but not level of childhood maltreatment)⁶⁹ was related to participants' anxiety about relationships. Children who found that they were not supported when they needed help may have learned that others cannot be counted on. This uncertainty about the availability of needed support may lead to adult-life anxiety about relationships.

The effects of any type of childhood maltreatment on adults' ability to form close, intimate relationships, might be an important, understudied question. Three of the four mediating variables examined here were relationship focused.

68. Sexual abuse differs from other forms of childhood maltreatment in that it occurs and is harmful within both relational contexts (i.e., perpetrator is in a continuing relationship with the child) and nonrelational contexts (i.e., one-off assaults are perpetrated by strangers).

69. The exception was psychological maltreatment, which included aspects of emotional neglect, as well as psychological abuse.

Mediators and Moderators of the Effects of Childhood Relationships on Adult Well-Being

Attachment. The mediating role of attachment in prediction of psychological distress could not be assessed using structural equation modeling. However, regression analyses suggest that attachment mediates the relation between childhood relationships and adult life satisfaction. In addition, findings suggest that anxiety about relationships might mediate a direct effect of childhood emotional support on adult trauma symptoms.

However, some aspects of the attachment construct may merit further critical consideration. If the Experiences in Close Relationships measure assesses generalized attachment orientation, it is not clear why structural equation modeling indicated that attachment predicted partnership quality but not friendship quality. The measure may in fact assess feelings specifically about romantic partners, and thus fail to capture important information about people's orientation to other types of significant relationships.

Potential overlap between the attachment construct and measures of well-being is another consideration. Roche et al. (1999) acknowledged that, although attachment measures are presumed to assess a construct that causes psychological distress, it might be possible that measures of attachment capture the same underlying construct assessed by measures of psychological distress. Consistent with this, shared variance between the latent attachment variable and the latent psychological distress variable is a likely cause of the

problems with producing an admissible solution using structural equation modeling.

Similarly, in a theoretical paper, Cummings and Cicchetti (1990) considered the possibility that attachment orientation is equivalent to psychological distress. Cummings and Cicchetti (1990) reviewed evidence that the internal working models of people with Insecure attachments involve cognitions that are similar to the cognitions of depressed people (e.g., expectations that others may treat them badly). Depressed people have negative world views, negative self-concepts, and negative appraisals of the future, all of which are similar to components of Insecure working models. Also, depressed people remember their parents as rejecting, punitive, and likely to withdraw affection, which is consistent with the childhood memories of people with Insecure attachment orientations (Cummings & Cicchetti, 1990). However, Cummings and Cicchetti (1990) did not equate Insecure attachment and depression, and, based on their review of the evidence, they rejected the possibility that Insecure attachment could be a direct cause of depression. Instead, they delineated a transactional model in which Insecure attachment is a risk factor but not a sufficient cause for a later depressive episode. They wrote: "attachments are best conceived as important contributors to risk or protection from depression across the life span" (Cummings & Cicchetti, 1990, p. 360).

This conceptualization of Insecure attachment as a risk factor suggests that attachment might moderate the effects of life stress on depression. In the

context of child maltreatment research, more recent work indicates that attachment may instead be a mediator of the relation between early life stress and adult psychological distress (Alexander et al., 1997; Roche et al., 1999). That is, adult attachment is predicted by childhood maltreatment and, in turn, predicts psychological distress. Research to date has been somewhat limited in that it has examined the mediating role of attachment only in terms of the psychological distress of women with histories of childhood sexual abuse.

Attachment has apparently not been previously studied as a mediator of the relation between childhood maltreatment and adult physical health. Evidence that it plays a mediating role in this relation, too, was found in the *Mediators and Moderators* study. Tests of the moderating role of gender indicated gender differences in the effects of the avoidance dimension of attachment on general health symptoms. However, there were more gender similarities than differences, in that the effects of anxiety on physical health were the same for men and women. As well, gender did not moderate the relation between avoidance and daily health concerns.

Partnership quality. Earlier noted problems with establishing a good fit of the structural equation models to the data hamper evaluation of the mediating role of partnership quality. However, in the models shown in Figures 6 and 11, negative childhood relationships influence partnership quality. In turn, the regression weights indicate that the relations between partnership quality and both psychological distress and physical health problems are in the expected direction. Further, although the relations between partnership quality

and adult physical health problems is not significant in Figure 11, inclusion of partnership quality in the model renders nonsignificant the direct relation between childhood relationships and physical health problems. Thus, it seems that, if a better fit to this model was obtained in a larger sample, partnership quality might be seen to mediate the relations between childhood maltreatment and physical well-being. The continuing strength of the relation between childhood relationships and psychological distress, even when partnership quality was included in the model, makes it unclear whether partnership quality may mediate prediction of psychological distress.

However, such a mediating role would be consistent with previous research. Krantz and Oestergren (2000) observed that social support had a positive effect on the medical symptoms of women who had histories of childhood physical abuse. In addition, a study of arthritis patients' pain indicated that negative spouse behaviour predicted worse pain (Waltz, Kriegel, & van't-Pad-Bosch, 1998).

Because people may have positive, supportive relationships with people who are friends rather than partners, it may be that it is not quality of partnerships *per se* that is important. Rather, it may be that existence of positive relationships with someone (or some people) in a person's social network mediates the relation between childhood maltreatment and adult well-being.

Friendship quality. In contrast to the findings with partnership quality, models involving friendship quality (as assessed by a single measure), fit the data well. More negative childhood relationships were associated with lower

satisfaction with best friendships. Contrary to expectations, friendship satisfaction was not related to either psychological distress or physical health problems in these two models. This finding is difficult to interpret, because correlation analyses indicated that satisfaction with best friendship was related to all four criterion variables.

Coping. Testing of the models shown in Figures 8 and 13 indicated that disengagement coping mediates the effects of childhood maltreatment on adult well-being. However, the poor fit of these models to the present data set make conclusions tentative. In addition, the ability of the disengagement coping construct to explain more than half of the variance in the psychological distress construct suggests that there may be overlap in the underlying constructs. That is, to some extent, measures of disengagement coping used in this study may be directly assessing participants' psychological distress.

This issue of the fuzzy distinction between negative coping (or "maladaptive," or "disengagement" coping) and psychological distress has been explored in the literature. Costa et al. (1996) suggested that coping researchers have tried to distinguish what they study from both normal functioning and psychopathology. In contrast, stress and coping might be better understood as only "a portion of the adaptive spectrum" that has "seamless" links to both "routine adaptive processes and to psychopathological reactions" (p. 55). Costa et al. argued that ineffective coping ought not to be distinguished from psychological maladjustment. "Coping" means efforts to manage stressors, according to the classic definition by Lazarus and Folkman (1984). But to see

“coping” as something distinct from ordinary life, that occurs when a stressor causes emotional upset, is to pretend that negative (and positive) emotions are a special subset of human experience, rather than an integral part of people’s day-to-day lives (Costa et al.).

Therefore, the present findings may mean that the ways people deal with day-to-day problems in their lives is predicted by childhood maltreatment and in turn predicts adult well-being. But, it may also be the case that problematic ways of dealing with problems are the same as psychological distress. Although disengagement coping may act as an important mediator, theoretical development of the concept of coping and its distinction, if any, from psychological distress seems necessary.

Relations among the mediators. Structural equation modeling factor analyses indicated that friendship and partnership quality were distinct constructs. This finding was supported by indications that attachment orientation predicted 72% of the variance in partnership quality, but no significant proportion of the variance in friendship satisfaction. This may indicate that partnership quality and friendship quality have different effects on adult well-being. However, given the difficulties noted above, such possibilities cannot be fully assessed here.

Like questions about the distinction between disengagement coping and psychological distress, the relation between avoidant attachment and disengagement coping might usefully be further explicated. A solution could not be generated for a model in which attachment predicted disengagement coping.

The problem seemed to have been with multicollinearity. That is, the latent construct Attachment was estimated to be entirely correlated with the latent construct Disengagement coping. At the level of the simple correlations, both more avoidance and more anxiety are related to problem and emotion-focused disengagement coping. However, although these correlations are significant, they are far from perfect. Testing of a similar model with a larger sample size may result in an admissible solution and thus shed further light on the relations among disengagement coping and attachment.

Gender as a moderator of the observed relations. Findings indicate that many of the observed relations among the conceptual variables hold for both men and women. However gender moderates seven (16%) of the relations among conceptual variables observed in this sample. Differing sex roles for men and women may explain differences noted in the effects of disengagement coping and avoidant attachment on physical health symptoms. Male sex roles may facilitate behavioural expression of cognitions associated with both disengagement coping and avoidance. That is, avoidant men who want to withdraw from a stressful interpersonal situation, and men with tendencies to use disengagement coping who want to push away emotions associated with a stressful experience may find it easier than women who feel similarly to act in accordance with their desires. It may be the actions, rather than the desires (represented by the measured variables), that predicted physical health in this sample.

In addition to these interactions, gender interacted with childhood maltreatment, parental care, and childhood emotional support. Experience of childhood maltreatment predicted Trauma Symptom Inventory total scores for men but not for women. This is contrary to a large body of research that documents that women's experiences of childhood maltreatment are related to later scores on the TSI and other measures of psychological distress (e.g., Briere, 1995). The clear discordance of this finding with earlier research makes it hard to interpret other gender differences. Rather than speculating about how the present findings may generalize to other samples, it seems more prudent to describe the exact nature of the interaction and then explore how the present sample was special.⁷⁰

Findings indicate that men and women did not differ either in the mean level of childhood maltreatment they experienced, or in their mean level of total TSI scores. In order to explain the lack of relation between childhood maltreatment and TSI scores for women, the maltreated women in the sample must have been high functioning, as a group, despite having experienced childhood maltreatment equivalent to that experienced by the male participants. Similarly, the maltreated men as a group must have been experiencing more distress, compared to the women who were maltreated. In addition, men who did not have histories of childhood maltreatment must have reported low symptoms on the TSI.

70. Complete invalidity of the measures of childhood maltreatment is not a reasonable explanation, given the other logical and significant correlations observed.

It might be that women with abuse histories in this sample had recovered or healed from the aftereffects of abuse whereas men with abuse histories had not. There are several reasons to believe that this may be true. Women and men had spent an equal number of years in therapy, on average ($M = 2.10$ years and $M = 1.56$ years, respectively), $F(1, 124) = 0.37, ns$. However, for those who had been in therapy, therapy was more helpful to the women ($M = 3.40$) than the men ($M = 2.48$), $t(49) = 2.85, p < .01$.

There is also other evidence that the opportunity to participate in this research may have attracted women who had processed their abusive experiences and men who had not. Numerous male participants (and men who called to inquire about the study in response to an advertisement but declined to participate) asked for referrals to counselors specializing in men's childhood maltreatment issues. No women asked for such a referral. Few resources are available in the Ottawa area for men seeking help with issues related to childhood maltreatment. Resources for women are also scarce, but some are available through sexual assault crisis centres.

The idea that men, more than women, might see an advertisement requesting participants for a study of childhood maltreatment experiences as an opportunity to address emotional difficulties is supported by comments made by "Mike" in the *Exploratory Interviews* study. Mike indicated that he feared he would repeat old patterns in a new intimate relationship, and that he felt it was time to address effects of his childhood maltreatment on his adult relationships. He felt that participating in the research would help him explore these issues.

These ideas are speculation only, because participants' reasons for choosing to participate in this research are unknown. Future research in this area might usefully query participants' reasons for participating.

Lifetime Change

The "change" items were designed for the *Mediators and Moderators* study based on findings from the *Exploratory Interviews* study. Although participants' response to these items varied, it is not clear to what this variability is attributable.

Evidence indicates that growing up in the context of childhood maltreatment is life-shaping (e.g., Alexander et al., 1997). Focus on distress and dysfunction in adult survivors of childhood maltreatment without an accompanying examination of positive life changes might give the erroneous impression that childhood maltreatment is fully determinative of life-long difficulties. That is, given that maltreated participants in the *Exploratory Interviews* study were able to describe positive changes in their lives, other research participants may be able to describe similar changes. This may have important consequence at the immediate level of participants' emotional reactions to maltreatment research (i.e., seeing themselves as damaged, rather than seeing how far they have come). Asking maltreated research participants about positive changes in their lives may also have more general implications for clinical practice. That is, if survivor participants can identify the most important change agents in their lives, this information might be helpful to others who have histories of childhood maltreatment.

The exact means by which this change could be assessed, however, is not evident. Longitudinal research would be ideal, but high costs make it impractical for most researchers. Explorations of positive change following childhood maltreatment or adult-experienced trauma might be feasible in the context of therapy (e.g., Sherman, 1998). However, such studies would necessarily be limited to therapy clients. Further attempts to assess change through survey assessment of participants' retrospective reports might be fruitful.

Strengths and Limitations of the Present Research

Limitations of the present research. Both the qualitative and quantitative aspects of the present research are constrained by some limitations.

In terms of the qualitative analyses of the *Exploratory Interviews* study, Seale (1999) delineates clear criteria for the evaluation of qualitative research. In terms of evaluating the methods used herein, one limitation is the lack of full transcripts for all participants in the *Exploratory Interviews* study. In terms of the analyses of the qualitative interview data, reliability of the findings was not tested through independent repetition, nor by "feeding" the findings back to the participants.⁷¹

In terms of the quantitative analyses, the most obvious limitation is the possibility that the sample is not comparable to the general population. Use of a convenience sample of students and community volunteers is not necessarily a

71. Most participants in the *Exploratory Interviews* study requested a report of the findings. This report is presently being prepared for distribution.

drawback: Berger et al. (1988) have argued that it is appropriate to use student samples to study childhood maltreatment, because the people in these privileged samples report both severe and milder forms of childhood maltreatment. Similarly, Roche et al. (1999) noted that their use of data from a university sample was not only appropriate but implied that their findings would be stronger in a less high-functioning sample. In addition, in terms of the value of data from a convenience sample of volunteers, Mandel, Weiner, Kaplan, Pelcovitz, and Labruna (2000) compared the characteristics of two groups of families in which childhood physical abuse had taken place. One group had volunteered to participate in research, whereas the other had declined the opportunity. Extensive data about family characteristics was nonetheless available about families in both groups. In terms of a range of variables, including the child's age at which abuse began, the abused child's gender, the identity and number of abuse perpetrators, and the frequency of the abuse, the volunteer families did not differ from the nonvolunteer families.

Despite successes of earlier studies that used student and community samples, it seems clear that the nature of this particular sample is a limitation, mostly due to the apparent gender differences. In addition, the low sample size, relative to the number of variables assessed is a limitation. To use structural equation modeling to test the entire mediated model that was proposed here would probably have required a sample size at least three or four times larger than the one that was used.

Finally, reporting findings in terms of mean and total scores (i.e., for the CMQ subscales & the TSI subscales) was a limitation in that the full complexity of the relations among variables may not be evident. However, some consolidation of measures was necessary for statistical and practical purposes.

Strengths of the present research. There are numerous strengths of the present two studies. In terms of the methodology of the *Mediators and Moderators* study, several limitations of previous research, noted by Runtz (2001), are addressed. This study examined the roles of attachment style, supportive relationships, and coping strategies as mediators of the direct relation between childhood maltreatment and adult physical health. In addition, Runtz (2001) noted that assessment of forms of maltreatment other than childhood sexual abuse might be important, and additional forms of maltreatment were assessed in this study.

Inclusion of nearly equal proportions of male and female participants is a further strength of the present research. This allowed investigation of differences due to gender, as well as contributing to the scant knowledge about men's experiences of sexual and other forms of childhood maltreatment. Related to this sampling strength, much previous research has involved clinical populations, which may have fostered the perception that those who suffer childhood maltreatment are invariably and severely harmed by their experiences (Runtz & Schallow, 1997). Although the harmful effects of abuse and neglect should never be minimized, child maltreatment must, logically, be much more common than complete post-maltreatment devastation.

Use of data collected from both self-identified maltreatment survivors and a control group of people without maltreatment histories is another strength. The fact that a portion of the data were also collected from a student sample allowed exploration of the potentially important differences between community and student samples. As noted above, in contrast to students, nonstudents scored higher on measures of childhood maltreatment, lower on measures of childhood care and support, and higher on one measure of health problems.

The use of qualitative data is a strength of this research because previous qualitative studies of the effects of childhood maltreatment have involved women or, in one occasion, men, discussing their experiences of childhood sexual abuse (e.g., Lisak, 1994; Perrott et al., 1998).

Implications for Future Research

The effects of childhood maltreatment on specific adult relationships and on general orientations to relationships (i.e., attachment) merit further study. The ways that relationships might be both problematic and protective for people with histories of childhood maltreatment may have important implications for physical health and psychological well-being.

Rather than documentation of specific effects of specific types of childhood maltreatment, future research might usefully examine the “whole package” of what abuse and neglect mean for a child within a relational context.

In this regard, Becker-Lausen and Mallon-Kraft (1997, p. 51) suggested that “the term *intimacy* covers a range of experiences that are problematic for survivors of [childhood] abuse and neglect.” Their construct of intimacy is

defined along two dimensions: avoidance versus intrusiveness, and internalizing (i.e., depression, anxiety) versus externalizing (i.e., aggression). - This construct may bring together several issues important to understanding the life-long quality of life of adults with histories of childhood maltreatment. Attachment orientation, behaviour within specific relationships, and psychological symptoms of distress may relate to intimacy. Some recent research provides empirical support to the idea of a relation between childhood maltreatment and intimacy. Ducharme, Koverola, and Battle (1997) reported that, in a sample of 276 university students, those who had been physically abused during childhood scored lower on a measure of intimacy than those who had not been abused. In contrast, expected differences between the level of intimacy in men's and women's lives were not observed.

Relational aspects of childhood maltreatment may not be of primary importance to all survivors. To the contrary, childhood abuse aftereffects for some people may be best conceptualized using a posttraumatic stress disorder (PTSD) framework. Abuse might be traumatic, and this trauma may then lead to the problems in relationships observed in survivors of childhood maltreatment. Along these lines, Briere and Runtz (1993) suggest that it is important for clinicians to assess PTSD symptoms in clients with histories of childhood sexual abuse. In addition, Riggs, Byrne, Weathers, and Litz (1998) describe the effects on intimate relationship quality of PTSD in a sample of male Vietnam veterans. The apparently non-relational trauma of experiencing combat was associated with problems in relationships in general and problems with intimacy

in particular. Riggs et al. suggested that symptoms of emotional numbing (e.g., restricted affect) and hyperarousal (e.g., irritability) might be important causes of relationship difficulties. This might be quite different from the problems in intimate relationships related to lack of trust reported by the participants in the *Exploratory Interviews* study. The importance of the hyperarousal that is one symptom of PTSD for relationships was indicated by *Exploratory Interviews* participant "Christine." The regular physical abuse that Christine experienced as a girl had left her, she noted, hypersensitive to noise and pain. She said her senses were "always tingling" and noted that this was due to never knowing, as a child, when she would next be struck. This sensitivity had relational implications in that her partner or child could send her into a rage with a mild accidental bump or shout.

It is premature at best to recommend either a relational or PTSD perspective for future abuse-aftereffects research because it seems that they overlap. It may be, however, that the relational perspective is relevant to all or nearly all childhood maltreatment whereas PTSD perspectives are relevant to only a subset.

One recommendation for future research that is clear is that the childhood maltreatment experiences of both men and women may usefully be studied. Although fewer men than women volunteered for this study, no extraordinary efforts were required to recruit this sample of men. Lisak and Luster (1994) and others have also found that men can be recruited for research of this sort. Gender differences are salient in this research (e.g., in

terms of the effects of abuse on men and women in this sample, in terms of avoidant attachment). However, gender similarities were observed more often than differences.

Finally, future research might include multiple measures of childhood maltreatment as well as measures of positive childhood experiences. Alexander (1992) and others have suggested that childhood relationships that are concurrent with childhood maltreatment may be as important in the prediction of long-term effects of abuse and neglect as are the experiences of abuse and neglect in themselves. Although this may be true, the correlations between experiences of childhood maltreatment and both childhood emotional support and parental care observed in this study suggest that children who experience maltreatment do not have many positive relationships to counterbalance the maltreatment they are experiencing. However, the role of potentially protective childhood relationships merits additional study, especially considering that some research participants with childhood maltreatment histories have noted the childhood helpfulness of such relationships.

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Appendix A

Informed Consent and Debriefing Forms for Study One: *Exploratory Interviews*

Pilot Study Informed Consent Form

Childhood Experiences and Adult Relationships Survey and Interview

The purpose of this informed consent form is to ensure that you understand the purpose of this study and the nature of your involvement. This form will provide you with enough information that you can decide whether or not to participate in the study. If you would like some more information, please ask the researcher.

Research personnel. This survey is being conducted by Wendy Hovdestad, a Ph.D. student in psychology, Samara Foisy, a B.A. student in psychology, and Connie Kristiansen, an Associate Professor of Psychology, all at Carleton University. You can reach any of us by calling 520-2600 ext. 2679. See the Debriefing form for more information. If you have any complaints or comments about ethical aspects of this study, please contact Dr. Mary Gick, Chair of the Psychology Ethics Committee, at (613) 520-2600, ext. 2664, or Dr. Kim Matheson, Chair of Psychology, at (613) 520-2600, ext. 2648.

Purpose. The purpose of this study is to learn more about how people's childhood experiences might relate to their adult relationships and their well-being.

Task requirements. Please read the survey and answer the questions in the order they appear. There will be questions about: your experiences in childhood with your parents and other caregivers, how you relate to people in general, the nature of your relationship with your present or past partner, how you cope with things, some distressing feelings or experiences you may have had lately, and your physical health. A few questions will ask you about bad things that may have happened to you as a child (i.e., physical and sexual child abuse) or as an adult (e.g., experiencing serious accidents or injuries). If anything is not clear, please ask the researcher. After you have filled out the survey, the researcher will tape-record a short interview with you.

Duration and place. The session will take about 2 hours and will take place in Room A504 Loeb or another nearby private room.

Potential risk/discomfort. During the recorded interview, your interviewer will ask you more about the questions you answered in the survey. She will be recording and taking notes about what you say, but you can ask her to show you what she's writing, or to turn off the tape recorder. You can also ask her not to write down specific things if it makes you feel uncomfortable. All your answers on the survey and in the interview will be kept confidential.

Anonymity/confidentiality. The data gathered in this study are confidential and will only be used by researchers associated with this project. Your name will not be attached to the data you provide. The audio-tapes will be kept in a locked office, and they will be erased when the researcher is done with them.

Right to withdraw. It is important that you understand that you can skip any question that makes you feel uncomfortable or upset. Your participation in this study is completely voluntary. While you are filling out the survey and during the interview you are free to "take a break" at any time, or to stop participating, at any time, for any reason. Students should note that there is no academic penalty for withdrawal.

Signatures

I have read the attached form (above).

I understand the conditions of my participation in this research. My participation in this study is voluntary, and if for any reason, at any time, I wish to stop participating in this study I may do so without having to give an explanation and without any penalty whatsoever. I recognize that I can stop answering questions at any time, for any reason.

Furthermore, I am also aware that the data gathered in this study are confidential and anonymous with respect to my personal identity. My signature indicates that I agree to participate in this study.

Participant's Name (please print)

Date

Participant's Signature

Researcher's Signature

**Pilot Study Debriefing Form
Childhood Experiences and Adult Relationships Survey**

Thank you very much for completing this survey and interview! Without the generous participation of people like you it would not be possible to do our research.

Some psychology research tries to deceive or “trick” people who participate in the research. There were no tricks in this study. This debriefing form tells you why we asked the questions in the survey and interview. At the end, it gives names and telephone numbers of people you can contact to find out more information or to talk to if your participation in the study upset you.

The main purpose of this survey and interview was to test to make sure the questionnaires were understandable and complete. After this preliminary pilot study is finished, the survey package will be mailed to about 140 people to fill out. The purpose of the research is to find out how people’s childhood relationships are related to their adult relationships with an intimate partner, and how those adult relationships are related to coping with problems and well-being. We wanted to know if the good and bad treatment that children get is related to their approach to relationships as adults (i.e., do people maltreated as children expect that they’ll be maltreated as adults). We also wanted to know if certain kinds of relationships with an adult intimate partner and certain ways of coping with problems can help people have better physical health and fewer psychological problems. We think that factors such as having experienced traumas and having generally positive expectations about life may also be important, and so we included those sorts of questions, too.

Sometimes recalling difficult or scary times from childhood or adulthood can leave people feeling that they need someone to talk to. If you are feeling the need for support or counseling, please contact any of the following services. For immediate crisis intervention, you can contact these 24-hour hot-lines: Ottawa Distress Centre: 238-3311, Rape Crisis Centre: 562-2333, or the Sexual Assault Support Centre: 234-2266. If you continue to feel the need for counseling, and you do not already have a therapist, please contact Wendy Hovdestad at 520-

2600, ext. 2679 and arrangements will be made for you to meet with an experienced counselor who will be able to refer you to other resources, if needed.

If you wish to discuss this study, you are welcome to contact Wendy Hovdestad at 520-2600, ext. 2679, or Dr. Connie Kristiansen (Faculty Supervisor) at 520-2600, ext. 2674. If you have any complaints or comments about the way this study was conducted, please contact Dr. Mary Gick, Chair of the Psychology Ethics Committee, at 520-2600, ext. 2664, or Dr. Kim Matheson, Chair of the Department of Psychology, at 520-2600, ext. 2648.

Thank you once again for your participation!

We deeply appreciate your time and effort.

Appendix B

Survey Materials

for

Study One: *Exploratory Interviews*

and

Study Two: *Mediators and Moderators*

Background Information and General Questions

1. Are you male or female? _____
2. How old are you? _____ years old
3. What are your current living arrangements? (Please circle all that apply.)
 - a) living with an intimate partner (e.g., wife, boyfriend, same sex partner)
 - b) living with your child or children
 - c) living alone
 - d) living with one or more roommates
 - e) living with parent or parents
 - f) other living arrangement (please specify): _____
4. Counting Grade I as the first year, how many years of formal education do you have? (E.g., to the end of high school usually equals 12 or 13 years, high school plus two-years of university usually equals 14 or 15 years.)

I have _____ years of formal education.
5. What is your employment status? (Please circle all that apply.)

a) employed 30 or more hours per week	f) homemaker
b) employed less than 30 hours per week	g) full-time student
c) unemployed	h) part-time student
d) not working due to disability	i) self-employed
e) social assistance	j) other (specify) _____
6. What is your annual family income before taxes? (Please check one.)

___ under \$15,000	___ \$45,000 - \$54,999
___ \$15,000 - \$24,999	___ \$55,000 - \$64,999
___ \$25,000 - \$34,999	___ \$65,000 - \$74,999
___ \$35,000 - \$44,999	___ \$75,000 or more
7. Where did you hear about this survey?
 - a) newspaper advertisement
 - b) word of mouth
 - c) notice on an electronic newsgroup (i.e., the internet)
 - d) poster in a grocery store
 - e) poster in a community centre
 - f) Psychology Research Notice Board at Carleton University
 - g) other (please specify): _____

Background Information (cont'd)

8. How many children do you have? (Please write "0" if you have no children.)

_____ child or children

9. What is your ethnic background? _____

10. What is your sexual identity (i.e., gay, lesbian, heterosexual, etc.)?

11. When you were growing up how much money did your family have?

- a) not enough money for necessities (e.g., food, clothing, rent)
- b) just enough money to get by
- c) a comfortable amount of money
- d) plenty of money

12.a) If you have ever had any kind of psychological therapy, please indicate how many years of therapy you've had. If you have never been in therapy, please write "0."

How long were you in therapy? _____ years

12.b) If you have ever had any kind of psychological therapy, please indicate how helpful it was for you. (If you have been in therapy more than once, please consider all your therapy experiences and indicate, on average, how helpful they were. If you've never been in therapy, please skip this item and go on to the next one.) Please circle the most appropriate number.

1	2	3	4	5
Not at all helpful		Moderately helpful		Extremely helpful

12.c) Are you currently in therapy?

Yes / No

13. Considering your life as a whole (i.e., your relationships, health, job, etc.), how satisfied are you with your life right now? (Please circle a number.)

1	2	3	4	5	6	7
Completely dissatisfied			Average			Completely satisfied

14. To what extent do you feel your childhood affects your adult relationships?****

1	2	3	4	5
Not at all		Moderately		Extremely

Please explain. (Add another sheet of paper if you would like to write more.)

****Note: This question was added to the *Mediators and Moderators* survey.

Childhood Experiences With Parents and Caregivers (CMQ)

Instructions: Children and adolescents (teenagers) growing up can experience a wide range of behaviours on the part of their parents or other caregivers (e.g., step-parents, foster-parents). Please think back to your childhood (before you were 18 years old). Using the scale below please indicate how often at least one of your parents (or anyone else who played the role of parent) treated you in the ways described in the list below.

(Note that you can answer this questionnaire for parents, step-parents, foster-parents, other adults, or older siblings who regularly were in charge of you as a child or teenager.)

	1	2	3	4	5
	Never	Rarely	Sometimes	Often	Very often
	<u>Answers</u>				
1. Act emotionally "cold" toward you	1	2	3	4	5
2. Fail to praise you when you deserved it	1	2	3	4	5
3. Fail to listen to you or to comfort you when they knew you were sad or upset	1	2	3	4	5
4. Seem to be emotionally detached or unexpressive with you	1	2	3	4	5
5. Appear to be disinterested in you and your life	1	2	3	4	5
6. Ignore you	1	2	3	4	5
7. Fail to take you to the doctor or give you medicine when you were ill and medical attention seemed to have been needed	1	2	3	4	5
8. Leave you alone or unattended for periods of time when, looking back now, you believe it was unsafe or inappropriate for them to have done so	1	2	3	4	5
9. Fail to provide adequate food or clothing for you even though they had the means to do so	1	2	3	4	5
10. Fail to care for your injuries when you were physically hurt	1	2	3	4	5

Childhood Experiences With Parents and Caregivers (cont'd)

How often did anyone who looked after you treat you in these ways, before you were 18 years old?

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very often
	<u>Answers</u>				
11. Have many unpredictable moods, or frequently changing moods, that affected their ability to provide reliable care for you	1	2	3	4	5
12. Leave you with certain people (e.g., strangers, other children, casual acquaintances) for periods of time when, looking back now, you believe it was unsafe or inappropriate for them to have done so.	1	2	3	4	5
13. Speak to you in a way that frightened you	1	2	3	4	5
14. Act in a way that implied they did not like or value you	1	2	3	4	5
15. Totally disregard your input into decisions that affected you	1	2	3	4	5
16. Put you down or treat you in a degrading manner	1	2	3	4	5
17. Touch or handle you in a rough way that frightened you	1	2	3	4	5
18. Make you cater to their desires or whims with little concern for your own comfort or welfare	1	2	3	4	5
19. Spank you hard enough to cause bruising, swelling, or bleeding	1	2	3	4	5
20. Hit or punch you with a closed fist	1	2	3	4	5
21. Kick you with their foot, or strike you hard with a knee or elbow	1	2	3	4	5
22. Hit you with an object such as a belt, cord, kitchen utensil, board, or stick	1	2	3	4	5
23. Twist, yank, or bend your leg, arm, or finger in a painful manner	1	2	3	4	5

Childhood Experiences With Parents and Caregivers (cont'd)

How often did anyone who looked after you treat you in these ways, before you were 18 years old?

	1	2	3	4	5
	Never	Rarely	Sometimes	Often	Very often
	<u>Answers</u>				
24. Push, throw, or knock you down, or into an object such as a wall or a piece of furniture	1	2	3	4	5
25. Make you show them a sexual part of your body (i.e., genitals, breasts, or buttocks)	1	2	3	4	5
26. Get you to touch their genitals, breasts, or anus with your mouth or tongue	1	2	3	4	5
27. Rub or fondle a sexual part of your body (i.e., genitals, breasts, or buttocks)	1	2	3	4	5
28. Engage in vaginal or anal intercourse with you	1	2	3	4	5
29. Get you to do something sexual with them	1	2	3	4	5
30. Get you to touch them in a sexual way or fondle a sexual part of their body or another person's body (i.e., genitals, breasts, or buttocks)	1	2	3	4	5

31. Who were you thinking of when you answered the 30 questions above? For example, someone might have been describing the ways they were treated by their mother, step-father, and older sister. Someone else might have been describing the behaviour of his or her step-mother, and a third person might have been describing the behaviour of the priests in a residential school where he grew up. Please circle all that apply.

- a) mother
- b) father
- c) brother

- d) sister
- e) grandmother
- f) grandfather

- g) babysitter
- h) other (specify) _____
- i) other (specify) _____

Childhood Abuse and Neglect

Instructions: Based on your own understanding of the ways your parents (or anyone else who played the role of parents) treated you as a child (before the age of 18 years), please check the appropriate boxes below, and fill in the blanks as required.

Note: If some sort of abuse or neglect started when you were born, please write “0 years” and then write your age when it stopped.

1. ☐ At least one of my parents or caregivers emotionally neglected me as a child between the ages of ____ years and ____ years. or ☐ I was not emotionally neglected as a child by any of my caregivers. ****
2. ☐ At least one of my parents or caregivers physically neglected me as a child between the ages of ____ years and ____ years. or ☐ I was not physically neglected as a child by any of my caregivers. ****
3. ☐ At least one of my parents or caregivers psychologically abused me as a child between the ages of ____ years and ____ years. or ☐ I was not psychologically abused as a child by any of my caregivers.
4. ☐ At least one of my parents or caregivers physically abused me as a child between the ages of ____ years and ____ years. or ☐ I was not physically abused as a child by any of my caregivers.
5. ☐ At least one of my parents or caregivers sexually abused me as a child between the ages of ____ years and ____ years. or ☐ I was not sexually abused as a child by any of my caregivers.

******Note:** This question was added to the *Mediators and Moderators* survey.

Childhood Support Questionnaire (CES)

Instructions: This questionnaire is intended to assess the amount of emotional support that was available to you during your childhood (before age 18). This questionnaire is not about how much someone would have supported you if they could. It's about how much support people were actually able to provide.

Imagine that during your childhood you had a personal problem that you disclosed individually to the people listed below. For each person, please use the following scale to indicate the degree of emotional support you believe you typically would have received from that person. *If there was no such person in your childhood, please circle the "x" at the far right.*

	0	1	2	3	4	
	No support	Little support	Support at least in some respects	Moderate support	Very strong support	
						<u>Answers</u>
1. Mother (or female guardian)	0	1	2	3	4	x
2. Father (or male guardian)	0	1	2	3	4	x
3. Your favorite brother or sister	0	1	2	3	4	x
4. Your favorite grandmother	0	1	2	3	4	x
5. Your favorite grandfather	0	1	2	3	4	x
6. Your favorite among other relations (e.g., aunts)	0	1	2	3	4	x
7. An adult neighbor	0	1	2	3	4	x
8. Your best friend of the same sex	0	1	2	3	4	x
9. Your best friend of the opposite sex	0	1	2	3	4	x
10. Your next best friend	0	1	2	3	4	x
11. Other friends of your own age (approximately)	0	1	2	3	4	x
12. Your favorite teacher	0	1	2	3	4	x
13. School counselor	0	1	2	3	4	x
14. Your family doctor	0	1	2	3	4	x
15. Minister of religion (pastor, priest, rabbi, etc.)	0	1	2	3	4	x
16. Some other significant person in your childhood						
Please specify and circle: _____	0	1	2	3	4	x

Childhood Questionnaire (PBI)

Instructions: Please think of the *one adult* who raised you *who you felt emotionally closest to* while you were growing up. Using the scale below, indicate how well each of the 12 items describes this one adult to whom you felt the closest. Please answer in terms of only one person.

	0	1	2	3
	Very unlike this adult	Moderately unlike this adult	Moderately similar to this adult	Very similar to this adult
	<u>Answer</u>			
1. Spoke to me with a warm and friendly voice	0	1	2	3
2. Did not help me as much as I needed**	0	1	2	3
3. Seemed emotionally cold to me**	0	1	2	3
4. Appeared to understand my problems and worries	0	1	2	3
5. Was affectionate to me	0	1	2	3
6. Enjoyed talking things over with me	0	1	2	3
7. Frequently smiled at me	0	1	2	3
8. Did not seem to understand what I needed or wanted**	0	1	2	3
9. Made me feel I wasn't wanted**	0	1	2	3
10. Could make me feel better when I was upset	0	1	2	3
11. Did not talk with me very much**	0	1	2	3
12. Did not praise me**	0	1	2	3

13. Who were you thinking of when you answered the 12 questions above?
(E.g., mother, father, grandfather, aunt.)

Please do not identify anyone by name.

The person who you were describing above was:

****Note: Reverse coded item.**

General Relationship Questionnaire (ECL)

Instructions: This questionnaire contains 36 sentences that may be more or less descriptive of you and your relationships with intimate partners. For each of the following sentences, please indicate how much you agree that it is true of you by circling the most appropriate number beside each item, using the following scale:

	1	2	3	4	5	6	7
	Disagree strongly			Neutral/ mixed			Agree strongly
	<u>Answer</u>						
1. I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
2. I worry about being abandoned.	1	2	3	4	5	6	7
3. I am very comfortable being close to romantic partners.**	1	2	3	4	5	6	7
4. I worry a lot about my relationships.	1	2	3	4	5	6	7
5. Just when a partner starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
6. I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
7. I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
8. I worry a fair amount about losing a partner.	1	2	3	4	5	6	7
9. I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
10. I often wish that a partner's feelings for me were as strong as my feelings for him/her.	1	2	3	4	5	6	7
11. I want to get close to a partner, but I keep pulling back.	1	2	3	4	5	6	7
12. I often want to merge completely with romantic partners, and this sometimes scares them away.	1	2	3	4	5	6	7
13. I am nervous when partners get too close to me.	1	2	3	4	5	6	7
14. I worry about being alone.	1	2	3	4	5	6	7

****Note: Reverse coded item.**

General Relationship Questionnaire (cont'd)

Please indicate how much you agree that each item is true of you by circling the most appropriate number.

	1	2	3	4	5	6	7
	Disagree strongly			Neutral/ mixed			Agree strongly
	<u>Answer</u>						
15. I feel comfortable sharing my private thoughts and feelings with a partner.**	1	2	3	4	5	6	7
16. My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
17. I try to avoid getting too close to a partner.	1	2	3	4	5	6	7
18. I need a lot of reassurance that I am loved by a partner.	1	2	3	4	5	6	7
19. I find it relatively easy to get close to a partner.**	1	2	3	4	5	6	7
20. Sometimes I feel that I force my partners to show more feeling, more commitment.	1	2	3	4	5	6	7
21. I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
22. I do not often worry about being abandoned.**	1	2	3	4	5	6	7
23. I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
24. If I can't get a partner to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
25. I tell my partners just about everything.**	1	2	3	4	5	6	7
26. I find that my partners don't want to get as close as I would like.	1	2	3	4	5	6	7
27. I usually discuss my problems and concerns with a partner.**	1	2	3	4	5	6	7
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.	1	2	3	4	5	6	7

****Note: Reverse coded item.**

General Relationship Questionnaire (cont'd)

Please indicate how much you agree that each item is true of you by circling the most appropriate number.

1	2	3	4	5	6	7
Disagree strongly			Neutral/ mixed			Agree strongly

Answer

15. I feel comfortable depending on romantic partners.**	1 2 3 4 5 6 7
16. I get frustrated when a partner is not around as much as I would like.	1 2 3 4 5 6 7
17. I don't mind asking romantic partners for comfort, advice, or help.**	1 2 3 4 5 6 7
18. I get frustrated if romantic partners are not available when I need them.	1 2 3 4 5 6 7
19. It helps me to turn to romantic partners in times of need.**	1 2 3 4 5 6 7
20. When romantic partners disapprove of me, I feel really bad about myself.	1 2 3 4 5 6 7
21. I turn to a partner for many things, including comfort and reassurance.**	1 2 3 4 5 6 7
22. I resent it when a partner spends time away from me.	1 2 3 4 5 6 7

37. The 36 previous questions were about you and your general relationships with intimate partners. Please think about your whole adult life (since age 18). Was there a time in your life when you would have answered those questions in a different way?" (Circle the most appropriate number.)

1	2	3	4	5
No, I've always felt exactly this way about my relationships with partners.				Yes, at one time in my life I felt completely different about my relationships with intimate partners.

****Note: Reverse coded item.**

General Relationship Questionnaire (RQ)

Instructions: This questionnaire contains 4 paragraphs that may be more or less descriptive of you. For each of the following paragraphs, please indicate how true it is of you by circling the most appropriate number beside each paragraph, using the following scale:

1	2	3	4	5	6	7
Not at all like me						Exactly like me

<u>Paragraph</u>	<u>Answer (circle)</u>
1. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.	1 2 3 4 5 6 7
2. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become close to others.	1 2 3 4 5 6 7
3. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.	1 2 3 4 5 6 7
4. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.	1 2 3 4 5 6 7
5. Some people change a lot across their lifetime and other people stay about the same. Please think about your whole adult life (since age 18). Was there a time in your life when you would have answered the 4 previous questions in a different way?" (Circle the most appropriate number.)	

1	2	3	4	5
No, I've always felt this way about being close to others.			Yes, at one time in my adult life I felt differently about being close to others.	

Note: This questionnaire was not used in the *Mediators and Moderators* study.

Adult Relationship Questionnaire (QRI)

Instructions: Please answer these questions in terms of your relationship with your current romantic partner. If you don't have a partner, please answer in terms of your latest romantic relationship if that relationship ended within the last year. (In this case, please answer in terms of how things were *during your relationship*.) If you have had no romantic partners within the past year, please skip this questionnaire and go on to the next one.

	1	2	3	4	
	Not at all	Sometimes	Usually	Always	
	<i>or</i>	<i>or</i>	<i>or</i>	<i>or</i>	
	Never	A little	Quite a bit	Very much	
					<u>Answer</u>
1. To what extent can you turn to this person for advice about problems?	1	2	3	4	
2. How often do you need to work hard to avoid conflict with this person?	1	2	3	4	
3. To what extent can you count on this person for help with a problem?	1	2	3	4	
4. How upset does this person sometimes make you feel?	1	2	3	4	
5. To what extent can you count on this person to give you honest feedback, even if you might not want to hear it?	1	2	3	4	
6. How much does this person make you feel guilty?	1	2	3	4	
7. How much do you have to "give in" in this relationship?	1	2	3	4	
8. To what extent could you count on this person to help you if a family member very close to you died?	1	2	3	4	
9. How much does this person want you to change?	1	2	3	4	
10. How positive a role does this person play in your life?	1	2	3	4	
11. How significant is this relationship in your life?	1	2	3	4	
12. How close will your relationship be with this person in 10 years?	1	2	3	4	
13. How much would you miss this person if the two of you could not see or talk with each other for a month?	1	2	3	4	
14. How critical of you is this person?	1	2	3	4	
15. If you wanted to go out and do something this evening, how confident are you that this person would be willing to do something with you?	1	2	3	4	

Adult Relationship Questionnaire (QRI) (Continued)

Please answer these questions in terms of your relationship with your current romantic partner.

	1 Not at all or Never	2 Sometimes or A little	3 Usually or Quite a bit	4 Always or Very much	<u>Answer</u>
16. How responsible do you feel for this person's well-being?					1 2 3 4
17. How much do you depend on this person?					1 2 3 4
18. To what extent can you count on this person to listen to you when you are very angry at someone else?					1 2 3 4
19. How much would you like this person to change?					1 2 3 4
20. How angry does this person make you feel?					1 2 3 4
21. How much do you argue with this person?					1 2 3 4
22. To what extent can you really count on this person to distract you from your worries when you feel under stress?					1 2 3 4
23. How <u>often</u> does this person make you feel angry?					1 2 3 4
24. How often does this person try to control or influence your life?					1 2 3 4
25. How much more do you give than you get from this relationship?					1 2 3 4
26. Is the person you described above:					
____ your current romantic partner or ____ your past romantic partner?					

Adult Relationship Questionnaire (RAS)

Instructions: Please answer these questions in terms of your relationship with your current romantic partner. If you don't have a current romantic partner, please answer in terms of your last romantic relationship if that relationship ended within the last year. (In this case, please answer in terms of how things were *during your relationship*.) If you have had no romantic partners within the past year, please skip this questionnaire and go on to the next one.

1. How well does your partner meet your needs?

A	B	C	D	E
Poorly		Average		Extremely well

2. In general, how satisfied are you with your relationship?

A	B	C	D	E
Unsatisfied		Average		Extremely satisfied

3. How good is your relationship compared to most people's relationships?

A	B	C	D	E
Poor		Average		Excellent

4. How often do you wish you hadn't gotten into this relationship?**

A	B	C	D	E
Never		Average		Very often

5. To what extent has your relationship met your original expectations?

A	B	C	D	E
Hardly at all		Average		Completely

6. How much do you love your partner?

A	B	C	D	E
Not much		Average		Very much

7. How many problems are there in your relationship?**

A	B	C	D	E
Very few		Average		Very many

8. Was there a time in your life when you were in a different sort of relationship with a partner?

A	B	C	D	E
At an earlier time in my life I was in a much more satisfying relationship.		My relationships have always been exactly like this.		At an earlier time in my life I was in a much more difficult relationship.

****Note: Reverse coded item.**

Adult Relationship Questionnaire (QRI - Friend)

Instructions: Please answer these questions in terms of your relationship with your best friend (someone who is not your romantic partner), using the following scale.

	1	2	3	4	
	Not at all	Sometimes	Usually	Always	
	or	or	or	or	
	Never	A little	Quite a bit	Very much	
					<u>Answer</u>
1. To what extent can you turn to your friend for advice about problems?					1 2 3 4
2. How often do you need to work hard to avoid conflict with your friend?					1 2 3 4
3. To what extent could you count on your friend for help with a problem?					1 2 3 4
4. How upset does your friend sometimes make you feel?					1 2 3 4
5. To what extent can you count on your friend to give you honest feedback, even if you might not want to hear it?					1 2 3 4
6. How much does your friend make you feel guilty?					1 2 3 4
7. How much do you have to "give in" in this friendship?					1 2 3 4
8. To what extent could you count on your friend to help you if a family member very close to you died?					1 2 3 4
9. How much does your friend want you to change?					1 2 3 4
10. How positive a role does your friend play in your life?					1 2 3 4
11. How significant is this friendship in your life?					1 2 3 4
12. How close will your relationship be with your friend in 10 years?					1 2 3 4
13. How much would you miss your friend if the two of you could not see or talk with each other for a month?					1 2 3 4
14. How critical of you is your friend?					1 2 3 4

Adult Relationship Questionnaire (QRI - Friend) (Continued)

Please answer these questions in terms of your relationship with your best friend, using the following scale.

	1	2	3	4	
	Not at all	Sometimes	Usually	Always	
	or	or	or	or	
	Never	A little	Quite a bit	Very much	
					<u>Answer</u>
15. If you wanted to go out and do something this evening, how confident are you that your friend would be willing to do something with you?					1 2 3 4
16. How responsible do you feel for your friend's well-being?					1 2 3 4
17. How much do you depend on your friend?					1 2 3 4
18. To what extent can you count on your friend to listen to you when you are very angry at someone else?					1 2 3 4
19. How much would you like your friend to change?					1 2 3 4
20. How angry does your friend make you feel?					1 2 3 4
21. How much do you argue with your friend?					1 2 3 4
22. To what extent can you really count on your friend to distract you from your worries when you feel under stress?					1 2 3 4
23. How <u>often</u> does your friend make you feel angry?					1 2 3 4
24. How often does your friend try to control or influence your life?					1 2 3 4
25. How much more do you give than you get from this friendship?					1 2 3 4

Adult Relationship Questionnaire (RAS - Friend)

Instructions: Please answer these questions in terms of your relationship with your best friend (someone who is not your romantic partner).

1. How well does your friend meet your needs?

A	B	C	D	E
Poorly		Average		Extremely well

2. In general, how satisfied are you with your friendship?

A	B	C	D	E
Unsatisfied		Average		Extremely satisfied

3. How good is your friendship compared to most people's friendships?

A	B	C	D	E
Poor		Average		Excellent

4. How often do you wish you hadn't gotten into this friendship?**

A	B	C	D	E
Never		Average		Very often

5. To what extent has your friendship met your original expectations?

A	B	C	D	E
Hardly at all		Average		Completely

6. How much do you love your friend?

A	B	C	D	E
Not much		Average		Very much

7. How many problems are there in your friendship?***

A	B	C	D	E
Very few		Average		Very many

8. Was there a time in your life when you had a different relationship with a best friend?

A	B	C	D	E
At an earlier time in my life I was in a much more satisfying friendship.		My friendships have always been exactly like this.		At an earlier time in my life I was in a much more difficult friendship.

****Note: Reverse coded item.**

Coping Strategies Inventory (CSI)

Instructions: Please think of an event or situation that has been very stressful for you during the last month. By stressful we mean something that was troubling you, either because it made you feel bad or because it took effort to deal with. It might have been with your family, with school, with your job, or with your friends. Now, please use the scale below to describe what you did to cope with that problem.

	1	2	3	4	5
	Not at all	A little	Somewhat	Much	Very much
1. I stood my ground and fought for what I wanted.	1	2	3	4	5
2. I looked for the silver lining, so to speak; I tried to look on the bright side of things.	1	2	3	4	5
3. I let out my feelings to reduce the stress.	1	2	3	4	5
4. I found somebody who was a good listener.	1	2	3	4	5
5. I went along as if nothing was happening.	1	2	3	4	5
6. I hoped a miracle would happen.	1	2	3	4	5
7. I realized that I brought the problem on myself.	1	2	3	4	5
8. I spent more time alone.	1	2	3	4	5
9. I made a plan of action and followed it.	1	2	3	4	5
10. I looked at things in a different light and tried to make the best of what was available.	1	2	3	4	5
11. I let my feelings out somehow.	1	2	3	4	5
12. I talked to someone about how I was feeling.	1	2	3	4	5
13. I tried to forget the whole thing.	1	2	3	4	5
14. I wished that the situation would go away or somehow be over with.	1	2	3	4	5
15. I blamed myself.	1	2	3	4	5
16. I avoided my family and friends.	1	2	3	4	5

Coping Strategies Inventory (cont'd)

This is what I did to cope with an important problem in the past month...

	1	2	3	4	5
	Not at all	A little	Somewhat	Much	Very much
17. I tackled the problem head on.	1	2	3	4	5
18. I asked myself what was really important, and discovered that things weren't so bad after all.	1	2	3	4	5
19. I let my emotions out.	1	2	3	4	5
20. I talked to someone that I was very close to.	1	2	3	4	5
21. I didn't let it get to me; I refused to think about it too much.	1	2	3	4	5
22. I wished that the situation had never started.	1	2	3	4	5
23. I criticized myself for what happened.	1	2	3	4	5
24. I avoided being with people.	1	2	3	4	5
25. I knew what had to be done, so I doubled my efforts and tried harder to make things work.	1	2	3	4	5
26. I convinced myself that things weren't quite as bad as they seemed.	1	2	3	4	5
27. My feelings were overwhelming and they just exploded.	1	2	3	4	5
28. I let my friends help out.	1	2	3	4	5
29. I avoided the person who was causing the trouble.	1	2	3	4	5
30. I had fantasies or wishes about how things might have turned out.	1	2	3	4	5
31. Since what happened was my fault I really chewed myself out.	1	2	3	4	5
32. I spent some time by myself.	1	2	3	4	5

Coping Strategies Inventory (cont'd)

This is what I did to cope with an important problem in the past month...

	1	2	3	4	5
	Not at all	A little	Somewhat	Much	Very much
33. I worked on solving the problems in the situation.	1	2	3	4	5
34. I reorganized the way I looked at the situation, so things didn't look so bad.	1	2	3	4	5
35. I got in touch with my feelings and just let them go.	1	2	3	4	5
36. I asked a friend or relative I respect for advice.	1	2	3	4	5
37. I avoided thinking or doing anything about the situation.	1	2	3	4	5
38. I hoped that if I waited long enough, things would turn out OK.	1	2	3	4	5
39. I realized that I was personally responsible for my difficulties and really lectured myself.	1	2	3	4	5
40. I did not let others know how I was feeling.	1	2	3	4	5
41. In a few words please describe the problem you were thinking about (e.g., problem with a co-worker, financial problem, fight with a friend, family member in trouble with the law).					

42. Some people always cope with stressful things in the same way, and other people have very different coping strategies at different times in their lives.

Please think about your whole adult life (since age 18). Was there a time in your life when you would have answered questions 1 to 40 (above) in a different way?" (Circle the most appropriate number.)

1	2	3	4	5
No, my coping has always been like this.				Yes, at one time in my life my coping was completely different.

Health

Instructions: Below are a list of physical complaints that people sometimes have. Please indicate how often you have had each of the following symptoms in the past six months, using the following scale. If an item does not apply to you because you are a man (e.g., vaginal pain), please circle "0" for that item. If an item does not apply to you because you are a post-menopausal woman (e.g., bleeding between menstrual periods), please circle "0."

0 Never occurs	1 Experienced <i>occasionally</i> in the last 6 months	2 Occurs about once a month	3 Occurs about once a week	4 Occurs several times a week	5 Occurs daily
1. Abdominal pain	0 1 2 3 4 5		16. Asthma	0 1 2 3 4 5	
2. Allergy	0 1 2 3 4 5		17. Cold hands	0 1 2 3 4 5	
3. Genital pain	0 1 2 3 4 5		18. High blood pressure	0 1 2 3 4 5	
4. Eczema	0 1 2 3 4 5		19. Fainting	0 1 2 3 4 5	
5. Pain in inner thighs	0 1 2 3 4 5		20. Diarrhea	0 1 2 3 4 5	
6. Gastric ulcer	0 1 2 3 4 5		21. Stomach flu	0 1 2 3 4 5	
7. Painful urination	0 1 2 3 4 5		22. Pelvic pain	0 1 2 3 4 5	
8. Convulsions	0 1 2 3 4 5		23. Muscle weakness	0 1 2 3 4 5	
9. Chest pain	0 1 2 3 4 5		24. Stomach aches	0 1 2 3 4 5	
10. Blurred vision	0 1 2 3 4 5		25. Muscle stiffness	0 1 2 3 4 5	
11. Abdominal swelling	0 1 2 3 4 5		26. Constipation	0 1 2 3 4 5	
12. Heart palpitations	0 1 2 3 4 5		27. Tunnel vision	0 1 2 3 4 5	
13. Temporary paralysis	0 1 2 3 4 5		28. Vaginal pain	0 1 2 3 4 5	
14. Vaginal discharge	0 1 2 3 4 5		29. Loss of voice	0 1 2 3 4 5	
15. Numbing of body parts	0 1 2 3 4 5		30. Painful bowel movements	0 1 2 3 4 5	

Health (cont'd)

0	1	2	3	4	5
Never occurs	Experienced <i>occasionally</i> in the last 6 months	Occurs about once a month	Occurs about once a week	Occurs several times a week	Occurs daily
31. Eye pain associated with reading	0 1 2 3 4 5		43. Pain in the small of your back	0 1 2 3 4 5	
32. Spastic Colitis	0 1 2 3 4 5		44. Face pain	0 1 2 3 4 5	
33. Skin rashes	0 1 2 3 4 5		45. Backaches	0 1 2 3 4 5	
34. Vaginal dryness	0 1 2 3 4 5		46. Difficulty swallowing	0 1 2 3 4 5	
35. Headaches	0 1 2 3 4 5		47. Sore throat	0 1 2 3 4 5	
36. Abdominal cramps	0 1 2 3 4 5		48. Weakness	0 1 2 3 4 5	
37. Pain in hips	0 1 2 3 4 5		49. Double vision	0 1 2 3 4 5	
38. Fatigue	0 1 2 3 4 5		50. Pain in arms or legs	0 1 2 3 4 5	
39. Pain behind navel	0 1 2 3 4 5		51. Nausea	0 1 2 3 4 5	
40. Bloating	0 1 2 3 4 5		52. Joint pain	0 1 2 3 4 5	
41. Temporary blindness	0 1 2 3 4 5		53. Get sick from different kinds of foods	0 1 2 3 4 5	
42. Bleeding between menstrual periods	0 1 2 3 4 5		54. Burning sensation in sexual organs or rectum	0 1 2 3 4 5	

Health (cont'd)

56. How much do the symptoms you described above interfere with your day-to-day life? (Please circle one.)

1	2	3	4	5
Not at all		Somewhat		Extremely

57. Do you have any chronic health problems? Yes No

58. Do you take medication for any health problems? Yes No

59. (Please check one) Compared to others my age, my physical health is
☐ very poor ☐ poor ☐ the same ☐ good ☐ excellent.

60. Please think about your whole adult life (since age 18). Was there a time in your adult life when your health was different? (Please circle the best number.)

1	2	3	4	5
Yes, at one time in my life my physical health was much worse .		My physical health has always been exactly like this .		Yes, at one time in my life my physical health was much better .

61. How many times have you been admitted to a hospital within the past two years? (Please write "0" if you haven't been admitted to a hospital at all within the past two years.) Please estimate if you're not sure of the exact number.

_____ times admitted to a hospital in the past two years

62. How many times in your life have you had a surgical operation (e.g., gall bladder surgery, surgery following an accident or injury, tooth extractions)? (Please write "0" if you haven't had any operations.) Please estimate if you're not sure of the exact number.

_____ operation(s)

63. How often in the past year have you seen your GP (family doctor) for a medical problem? (If you are or have recently been pregnant, do not include visits for normal pregnancy or post-pregnancy check-ups.) Please estimate if you're not sure of the exact number.

_____ visit(s) to the doctor for a medical problem in the past year

Health (cont'd)

64. How many times in your life have you had a broken bone? (Write "0" if you have never had a broken bone.) Please estimate if you're not sure of the exact number.

_____ broken bone(s) in my lifetime

65. How many times in your life have you had to go to the emergency room? Do not count the times you took someone else for their health emergency (e.g., your child's injury). Write "0" if you have never had to go to the emergency room. Please estimate if you're not sure of the exact number.

_____ visit(s) to the emergency room in my life

66. Some people have very different levels of psychological or emotional distress at different times in their lives and other people have always had about the same level of distress.

Please think about your whole adult life (since age 18). Was there a time in your adult life when your level of psychological distress was different? (Circle the most appropriate number.)

1	2	3	4	5
Yes, at one time in my life my distress level was much lower.		My distress level has always been exactly like this.		Yes, at one time in my life my distress level was much higher.

Anything Else?

The questionnaires you have just completed were about relationships when you were a child and as an adult, the connections between childhood experiences and adult relationships, and psychological well-being and physical health, among other things.

Although we asked you a lot of questions, maybe there's something we forgot to ask.

If there is some other part of your experience that you would like us to know about, or anything else about your life that you think we should know, please take a few minutes now to describe it in writing. Use as much space as you like.

Thank you very much for completing this questionnaire!

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix C

Interview Schedule for Study One: *Exploratory Interviews*

Pilot Study Interview Schedule

Review of Survey

As each questionnaire is reviewed, ask participant:

- Were there any questions you did not understand?
- Did any of these questions upset (bother) you?
- *For relationship questionnaires, take note of the people they filled them out for (i.e., do they have a partner?).*
- Are there any questions that should be added?

In-depth Questions and Prompts

- Can you tell me about your relationship with your partner (ex-partner)?
 - What are the good things about your relationship?
 - Are there any bad things about your relationship? What are they?
 - How do you think the way your parents raised you when you were a child has affected your adult relationships, if at all?
 - Prompt uncommunicative participants: Anything negative? Anything positive? Any effect on how you relate to your partner?
- What is it like when you and your partner (ex-partner) disagree? How do you resolve arguments?
- Can you tell me about your relationship with your best friend?
 - What are the good things about your friendship?
 - Are there any bad things about your friendship? What are they?
 - How do you think the way your parents raised you when you were a child has affected your friendships, if at all?
 - Prompt uncommunicative participants: Anything negative? Anything positive? Any effect on how you relate to your

best friend?

- What is it like when you and your best friend disagree? How do you resolve arguments?
- (Explain that people can change over time.) Was there a time in your life when you would have answered this survey very differently (e.g., as a teenager or young parent)?
 - Which parts of the survey?
 - How would your answers have been different?
 - Do you feel you're "doing better" now, or worse?
 - What do you think has caused these changes?
 - Do you think there will be any more significant changes?
 - For better or worse?

Closing Questions

- How are you feeling? (Emotionally upset?)
 - (If yes) How are you going to deal with this?
 - Do you feel you could use any of the support numbers on the Debriefing Form?
 - (If necessary) Do you have a therapist? Are you going to hurt yourself?
- Will you call me back if you become upset (continue to be upset) and need to see a counselor? As it says in the debriefing form (give to participant) a free counseling session will be arranged for you if you need it.
- Thank you!

Appendix D

Consent and Debriefing Letters

for Study Two: *Mediators and Moderators*

Dear Participant,

Please read all of this letter before you begin to answer the survey questions.

Thank you very much for agreeing to participate in our study of childhood experiences and adult relationships! This is the survey package that was described to you on the telephone.

All psychology research begins by asking people for their informed consent. The first part of this letter will give you enough information about our study so that you can decide whether or not you want to continue.

As you may know, this survey is being conducted by Wendy Hovdestad, a Ph.D. student in psychology, and Connie Kristiansen, an Associate Professor of Psychology, all at Carleton University. You can reach any of us by calling 520-2600 ext. 2679. If you get the answering machine, please leave a message and one of us will call you back.

There are several purposes of this study. The main purpose is to learn more about how people's childhood experiences, including experiences of childhood abuse, might relate to adult relationships and well-being. Your answers are valuable to us whether or not you have had experiences of childhood abuse. Some parts of the survey may not apply very much to you, but we would still like you to answer what you can.

Please take however much time you need to fill out this survey package, as soon as you can. In this survey package there are about 20 questionnaires, most of them stapled together into a big booklet. The TSI Item Booklet is a special questionnaire. Please mark your answers only on the TSI Answer Sheet, and not on the Item Booklet. That way we can re-use the TSI Item Booklet.

This survey includes questionnaires about: your experiences in childhood with your parents and other caregivers, how you relate to people in general, the nature of your relationship with your present or past partner, how you cope with things, some distressing feelings or experiences you may have had lately, some problems with eating that you might have, and your physical health. A few questions will ask you about bad things that may have happened to you as a child (e.g., physical and sexual child abuse) or as an adult (e.g., experiencing serious accidents or injuries).

It is important that you understand that you can skip any questions that make you feel uncomfortable or upset. Your participation in this study is completely voluntary. While you are filling out the survey you are free to stop at any time, for any reason.

If you decide that you don't want to continue with the survey, please simply

Please keep this letter for your future reference.

return all the materials (except the two letters that begin “Dear Participant...”). Put everything into the stamped return envelope and drop it in the mail. That way we can keep track of how many people have received our survey, and we can re-use any of the forms that you haven’t filled out.

Some of the questions might seem a bit repetitive. It’s not necessary for you to try to make sure you answer consistently. This is not a test, and there are no wrong answers. The wording of some questions might seem a bit confusing, but we’re not trying to trick you. Please answer each question however it seems best to you.

The information gathered in this study is anonymous and confidential. Your name will not be attached to this survey in any way. Please do not write your name on any part of this survey.

Your completion of the questionnaires in this survey package implies that the following statement is true for you:

“I understand the conditions of my participation in this research. My participation in this study is voluntary, and if for any reason, at any time, I wish to stop participating in this study I may do so without having to give an explanation and without any penalty whatsoever. I recognize that I can stop answering the questions at any time, for any reason.”

If you have any complaints or comments about ethical aspects of this study, please contact Dr. Mary Gick, Chair of the Psychology Ethics Committee, at (613) 520-2600, ext. 2664, or Dr. Kim Matheson, Chair of Psychology, at (613) 520-2600, ext. 2648.

We hope you find the survey interesting. When you have finished as much of it as you want to do, please take a moment to check that you haven’t accidentally skipped some questions. (Some pages have questions on both sides.) Then, put all the materials except this letter (and the other one that begins “Dear Participant”) into the stamped return envelope and mail it back to us at Carleton University

Thank you for reading this letter and for your help with this project.

Sincerely,

Wendy E. Hovdestad, M.A.

Samara Foisy

Connie Kristiansen, Ph.D.

Please keep this letter for your future reference.

Dear Participant,

This is the 'Debriefing' letter. Please read this letter after you have finished the survey, or after you have finished as much of it as you want to do.

Thank you very much for participating in this survey! Without the generous help of people like you it would not be possible to do our research.

Some psychology research tries to deceive or "trick" people who participate in the research. There were no tricks in this study. This debriefing letter tells you why we asked the questions in the survey. At the end, it gives names and telephone numbers of people you can contact to find out more information or to talk to if your participation in the study upset you.

The main purpose of this research is to find out how people's childhood experiences are related to their adult relationships with an intimate partner, and how those adult relationships are related to coping with problems and well-being. We wanted to know if the good and bad treatment that children get is related to their approach to relationships as adults (i.e., people maltreated as children might expect that they'll be maltreated as adults). We also wanted to know if certain kinds of relationships with an adult intimate partner and certain ways of coping with problems can help people have better physical health and fewer psychological problems. We think that factors such as having experienced traumas and having generally positive expectations about life may also be important, and so we included those sorts of questions, too.

Please remember that your answers to the questions on this survey are valuable to us whether or not you've experienced childhood maltreatment.

Sometimes recalling difficult or scary times from childhood or adulthood can leave people feeling that they need someone to talk to. If you are feeling the need for support or counseling, please contact any of the following services. For immediate crisis intervention, you can contact these 24-hour hot-lines: Ottawa Distress Centre: 238-3311, Rape Crisis Centre: 562-2333, or the Sexual Assault Support Centre: 234-2266. If you are a student at Carleton University, help is available at the Health and Counseling Services Centre: 520-6674. If

Please keep this letter for your future reference.

you feel the need for counseling, and you do not already have a therapist, please contact Wendy Hovdestad at 520-2600, ext. 2679 and arrangements will be made for you to meet with an experienced counselor who will be able to refer you to other resources, if needed.

If you wish to discuss this study, you are welcome to contact Wendy Hovdestad at 520-2600, ext. 2679, or Dr. Connie Kristiansen (Faculty Supervisor) at 520-2600, ext. 2674. If you have any complaints or comments about the way this study was conducted, please contact Dr. Mary Gick, Chair of the Psychology Ethics Committee, at 520-2600, ext. 2664, or Dr. Kim Matheson, Chair of the Department of Psychology, at 520-2600, ext. 2648.

Thank you once again for your participation!

We deeply appreciate your time and effort.

Please keep this letter for your future reference.

Appendix E

Factor Analyses

Factor Analyses

This appendix describes the logic, method, and outcome of factor analyses conducted to create six of the conceptual variables used in the *Mediators and Moderators* study.

Childhood Maltreatment Questionnaire

Although the internal consistency of the CMQ and its subscales have been previously analysed (Demaré, 1992, 1996), the short-form version used in the present study was unique. Analysis of the factor structure of this measure was therefore appropriate. The 30 CMQ items were factor-analyzed using a principal components analysis (PCA) with varimax rotation. Examination of a scree plot indicated a four-factor solution, in which 75.4% of the total variance was explained. Table I shows the rotated factor loadings from this analysis. (All tables in this Appendix are numbered with Roman numerals.) Only items that had loadings of .45 or greater were interpreted, and items that had loadings greater than .45 on more than one factor were considered complex and thus were eliminated.¹ Given these findings, Demaré's (1992) psychological neglect items, psychological abuse items, and one of his physical neglect items formed the first factor: psychological maltreatment. The second factor consisted of six items relevant to sexual abuse and the third contained six items relevant to

1. One item that loaded on the first factor ("touch or handle you in a rough way that frightened you") also loaded on the third factor. To simplify the factor structure of the CMQ subscales this item was deleted from both scales. Similarly, two items that loaded on the fourth factor ("fail to take you to the doctor...", "fail to care for your injuries...") also loaded on the first factor. These items were also deleted.

Table I.

Pattern Matrix for Childhood Maltreatment (CMQ) Items

Type of childhood maltreatment	Factor 1	Factor 2	Factor 3	Factor 4
Appear to be disinterested in you...	.878	.056	.156	.200
Fail to listen to you or to comfort you when they knew you were upset	.856	.183	.142	.126
Seem to be emotionally detached or unexpressive with you	.851	.183	.108	.178
Fail to praise when you deserved it	.830	.175	.188	.105
Ignore you	.826	.064	.111	.272
Act in a way that implied they did not like or value you	.809	.159	.337	.238
Act emotionally "cold" toward you	.800	.211	.179	.139
Totally disregard your input into decisions that affected you	.797	.059	.257	.229
Put you down or treat you in a degrading manner	.735	.197	.391	.229
Speak to you in a frightening way	.734	.099	.343	.243
Have moods that affected their ability to provide reliable care for you	.657	.068	.331	.231
Touch or handle you in a rough way that frightened you	.633	.161	.553	.111
Make you cater to their desires with little concern for your own welfare	.608	.293	.371	.315

Table L(cont'd)

Pattern Matrix for Childhood Maltreatment (CMQ) Items

Type of childhood maltreatment	Factor 1	Factor 2	Factor 3	Factor 4
Get you to touch them in a sexual way	.163	.923	.037	.133
Get you to do something sexual...	.183	.899	.083	.237
Get you to touch them sexually with your mouth or tongue	.106	.898	.146	.078
Make you show them a sexual part of your body	.176	.868	.076	.218
Engage in vaginal or anal intercourse with you	.078	.853	.096	-.086
Rub or fondle a sexual part of your body	.210	.830	.053	.288
Hit or punch you with a closed fist	.193	.097	.854	.244
Push, throw, or knock you down	.270	.102	.813	.152
Twist, yank, or bend your leg, arm or finger in a painful manner	.115	.043	.805	.174
Kick you with their foot, or strike you hard with a knee or elbow	.194	-.085	.767	.258
Spank you hard enough to cause bruising, swelling, or bleeding	.417	.237	.740	-.017
Hit you with an object...	.415	.192	.615	-.104
Leave you with unsafe people	.159	.212	.221	.739
Fail to provide food or clothing...	.343	.063	.300	.665
Leave you alone or unattended...	.405	.254	.179	.627
Fail to take you to the doctor or give you medicine when you were ill...	.497	.319	.064	.611
Fail to care for your injuries...	.466	.202	.105	.599

physical abuse, consistent with Demaré's (1992) conceptualization. The fourth factor contained three items reflecting physical neglect. In sum, the five-category concept of child maltreatment described earlier was not supported by factor analysis. Accordingly, four childhood maltreatment subscales were created.

Childhood Emotional Support

The psychometric properties of the CES are unknown (Irwin, 1996), and thus the items were subjected to factor analysis. A PCA of the 15 CES items revealed four factors with Eigenvalues greater than 1, but examination of the scree plot indicated a one-factor solution, which was consistent with the theoretical background of the scale.

Quality of Relationship Inventory (Partner)

A PCA of the 25 QRI items with which participants described their relationships with their partners indicated that there were five factors with Eigenvalues greater than 1.0, that together accounted for 66.43% of the variance. Examination of a scree plot, however, suggested a three-factor solution. Moreover, a forced three-factor solution with varimax rotation accounted for 56.98% of the variance, and generated factors that corresponded very closely to Pierce et al.'s (1991) conceptualization. Table II shows the rotated factor loadings. Factor 1 has to do with conflict with a partner, Factor 2 has to do with a partner's supportiveness, and Factor 3 has to do with the depth of a relationship with a partner. The only inconsistency with Pierce et al.'s findings was that the item that assessed

Table II

Pattern Matrix for 36 Quality of Relationship Inventory (Partner) Items

Items	Factors		
	1	2	3
How angry does this person make you feel?	.838	-.007	-.025
How <u>often</u> does this person make you feel angry?	.803	-.112	-.058
How upset does this person sometimes make you feel?	.777	.008	.056
How much would you like this person to change?	.728	-.075	-.232
How often does this person try to control or influence your life?	.712	-.175	-.095
How often do you need to work hard to avoid conflict with this person?	.683	-.059	-.259
How much do you argue with this person?	.670	.071	-.184
How much does this person make you feel guilty?	.662	-.194	-.035
How much do you have to "give in" in this relationship?	.642	.061	.138
How much more do you give than you get from this relationship?	.603	-.055	-.073
How critical of you is this person?	.589	.034	.181
How much does this person want you to change?	.570	-.236	-.157

Table II (cont'd)

Pattern Matrix for 36 Quality of Relationship Inventory (Partner) Items

Items	Factors		
	1	2	3
To what extent can you count on this person to listen to you when you are very angry at someone else?	-.137	.867	.013
To what extent can you count on this person for help with a problem?	-.091	.861	.073
To what extent can you turn to this person for advice about problems?	-.109	.829	.088
To what extent could you count on this person to help you if a family member very close to you died?	-.155	.810	.054
To what extent can you really count on this person to distract you from your worries when you feel under stress?	.125	.809	.040
To what extent can you count on this person to give you honest feedback, even if you might not want to hear it?	.024	.725	.147
If you wanted to go out and do something this evening, how confident are you that this person would be willing to do something with you?	-.151	.714	.002
How significant is this relationship in your life?	-.122	.034	.844
How positive a role does this person play in your life?	-.200	-.035	.777
How close will your relationship be with this person in 10 years?	-.148	.154	.751
How much do you depend on this person?	.025	.042	.750
How much would you miss this person if the two of you could not see or talk with each other for a month?	-.044	.078	.735
How responsible do you feel for this person's well-being?	.280	.267	.363

participants' feelings of responsibility for their partners' well-being had weak loadings of about .3 on all three factors. In Pierce et al.'s conceptualization, this item is included on the depth subscale, but it was eliminated for this study. An item analysis confirmed that the internal consistency of the depth scale was improved by removing this item.

Quality of Relationship Inventory (Friend)

As noted above, the QRI has been used in several recent studies to assess three dimensions of the quality of various relationships (i.e., with parents, friends, and romantic partners). Many of these studies, however, have used exclusively student samples. For example, Pierce et al. (1991) developed the measure based on a factor analysis of data from 210 college students who described their relationships with their mothers, fathers, and friends. This may be cause for concern because college students' relationships may differ in important ways from the relationships of more mature adults. For example, college students are less likely than more mature adults to have life circumstances that might interfere with ability to spend time with a friend (e.g., employment commitments, intimate partnerships, or relationships with children). The friendships of college students may also differ from the friendships of more mature adults because more mature adults may be more likely to have friendships that spanned several decades of life. The friendships of early college students may also be idiosyncratic in that college marks a particular developmental phase for many people (i.e., leaving home, new distance from childhood friends). For

Table III

Pattern Matrix for 36 Quality of Relationship Inventory (Friend) Items

Items	Factor 1	Factor 2
How angry does this person make you feel?	.841	-.126
How <u>often</u> does this person make you feel angry?	.781	-.177
How upset does this person sometimes make you feel?	.778	-.051
How much does this person make you feel guilty?	.701	-.149
How much would you like this person to change?	.698	-.304
How often does this person try to control or influence your life?	.698	-.093
How much do you have to "give in" in this relationship?	.674	-.031
How often do you need to work hard to avoid conflict with this person?	.650	-.240
How critical of you is this person?	.628	.117
How much more do you give than you get from this relationship?	.610	-.221
How much do you argue with this person?	.601	-.060
How much does this person want you to change?	.552	-.185
How responsible do you feel for this person's well-being?	.355	.300
To what extent can you turn to this person for advice about problems?	-.141	.789
How significant is this relationship in your life?	-.077	.784
How close will your relationship be with this person in 10 years?	-.128	.766
How positive a role does this person play in your life?	-.111	.759

Table III (cont'd)

Pattern Matrix for 36 Quality of Relationship Inventory (Friend) Items

Items	Factor 1	Factor 2
To what extent can you count on this person for help with a problem?	-.287	.729
To what extent could you count on this person to help you if a family member very close to you died?	-.199	.702
To what extent can you count on this person to listen to you when you are very angry at someone else?	-.359	.682
How much would you miss this person if the two of you could not see or talk with each other for a month?	-.037	.677
How much do you depend on this person?	.088	.664
To what extent can you really count on this person to distract you from your worries when you feel under stress?	-.197	.631
To what extent can you count on this person to give you honest feedback, even if you might not want to hear it?	-.088	.579
If you wanted to go out and do something this evening, how confident are you that this person would be willing to do something with you?	-.006	.459

all these reasons, analyses were conducted to evaluate the appropriateness of the published factor structure to describe friendship relationships in the present sample.

A PCA of the 25 QRI items indicated that there were five factors with Eigenvalues greater than 1.0, that together accounted for 64.18% of the

variance. Examination of a scree plot, however, suggested a two-factor solution. A varimax rotation was used to simplify the solution, and indicated that a two-factor solution, accounting for 49.34% of the variance, was appropriate². Table III shows the rotated factor loadings. The two factors are conflict (12 items, as specified by Pierce et al., 1991) and a combination of the support and depth items (specified by Pierce et al.). As was the case for the partner QRI, the item about feeling responsible for a friend's well-being loaded poorly on both factors and was therefore dropped.

The factor analysis indicated that the "go out and do something tonight" item was weakly related to the other support/depth subscale items, and an item-analysis also indicated that the scale was more internally-consistent without this item. It was therefore not included on this subscale.

Health

Although Runtz's (2001) findings indicate that the General Health Scale is an internally consistent measure that can discriminate between women with histories of childhood physical abuse and those without, it is a new measure for which psychometric data are sketchy. In addition, available data are based exclusively on one large sample of female college students, and relate exclusively to health symptoms following physical and sexual child abuse, whereas the present data were generated by both men and

2. Forcing a three-factor solution with varimax rotation was ineffective. Although the first factor was clearly defined by the conflict items, the other two factors were uninterpretable. Four items had complex loadings, and two did not load strongly on any factor. The third factor was not defined by any item: the four items that loaded on it also loaded on another factor. Oblique rotation was attempted, but the solution failed to converge in 30 iterations.

women, representing a broader range of ages, and childhood neglect and psychological abuse are also under consideration. Further, some of the factor groupings reported by Runtz (2001) seem unlikely to be replicated (e.g., “blurred vision” was on the factor labeled “mucular/skeletal,” but “double vision” was on the factor labeled “sensory/nervous”). Thus, the 54 items of the GHS were subjected to factor analysis. An initial PCA on the 54 GHS items indicated that 17 factors with Eigenvalues greater than one could be extracted, together explaining 72.82% of the variance. However, examination of the scree plot suggested a one-factor solution.³ A forced one-factor solution explained 18.69% of the variance, and examination of the component matrix indicated that there were 25 items that correlated with that one factor at $r = .45$ or greater. (See Table IV for a list of these items and their correlations with the factor.) These 25 items represent physical complaints relevant to all of the five bodily systems that Runtz (2001) specified, muscular/skeletal (10 items), stomach/abdominal/chest (5 items), sensory/nervous system (3 items), vaginal/genital/bowel (3 items), allergies/cold/flu (3 items). The scales to which each item belonged in Runtz’s (2001) data set are indicated in Table IV. One item, high blood pressure, did not load on any of Runtz’s (2001) five factors.

These 25 items were subjected to a second PCA. Although there were seven factors with Eigenvalues greater than one, a scree plot clearly indicated a one-factor solution.

3. Because Runtz (2001) found that a five-factor solution was most appropriate, a five-factor solution was forced on these data, but the result was

Table IV

Correlations of 25 Health Symptoms with the General Symptom Factor

Symptom	<i>r</i>	Original subscale
Backaches	.616	M/S
Pain in arms or legs	.612	M/S
Weakness	.608	M/S
Painful bowel movement	.606	V/G
Fatigue	.600	M/S
Stomach aches	.590	S/A
Abdominal cramps	.588	S/A
Headaches	.580	M/S
Chest pain	.578	M/S
Genital pain	.571	V/G
Irritable bowel syndrome	.553	S/N
Muscle stiffness	.546	M/S
Nausea	.545	S/A
Heart palpitations	.518	S/A
Pelvic pain	.506	S/A
Blurred vision	.486	M/S
Numbing of body parts	.484	M/S
Muscle weakness	.478	M/S

Note: M/S = muscular/skeletal, V/G = vaginal/genital/bowel, S/A = stomach/abdominal/chest, S/N = sensory/nervous system, A/C = allergies/cold/flu

uninterpretable. Similarly, four and six factor solutions were not interpretable.

Table IV (cont'd)

Correlations of 25 Health Symptoms with the General Symptom Factor

Symptom	<i>r</i>	Original subscale
Stomach flu	.473	A/C
Face pain	.468	S/N
Difficulty swallowing	.465	S/N
Burning sensation in sex organs/rectum	.461	V/G
Sore throat	.455	A/C
High blood pressure	.449	-
Diarrhea	.447	A/C

Note: M/S = muscular/skeletal, V/G = vaginal/genital/bowel, S/A = stomach/abdominal/chest, S/N = sensory/nervous system, A/C = allergies/cold/flu

In addition to Runtz's (2001) measure of health symptoms, nine additional items were created to assess other dimensions of health and health-care services use. The psychometric properties of these measures individually and as components of a single measure are unknown. Thus, a PCA was undertaken. Two dichotomous variables (presence of chronic health problems and need to take medication to control a health problem) were dummy-coded such that lower scores indicated better health. All variables were converted to standard scores.

Examination of the scree plot suggested a one-factor solution. However, when a two-factor solution was specified, and varimax rotation

was used, two easily-interpreted factors emerged. As shown in Table V, the five items that loaded on the first factor related to day-to-day health concerns. The three items that loaded on the second factor related to participants' experiences of acute health emergencies (e.g., broken bones). Participants' number of hospital admissions did not load on either of these factors.

Table V

Pattern Matrix for Non-symptom Health Items

Health item	Factor 1	Factor 2
Chronic health problems	.737	.210
Symptoms interfere with daily life	.718	.070
Medication for health	.718	.120
Health compared to peers	.686	.017
Number of visits to GP in past year	.583	.414
Lifetime number of broken bones	-.222	.755
Lifetime number of trips to ER	.267	.720
Lifetime number of surgeries	.188	.571
Number of times admitted to hospital in past two years	.256	.295

Appendix F

Normality Tests and Transformations

Normality Tests and Transformations

The normality of the distributions of all conceptual variables was evaluated by examining normal probability plots of each variable and histograms with a normal curve superimposed, and by examining both the size of a skewness statistic for each variable and its ratio to the standard error of that statistic. Ratios larger than three to one indicate that assumptions of normality are not supported. In accordance with procedures suggested by Tabachnick and Fidell (1989), positively skewed distributions were transformed by computing the square root of each value, or, if they were more strongly positively skewed, by taking the base ten logarithm of each value. Further, the distributions of negatively skewed variables were transformed by first reflecting the variable (i.e., taking the largest value plus one as a constant, and subtracting each value from that constant), and then applying either a square root or logarithmic transformation (Tabachnick & Fidell, 1989). To maximize interpretability, all reflected variables were re-reflected after transformation.

All the CMQ subscale scores except psychological maltreatment were positively skewed. Log transformations normalized positive skews in total childhood maltreatment and improved the normality of physical neglect. Sexual abuse and physical abuse were strongly skewed and neither square root nor logarithmic transformations made much improvement. They were thus left untransformed. All measures of the duration of participants' abuse were also irredeemably positively skewed.

Childhood emotional support was normally distributed. Reflecting the variable and then taking the square root normalized a negative skew in parental care.

Avoidance and anxiety were both normally distributed. In terms of relationship variables, partner conflict and overall partner satisfaction were normally distributed. Negative skews in partner support and depth of relationship with partner were normalized when the variables were reflected and the square roots was calculated. Conflict with a friend was positively skewed. A square root transformation normalized the distribution. Importance of friendship had a slight negative skew, and this was remedied by reflecting it and taking the square root. Overall satisfaction with friendships had a strong negative skew. Reflecting it and taking the square root improved the normality of the distribution, but did not completely normalize it.

In terms of coping strategies, engagement coping was normally distributed. Disengagement coping was positively skewed. A square root transformation normalized it. Emotion-focused engagement, problem focused engagement, and problem-focused disengagement were normally distributed.

Emotion focused disengagement was positively skewed, and was normalized by a square root transformation. At the level of the primary coping variables, problem solving, cognitive restructuring, wishful thinking, and emotional expression were normally distributed. Problem avoidance,

social withdrawal, and self-criticism coping were all positively skewed and were normalized by square root transformations. Social support coping was negatively skewed but was normalized by reflecting it and computing the square root.

In terms of measures of well-being, a negative skew in the distribution of life satisfaction was normalized through reflection and computation of the square root. In terms of measures of psychological distress, the anxious arousal, anger/irritability, defensive avoidance, and impaired self reference subscales of the TSI were normal. The total TSI score and the dissociation, intrusive experiences, sexual concerns, and depression subscales were positively skewed and square root transformations normalized them. The tension reduction behaviour and dysfunctional sexual behaviour subscales had strong positive skews that were normalized using log transformations.

In terms of the health measures, the distribution of the general health symptoms measure was positively skewed, and it was transformed to normal using a logarithmic transformation. Daily health concerns was positively skewed and normalized by a square root transformation. Participants' number of hospitalizations in the last two years could not be transformed to normal because 68.5% of participants indicated no hospitalizations in that time.

Appendix G

Tables of Correlations Involving Subscales of Conceptual Variables

Table A

Correlations Between Childhood Maltreatment Variables and Positive Childhood Relationship Variables

Childhood Maltreatment	Care	CES
Psychological maltreatment	-.62***	-.54***
Physical neglect	-.44***	-.43***
Physical abuse	-.48***	-.38***
Sexual abuse	-.33***	-.32***

** $p < .01$. *** $p < .001$. Two-tailed.

Note: Care = parental care, CES = Childhood emotional support. Degrees of freedom range from 119 to 127.

Table B

*Correlations Between Coping Strategies Inventory Primary-Level Subscales
and Adult Attachment*

Coping	Attachment	
	Avoidance	Anxiety
Problem solving	-.24**	-.35***
Cognitive restructuring	-.17	-.22*
Emotional expression	-.30***	-.03
Social support	-.42***	-.12
Problem avoidance	.25**	.27**
Wishful thinking	.23**	.50***
Self-criticism	.21*	.39***
Social withdrawal	.51***	.36***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Table C

Correlations Among Primary-Level Coping Subscales and Relationship Variables

Relationship variables	PS	CR	EE	SS	PA	WT	SC	SW
Partner support	.08	.10	.11	.26**	-.17	-.13	-.13	-.22*
Depth of partnership	.06	.05	.06	.20*	-.22*	-.12	-.09	-.13
Conflict with partner	-.08	-.16	.01	-.12	.24**	.35***	.19*	.25**
Overall satisfaction with partnership	.14	.21*	.04	.20*	-.20*	-.21*	-.10	-.24*
Importance of friendship	.19*	.26**	.41***	.54***	-.07	-.03	-.06	-.34***
Conflict with friend	-.08	-.03	-.04	.15	.23*	.20*	.27**	.33***
Overall satisfaction with friendship	.23*	.29***	.40***	.49***	-.05	-.09	-.06	-.44***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: PS = Problem solving, CR = Cognitive restructuring, EE = Emotional expression, SS = Social support,

PA = Problem avoidance, WT = Wishful thinking, SC = Self-criticism, SW = Social withdrawal

Table D

Correlations of Health Measures and Life Satisfaction with Trauma Symptom Inventory Clinical Scales

TSI Subscale	GHS	Daily	SAT
Anxious arousal	.50***	.50***	-.45***
Depression	.46***	.44***	-.61***
Anger/irritability	.42***	.36***	-.50***
Intrusive experiences	.42***	.44***	-.38***
Defensive avoidance	.30***	.35***	-.42***
Dissociation	.42***	.23*	-.38***
Sexual concerns	.34***	.25**	-.33***
Dysfunctional sexual behaviour	.23*	.12	-.34***
Impaired self reference	.43***	.28**	-.58***
Tension reduction behaviour	.28**	.19*	-.41***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: GHS = General health symptoms, Daily = Daily health problems,

SAT = General life satisfaction. Degrees of freedom range from 119 to 121 for all correlations.

Table E

Correlations of Types of Childhood Maltreatment and other Childhood Relationship Variables with Trauma Symptom Inventory Clinical Scales

Scale	PM	N	PA	SA	CMQ	CES	Care
Anxious arousal	.21*	.11	.21*	.14	.22*	-.24**	-.20*
Depression	.22*	.20*	.22*	.18*	.26**	-.29***	-.21*
Anger/irritability	.11	.03	.08	.08	.11	-.17	-.09
Intrusive experiences	.35***	.36***	.34***	.29***	.43***	-.33***	-.26**
Defensive avoidance	.32***	.33***	.34***	.24**	.40***	-.26**	-.24**
Dissociation	.27**	.19*	.10	.20*	.26**	-.21*	-.23**
Sexual concerns	.21*	.21**	.18*	.27***	.25**	-.13	-.26**
Dysfunctional sexual behaviour	.15	.17	.15	.14	.19*	-.11	-.12
Impaired self reference	.25**	.19*	.16	.21*	.26**	-.26**	-.23*
Tension reduction behaviour	.08	.05	.04	.05	.10	-.10	-.16
Total TSI score	.30***	.25**	.26**	.23**	.34***	-.29***	-.27**

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

Note: PM. = Psychological maltreatment, N = Physical neglect, PA = Physical abuse, SA = Sexual abuse, CMQ = Total Childhood Maltreatment Questionnaire, CES = Childhood emotional support, Care = Parental care. Degrees of freedom range from 118 to 120.

Table F

Correlations of Attachment Subscales with Childhood Maltreatment Subscales

Childhood Maltreatment	Attachment	
	Avoidance	Anxiety
Psychological maltreatment	.46***	.23**
Physical neglect	.35***	.08
Physical abuse	.38***	.10
Sexual abuse	.33***	.07

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Table G

*Correlations of Attachment Subscales with Trauma Symptom Inventory**Subscale Scores*

TSI Subscale	Avoidance	Anxiety
Anxious arousal	.16	.42***
Depression	.31***	.54***
Anger/irritability	.23**	.38***
Intrusive experiences	.18	.36***
Defensive avoidance	.30***	.33***
Dissociation	.20*	.41***
Sexual concerns	.22*	.45***
Dysfunctional sexual behaviour	.11	.47***
Impaired self reference	.29***	.59***
Tension reduction behaviour	.17	.53***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 120 to 126 for all correlations.

Table H

*Correlations Between Relationship Variables and Childhood Maltreatment**Subscale Scores*

Relationship Variable	Psych. maltreat.	Neglect	Physical abuse	Sexual abuse
Partner support	-.18	-.16	-.04	.04
Depth of partnership	-.05	-.12	-.10	.01
Conflict with partner	.17	.09	-.01	.02
Overall satisfaction with partner	-.18	-.17	-.11	-.09
Importance of friendship	-.30***	-.37***	-.28**	-.24**
Conflict with friend	.14	.22*	.27**	.11
Overall satisfaction with friend	-.32***	-.34***	-.30***	-.24**

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 106 to 110 for correlations involving intimate partners and from 119 to 123 for correlations involving friends.

Table I

Correlations Between Relationship Variables and Trauma Symptom Inventory Subscales

	AA	D	AI	IE	DA	DIS	SC	DSB	ISR	TRB
Partner support	-.08	-.18	-.04	-.08	-.08	-.20*	-.19*	-.22*	-.25*	-.14
Depth of partnership	.01	-.09	.04	-.10	-.17	-.14	-.23*	-.27**	-.17	-.18
Conflict with partner	.33***	.30**	.27**	.29**	.17	.40***	.34***	.23*	.42***	.30**
Overall satisfaction with partner	-.14	-.25**	-.12	-.19	-.22*	-.19*	-.36***	-.30**	-.31***	-.28**
Importance of friendship	-.02	-.17	-.09	-.17	-.12	-.09	-.20*	-.04	-.12	-.05
Conflict with friend	.17	.24*	.16	.22*	.18*	.28**	.26**	.24	.31***	.22*
Overall satisfaction with friendship	-.17	-.29**	-.24**	-.27**	-.20*	-.12	-.24**	-.08	-.24**	-.17

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: AA = Anxious arousal, D = Depression, AI = Anger/irritability, IE = Intrusive experiences, DA = Defensive avoidance, DIS = Dissociation, SC = Sexual concerns, DSB = Dysfunctional sexual behaviour, ISR = Impaired self-reference, TRB = Tension reduction behaviour. Degrees of freedom range from 102 to 104 for correlations involving the partner relationship variables and from 116 to 120 for all other correlations.

Table J

Correlations of Measures of Childhood Experiences with Primary-Level Coping Strategies

Coping strategy	CMQ	PM	N	PA	SA	Care	CES
Problem solving	-.17	-.10	-.18*	-.12	-.18*	.25**	.16
Cognitive restructuring	-.11	-.08	-.09	-.08	-.15	.26**	.34***
Emotional expression	-.20*	-.18*	-.21*	-.08	-.17	.32***	.27**
Social support	-.28***	-.25**	-.30***	-.15	-.21*	.36***	.34***
Problem avoidance	.14	.04	.20*	.09	.12	-.03	-.02
Wishful thinking	.18	.13	.11	.08	.19*	-.12	-.13
Self-criticism	.16	.18*	.08	.12	.15	-.16	-.03
Social withdrawal	.38***	.34***	.31***	.31***	.24***	-.37***	-.22**

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: CMQ = Total childhood maltreatment, Care = Parental care, CES = Childhood emotional support. Degrees of freedom range from 122 to 126.

Table K

*Correlations of Secondary-Level Coping Subscales with Trauma Symptom Inventory
Subscale Scores*

TSI Subscale	PFE	EFE	PFD	EFD
Anxious arousal	-.27**	.06	.39***	.42***
Depression	-.44***	-.11	.43***	.52***
Anger/irritability	-.26**	-.03	.30***	.41***
Intrusive experiences	-.20*	-.01	.36***	.32***
Defensive avoidance	-.20*	-.01	.44***	.35***
Dissociation	-.26**	-.04	.46***	.37***
Sexual concerns	-.23*	-.14	.47***	.42***
Dysfunctional sexual behaviour	-.14	-.04	.44***	.29***
Impaired self reference	-.39***	-.08	.48***	.51***
Tension reduction behaviour	-.26**	-.02	.44***	.38***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: PFE = Problem-focused engagement coping, EFE = Emotion-focused engagement coping, PFD = Problem-focused disengagement coping, EFD = Emotion-focused disengagement coping. Degrees of freedom equal 120.

Table L

Correlations Between Primary-Level Coping Variables and Trauma Symptom Inventory Scores

	AA	D	AI	IE	DA	DIS	SC	DSB	ISR	TRB	Total
Problem solving	-.24**	-.40***	-.27**	-.12	-.16	-.30***	-.23**	-.19*	-.38***	-.29***	-.35***
Cognitive restructuring	-.21*	-.35***	-.17	-.22**	-.18*	-.12	-.16	-.04	-.27**	-.14	-.24**
Emotional expression	.08	-.03	.05	-.03	.05	.05	-.06	.10	.01	.10	.05
Social support	.04	-.16	-.08	-.07	-.07	-.10	-.19*	-.03	-.14	-.06	-.11
Problem avoidance	.12	.15	.15	.10	.23*	.26**	.32***	.34***	.22*	.30***	.28**
Wishful thinking	.51***	.53***	.34***	.45***	.50***	.49***	.46***	.43***	.56***	.44***	.60***
Self-criticism	.30***	.36***	.29***	.23**	.19*	.22*	.24**	.23	.36***	.29**	.32***
Social withdrawal	.41***	.51***	.40***	.29***	.39***	.39***	.48***	.26*	.49***	.37***	.51***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: AA = Anxious arousal, D = Depression, AI = Anger/irritability, IE = Intrusive experiences, DA = Defensive avoidance, DIS = Dissociation, SC = Sexual concerns, DSB = Dysfunctional sexual behaviour, ISR = Impaired self-reference, TRB = Tension reduction behaviour, Total = Average of all 10 clinical scales. Degrees of freedom equal 118 or 119 for all correlations.

Table M

Correlations Between Primary-Level Coping Variables and Measures of Life Satisfaction and Physical Well-Being

Coping strategy	Life satisfaction	General health symptoms	Daily health concerns
Problem solving	.35***	-.26**	-.06
Cognitive restructuring	.26**	-.28**	-.30***
Emotional expression	.12	-.10	-.09
Social support	.22*	-.17	-.14
Problem avoidance	-.27**	.23**	.01
Wishful thinking	-.35***	.38***	.33***
Self-criticism	-.23**	.26***	.27***
Social withdrawal	-.41***	.39***	.32***

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed.

Note: Degrees of freedom range from 124 to 126 for all correlations.