Fall 2004

The relative impact of childhood stressor domains on young adult depression and the mediating role of social and personal resources

Paul A. Muller
University of New Hampshire, Durham

THE RELATIVE IMPACT OF CHILDHOOD STRESSOR DOMAINS ON YOUNG ADULT DEPRESSION AND THE MEDIATING ROLE OF SOCIAL AND PERSONAL RESOURCES

BY

PAUL A. MULLER
B.S., Brigham Young University, 1997
M.A., University of New Hampshire, 1999

DISSERTATION

Submitted to the University of New Hampshire
in Partial Fulfillment of
the Requirements for the Degree of

Doctor of Philosophy
in
Sociology

September, 2004

This dissertation has been examined and approved.

Dissertation Director, Heather A. Turner,
Associate Professor of Sociology

David Finkelhor, Professor of Sociology

Karen Van Gundy, Assistant Professor of Sociology

Victoria L. Banyard, Associate Professor of Psychology

Ellen S. Cohn, Professor of Psychology

7/8/04
Date

ACKNOWLEDGEMENTS

This dissertation research represents secondary analysis of a survey, "Childhood Adversity and the Mental Health of Adults," funded by the National Institute of Mental Health (R03#MH56169; Heather Turner, Principle Investigator). I would like to thank Dr. Turner for her kindness in offering me use of the data to conduct this study.

I want to acknowledge the outstanding assistance given by members of the committee that oversaw this dissertation. Doctors David Finkelhor, Karen Van Gundy, Vicki Banyard, and Ellen Cohn were extremely generous with their instruction and availability. Their help was crucial to the success of this work.

I would especially like to thank Heather Turner, not only for her explicit guidance on this project, but also for her invaluable service as a mentor to me over the past several years. I do not believe that my graduate school experience would have been nearly as successful (or enjoyable) were it not for her supervision.

TABLE OF CONTENTS

LIST OF FIGURE AND TABLES

ABSTRACT

THE RELATIVE IMPACT OF CHILDHOOD
STRESSOR DOMAINS ON YOUNG ADULT DEPRESSION
AND THE MEDIATING ROLE OF SOCIAL AND PERSONAL RESOURCES

by

Paul A. Muller

University of New Hampshire, September, 2004

Numerous studies have documented the harmful effects of childhood exposure to adversity on adult psychopathology. The relative impact of different types of stress, however, is less certain. Moreover, while there is very good evidence that childhood exposure to adversity does increase the likelihood of experiencing psychopathology, less is known about the mechanisms through which this happens. It is my hypothesis that childhood adversity exhibits effects on psychological distress in young adulthood, at least in part, through its damaging impact on the development of social and personal resources--specifically, by affecting a reduction in family support, peer support, self-esteem, and mastery. Further, I expect that the importance of different mediators in explaining the link between stress and depression will vary by stress type.

Secondary analyses of data from a sample of 649 individuals attending one of three colleges in the New England area were performed to assess the relative impact of each of several domains of childhood/adolescent adversity, and to identify mechanisms by which different forms of adversity affect psychological distress among young adults.

Findings indicate that while both non-violent self-adversity and non-violent family-adversity affect later well-being, adversity experienced indirectly through family hardships has a more severe impact. Also, witnessing the violent victimization of intimates can have effects on depression equal to personally experiencing the same type of victimization. In general, the mediating influences of the resource variables on the relationships to depression of the stressor domains were relatively small. Interesting patterns, however, did emerge. The two most important mediators of the relationship to depression of *family-adversity* are self-esteem and mastery; of *self-adversity*, family support and self-esteem; of *violence experienced*, family support, peer support, and self-esteem; and of *violence witnessed*, mastery. Further, the combined mediating effect of the resource variables is greater for family-adversity than it is for self-adversity, and greater

for violence experienced than it is for violence witnessed. Because different mediators matter more or less depending on the type of stress considered, it is evidence that the mechanisms involved in the translation of stress to depression do vary somewhat by stress type. Some implications of these findings are discussed.

INTRODUCTION

The notion that the social environment has important consequences for psychological well-being is supported by a vast body of research that extends back at least 30 years. Much of the research devoted to understanding the impact of adversity on subsequent psychopathology has been organized around a framework known as the stress process model. Key elements of this general model include (1) events and circumstances that represent sources of stress, (2) factors that may condition or moderate the effects of stress, and (3) health-related outcomes (Pearlin, 1999; Pearlin et al., 1981). Elaborations of the model include consideration of factors that intervene, or mediate, between health-related outcomes and their antecedents (e.g., Wheaton, 1985). Thus, mediators represent the mechanisms by which stress results in negative consequences.

Numerous studies have documented the harmful effects of childhood exposure to adversity on adult psychopathology (e.g., Brown & Anderson, 1991; Fendrich, Warner, & Weissman, 1990; McLeod, 1991). A broad literature has consistently found that adults are more likely to suffer from poor mental health if they experienced as children such hardships as the death of a parent (e.g., Tennant,

1988), parental substance abuse (e.g., West & Prinz, 1987), and sexual abuse (e.g., Green, 1993).

Although experiencing stress as a child increases risk for adult depression, the relative impact of different types of stress is less certain. Some traumas and adversities are likely more damaging to psychological well-being than others. For example, early research on stress exposure was based on the notion that any event requiring adjustment on the part of an individual was a cause of stress. This might include experiences as diverse as marriage, the death of a spouse, occupational advancement, and being hospitalized with an illness. More recently, however, it has been recognized that exposure to *negative* (or undesirable) events matters most for well-being. As stated by Turner and Wheaton (1997), "On the basis of a substantial body of research, the majority of life event researchers have come to focus upon undesirable change assessed with lists containing putatively negative events" (p. 30).

If there is a difference in terms of associated outcomes between events generally and events that are perceived as negative, it begs the question what other shared characteristics of traumas and adversities might make them more or less detrimental to well-being. Some

that have been identified include events that are unexpected rather than expected, and events that are uncontrollable rather than controllable (Thoits, 1983). Similarly, Pearlin and Radabaugh (1985) suggest that truly stressful events are those that are "unscheduled" as opposed to "scheduled" (e.g., involuntary job loss versus retirement).

Finally, while past research clearly demonstrates that exposure to stress adversely affects well-being, some researchers have recently argued that the full impact of stress exposure has been underestimated due to a lack of attention to the effect on mental health of *cumulative* adversity. For example, while Turner and Lloyd (1995) found that many individual childhood adversities were related to subsequent mental health, the cumulative experience of stress (i.e., an accumulation of adversities) was an especially strong predictor of later well-being. Other investigators have reported similar findings (e.g., Turner & Butler, 2003).

It is obvious that identifying the relative effects of various types of stressors remains an important issue. Relatively little empirical research, however, has been conducted explicitly addressing differential effects of cumulative childhood adversity across stressor

characteristics. Moreover, while there is very good evidence that childhood exposure to adversity--of various kinds--does increase the likelihood of experiencing adult psychopathology, there is less certainty about the mechanisms through which this happens. Although typically examined by stress researchers for their direct and/or moderating effects on well-being, social and personal resources such as support from family and friends or a healthy self-concept may also be key to understanding the link between stress and depression. That is, exposure to adversity in childhood may inhibit the proper development of these resources, which in turn contributes to lasting psychopathologies.

Although it is reasonable to believe that a reduction in social and personal resources is at least partially responsible for the impact of stress on depression, there exists a lack of empirical research to adequately inform the idea. This sentiment is expressed by Aneshensel (1999) in a discussion of the links between stress and mental health. In distinguishing between categories of potential stress mediators, the author suggests that social resources (which would include support by family and friends) and personal resources (which would include elements of self-concept such as self-esteem and mastery) are parts of a

"psychosocial approach" to identifying and studying mediators of stress, distinct from what she identifies as the "physiological" and "cognitive" approaches. Aneshensel notes a particular dearth of knowledge concerning mediators of the psychosocial variety when she states that:

> the connection between psychosocial resources and exposure to stress...is not well understood at the present time. This gap in the research literature is the result of an overriding concern with mental health outcomes, which has deflected attention away from the stressor-resource relationship (p. 221).

The purpose of the present study is to examine the links between childhood adversity and young adult depression. Secondary analyses of data from a sample of 649 individuals attending one of three colleges in the New England area were performed to assess the relative impact of each of several domains of childhood/adolescent adversity in an attempt to identify mechanisms by which different forms of adversity affect psychological distress among young adults. The specific domains are (1) non-violent self-adversity, (2) non-violent family-adversity, (3) violence personally experienced, (4) violence witnessed, (5) victimization by family, and (6) victimization by non-family. It is my hypothesis that childhood adversity exhibits effects on psychological distress in young adulthood, at least in part, through its

damaging impact on the development of social and personal resources--specifically, by affecting a reduction in family support, peer support, self-esteem, and mastery. Further, I expect that the importance of different mediators in explaining the link between stress and depression will vary by stress domain.

The present study contributes to stress research in several ways. It expands on previous investigations of the effects on well-being of cumulative adversity--i.e., Turner & Lloyd, 1995--by examining (a) the effects of different conceptual domains of childhood adversity on young adult well-being, (b) the potential mechanisms by which early adversity affects well-being, and (c) the extent to which such mediators differ across different domains of stress. Because this study represents an attempt to examine the stressor-resource relationship, it will perhaps help to fill the research gap of which Aneshensel writes. By specifying possible variations in mediators across different domains of childhood stress, we should gain a better understanding of the social and psychological processes that contribute to negative and long-term effects on mental health.

CHAPTER I

PRIOR RESEARCH

Non-violent Self-adversity and Non-violent Family-adversity

While all of the incidents and conditions contained on most life event checklists can be said to assess personal exposure to stress, some adversities are likely more self-experienced (or directly experienced by the individual) than others. For example, being hospitalized with a serious illness is, arguably, a more directly-experienced ordeal than having an intimate hospitalized with a serious illness. It is admittedly difficult, if not impossible, to entirely differentiate between hardships that are experienced directly and those that are experienced indirectly. Many traumas and adversities have components or aspects that affect individuals both directly and indirectly. To the extent that the overlap between direct experience and indirect experience is a matter of degree, however, it seems possible to group stressors by their tendency to affect through mostly one or the other. For example, having to repeat a grade at school is a rather directly-experienced hardship. However, while having a parent sent to prison may be experienced as a "direct" loss

by a child, much of its negative impact is likely a function of the family problems generated by the event. The distinction made in the present study is between hardships that are likely experienced more directly by the child (even if other family members were also possibly affected), versus those that are likely experienced more indirectly through the difficulties and problems of family members. Distinguishing between direct and indirect experience of adverse events and circumstances may have important implications for related outcomes. What immediately follows is a consideration of *non-violent* adversities, as the impact on well-being of violent stressors will be considered subsequently.

Past research has demonstrated the negative impact that many directly-experienced (non-violent) adversities can have on subsequent well-being. For example, children who experience chronic illness are two to four times more likely than their healthy counterparts to receive at some point during their youth a psychiatric diagnosis (Drotar & Bush, 1985; Eiser, 1990; Garrison & McQuiston, 1989; Lavigne & Faier-Routman, 1992). Research has also demonstrated a negative impact on well-being of direct exposure to disastrous events. Natural disasters have been shown to adversely affect children in a variety of ways,

including increased likelihood to experience posttraumatic stress disorder both in the short-term (Vogel & Vernberg, 1993) and long-term (LaGreca et al., 1996). Children who experience academic difficulties and failures, such as failing a grade at school, are at greater risk for depressive symptoms (Hilsman & Garber, 1995).

While there is substantial evidence that directly-experienced stressors adversely affect mental health, events and conditions that disturb social networks--and are thereby experienced more indirectly--are also important sources of adversity in childhood. Family-related adversities may be an especially problematic type of indirectly-experienced stressor. For example, divorce may often represent a major stressor in the lives of children (Erel & Burmann, 1995). Amato and Keith (1991) found evidence that children of divorced parents are more likely to experience subsequent internalized problems such as anxiety and depression. In studying the effects on children of parental illness, Dura and Beck (1988) found that children with mothers experiencing chronic pain were at elevated risk for depression. Children of alcoholic parents have been shown to be at elevated risk for depression in childhood (West & Prinz, 1987) and adulthood (Domenico & Windle, 1993; Tweed & Ryff, 1991).

The studies mentioned here demonstrate that both experiencing non-violent adversity directly and experiencing non-violent adversity indirectly through family problems or dysfunction can negatively affect well-being. Although no studies to date have explicitly compared these two domains of stress, it seems plausible that they may differ in their long-term effects on well-being. Moreover, it is likely that the processes by which long-term mental health consequences occur vary by these two forms of stress. In other words, the mediators (or the power of a given mediator) involved in the translation of stress to depression may be different depending on stress type. This is due to the possibly dissimilar impact(s) that stressors can have on various social and personal resources, an idea that will be discussed more fully later. Making comparisons in the relative impact on depression of experiencing adversity directly and experiencing adversity indirectly through the family not only helps identify variations in potency, but it also allows the specification of different pathways and processes by which adversity influences mental health.

Violence Personally Experienced and Violence Witnessed

Perhaps in part because *violent* traumas and adversities experienced in childhood have been believed to

be particularly harmful, much attention--both popular and scholarly--has been paid to them. Considerable evidence exists to suggest that experiencing violence in childhood can be particularly destructive to one's psychological well-being. Research shows that a wide variety of specific forms of victimization put youth at risk for mental health difficulties such as posttraumatic stress disorder and depression (Boney-McCoy & Finkelhor, 1995). For example, increased rates of psychopathology have been observed among children who experience physical abuse (Kolko, 1992) and physical punishment (Straus & Gelles, 1990). There are also serious *long-term* consequences of victimization. Adult mental health has been shown to be adversely affected by childhood exposure to physical violence and abuse (e.g., Holmes & Robins, 1988; Gelles & Conte, 1990; Allen & Tarnowski, 1989; Brown & Cohen, 1999) and sexual abuse (e.g., Burnam et al., 1988; Green, 1993). It has been estimated that childhood sexual assault may account for as much as eight percent of all psychiatric cases in the general population (Scott, 1992).

While these studies--and many more like them--have clearly established that experiencing personal victimization as a child has harmful short- and long-term consequences, less is known about the potential harm of

other types of violence exposure. For example, besides the effects on children of victimization, researchers have become aware of the potential harm of *witnessing* violence. Most of the research in this area has focused on the effects of witnessing domestic violence. Edleson (1999) identifies 84 studies that report an association between witnessing domestic violence and child development problems. In addition to the myriad short-term consequences (see review by Edleson), witnessing domestic violence as a child has been shown to increase adult risk for psychological problems such as depression (Silvern et al., 1995).

More recently, attention has been paid to the effects on children of witnessing violence outside the home. In a review of 25 studies conducted between 1984 and 2000 that considered exclusively the effects of witnessing violence in the community (as opposed to domestic violence), Buka et al. (2001) conclude that, "existing research suggests that high levels of witnessing violence place youth at risk for psychological, social, academic, and physical difficulties" (p. 302).

Other researchers have considered the combined effects of violence (both as victim and witness) inside *and* outside the home. In measuring what is sometimes referred to as

"community violence," they will frequently include--along with victimization--experiences as varied as witnessing the victimization of others, hearing about instances of violence that may have occurred in the neighborhood, and viewing violent media images (both real and fictional). The addition of these other experiences represents an effort to assess a wider range of the violence that children may encounter. Individuals reporting higher levels of witnessing and victimization are at greater risk for a variety of negative outcomes, including depression (see review by Horn & Trickett, 1998).

The problem with most of the research carried out under this "community violence" rubric, however, is that it does not consider separately the impact of each of the different forms of violence exposure, but rather cobbles them together in various combinations to create an assortment of indices that are sometimes collectively referred to as "exposure to violence", or ETV (e.g., Buka et al., 2001). In other words, most of this research fails not only to adequately distinguish among the various types of violence-witnessing, but also fails to make the perhaps more obvious distinction between violence that is witnessed and violence that is personally experienced. This is exemplified in the introduction of Horn and Trickett's

(1998) review of community violence studies where, referring to such things as, "murders, drive-by shootings, battles between gangs, shoot-outs with police, high-speed chases, [and] spousal beatings" they state that, "children who *witness* this violence or are themselves *victims* experience community violence directly" (p. 103, italics added). Although efforts to index the full range of violence to which children are exposed is laudable, the distinctiveness of the different types--and their health-related implications--should not be overlooked.

As demonstrated, there is strong support for the idea that witnessing violence (both inside and outside the home) does have serious consequences for children. Whether witnessing violence has substantial effects independent of *experiencing* violence, however, is less clear. Much of past research has failed to adequately separate the effects of witnessing violence from the effects of experiencing violence. Certainly this is true of the "community violence" (or "exposure to violence") research that makes little effort to distinguish between witnessing and experiencing. It is also true of many studies that have focused specifically on estimating the effects of witnessing violence, because they frequently fail to control for the effects of experiencing violence.

Referring to the majority of past research related to the effects on children of witnessing adult domestic violence, Edleson (1999) states that, "many studies appear to attribute child problems to the 'effects of witnessing violence,' when, in fact, they may be more strongly associated with having been a direct victim of abuse" (pp. 844-845). Given the typically high correlation between witnessing violence and experiencing violence (i.e., children who witness are also much more likely to experience), this represents a serious hindrance to estimating the actual effects of witnessing.

While some studies of the impact on children of witnessing violence have controlled for some levels and types of victimization, and thereby suggest that witnessing violence does have effects independent of experiencing violence (e.g., Henning et al., 1996; Silvern et al., 1995), this investigator is aware of only one study (Fitzpatrick, 1993) that has made explicit comparisons in psychological outcomes between personally experiencing certain victimizations and the witnessing of someone else's experience of those same victimizations.

Fitzpatrick (1993) compared levels of depression among witnesses and victims of violence in a sample of low-income African-American youth (ages 7-18). Victims of violence

reported higher levels of depression, but witnessing violence was not significantly related to depression independent of experiencing violence (additional analyses actually hinted at a *negative* association). The findings from this study are limited by the use of a relatively small (n=221) convenience sample of low-income African-Americans. This may help explain the somewhat unexpected result of no (or a negative) association between witnessing violence and depression. Alternatively, the findings may be indicative of the reality that victimization matters more for predicting depression than witnessing violence. In other words, witnessing violence may not be related to depression independent of experiencing the same type of violence.

In sum, there have been a multitude of studies on the effects of experiencing violent victimization. Efforts have also been made to assess the effects of witnessing violence. And while comparisons made across these various studies can offer clues about the relative impact of these different forms of violence exposure, the information that can be garnered through such efforts is limited. Only by making direct simultaneous comparisons in outcomes between witnessing and experiencing--and perhaps especially when these two types of exposure are sufficiently similar in

measurement--can the independent and relative contributions of each be adequately examined. Further, any differences in effect on depression between the two may be best understood in terms of differences in the mechanisms by which each works to affect depression.

Victimization by Family and Victimization by Non-family

Much of the research on childhood victimization focuses on children who suffer their abuse at the hands of family members (see review by Crittenden, 1998). This attention to intra-family victimization is appropriate given the fact that children, especially young children, are at much greater risk of suffering many forms of maltreatment at the hands of family members than they are at the hands of non-family members. As reported by Finkelhor (1997), it has been estimated that parents are responsible for as much as 90 percent of physical abuse and 80 percent of abductions perpetrated against children. The acute dependency that children have on parents and family, and the large quantity of time they spend with family members, likely explain why children may be especially at risk for intra-family victimization.

Besides the greater likelihood of experiencing many forms of victimization at the hands of family members, there is reason to believe that the impact on well-being

may be greater when the perpetrator is a family member. This is reflected in literature that suggests a relationship between impact on well-being and emotional proximity to the perpetrator (Horn & Trickett, 1998). Further, because of the intimate nature of familial relationships, injury committed by a family member may be particularly devastating. In reference to sexual abuse, Finkelhor (1994) states that, "There is no question that intrafamily abuse is more likely to go on over a longer period of time and in some of its forms, particularly parent-child abuse, has been shown to have more serious consequences" (p. 46).

Despite the significance in terms of scope and severity of family-related victimization, the perpetration of violence against children by non-family members is far from trivial. Retrospective studies demonstrate that more than half of all sexual abuse perpetrated against children is extra-familial (Finkelhor, 1994). It is important to note that acquaintances are responsible for much of this extra-familial abuse. Nevertheless, given the supposed special impact on well-being of victimization perpetrated by family members, the distinction between intra-familial abuse and extra-familial abuse (even if it is at the hands of acquaintances) seems important. More evidence of the

significance of extra-familial victimization is demonstrated by considering the characteristics of perpetrators of all crimes against children. As reported by Finkelhor and Ormrod (2000), family members commit less than 20 percent of all crimes against children ages 11 and older.

Some researchers have recognized a need to assess the effects on children of abuse perpetrated by persons other than family members. This is reflected somewhat in the "community violence" literature discussed earlier, where investigators attempt to assess a range of violence exposure beyond domestic violence. Nevertheless, these studies often fail to distinguish between intra- and extra-familial violence, and almost universally fail to compare differences in outcomes between the two. Further, this investigator is unaware of any study that has simultaneously tested for *independent* effects on depressive symptomatology of intra- and extra-family victimization using the same set of items to measure both, something that could be valuable in gaining an understanding of the relative impact of each.

If there is a difference in effect on depression between intra- and extra-familial victimization, explaining that difference may be benefited by consideration of the

social and psychological mechanisms by which family and non-family victimizations influence well-being. As will be discussed shortly, exposure to intra-family violence may have a different effect on mediating resources than exposure to extra-family violence.

Mediators of Stress and Depression

It is well established that childhood exposure to stress increases the likelihood of experiencing subsequent depression. Less understood, however, is why. To better assess the nature of the relationship between stress and depression, it is important to consider the processes by which childhood and adolescent exposure to stressful events results in adult symptomatology. The present study considers the mediating influence of family support, peer support, mastery, and self-esteem. Past research has established the utility of these factors in increasing our understanding of stress and depression. These resources have been recognized for their direct contribution to psychological well-being, and also for their capacity to moderate the negative consequences frequently associated with stress. Another way that these factors can increase our understanding is by examining the mediating role they play in the translation of stress to depression. It is possible that these same resources that so frequently

contribute to well-being (both directly and as moderators) are themselves compromised by exposure to stressful events and circumstances. In turn, lower levels of personal and social resources increase risk for experiencing depression. In this way, a reduction in resources is the mechanism by which childhood adversity results in adult depression.

While experiencing traumas and adversities in childhood may reduce access to--or perceived existence of--these valuable resources, it is important to recognize the possibility that stressors can actually have a *positive* effect on these resources. Some (e.g., Wheaton, 1985) have pointed out that stressors can sometimes stimulate the utilization of otherwise unused or absent resources. On the whole, however, little evidence exists to support this idea. As stated by Pearlin (1999), "There is typically a negative effect of stressors on resources" (p. 170).

The design of the present study allows for a relatively comprehensive examination of these mediators. Creating multiple domains of stressors to test for differences in effects on depression by type of stress exposure allows for an analysis of how mediators of the stress-depression relationship may also vary by type of stress. In other words, different domains of stress may

differentially affect the mechanisms involved in the translation of stress to depression.

Social Support: Family and Peers

Perhaps the most popular conceptualization of social support is provided by Cobb (1976), who views it as the extent to which an individual perceives that he or she is cared for, loved, esteemed, valued, and belongs to a network of communication and obligation. A great deal of research has documented the direct positive influence of this type of support on psychological well-being (e.g., Cohen & Wills, 1985; Sarason & Sarason, 1985; Veil & Baumann, 1992). In particular, studies have demonstrated that lower levels of support increase the likelihood for experiencing depressive symptomotology (see review by Henderson, 1992). As stated by Turner (1999), "The connection between perceived social support and mental health status generally, and depression in particular, appears to be highly robust" (p.204).

In addition to contributing directly to well-being, social support has also been shown to moderate the negative outcomes usually associated with traumas and adversities. In other words, exposure to stress impacts psychological well-being less for individuals who report higher levels of support. In 35 studies of the stress-depression

relationship reviewed by Henderson (1992), only four failed to report a moderating effect of social support.

One form of social support is that provided by families. Supportive behavior by parents, for example, has been shown to have pro-social outcomes for children of all ages, and for all ethnic, social, and cultural groups (Maccoby & Martin, 1983; Rollins & Thomas, 1979). Some of the outcomes associated with lower levels of family and/or parental support include anti-social behavior (Sim, 2000), lower academic achievement (Steinberg et al., 1992), and depression (Barrera & Garrison-Jones, 1992). Besides contributing directly to well-being, family support has also proven an effective moderator of stress by reducing the negative impacts typically caused by childhood exposure to traumas and adversities (Carbonell et al., 1998; Feiring et al., 1996; Smith & Carlson, 1997).

Friendship networks represent another source of social support. Like family support, support from one's peers has been shown to be related to a variety of beneficial outcomes, including the development of problem-solving skills (Hartup, 1978), enhanced self-esteem and self-efficacy (Sandler et al., 1989), and psychological well-being (e.g., Barerra, 1986). Peer support also moderates the impact of stress. Individuals who report higher levels

of peer support are less vulnerable to the negative effects usually associated with adverse events and circumstances (Henderson, 1992).

While there is little doubt that social support from family and peers is beneficial to psychological well-being, both directly and as a buffer against stress, some investigators have also noted that social support may itself be affected by traumas and adversities (Gore, 1981; Thoits, 1982; Turner & Butler, 2003). For example, some stressors may represent for children the actual diminishment or loss of support resources, such as in cases of parental divorce or separation. Other hardships likely upset the quality of interactions that one is able to develop and maintain with others, effectively reducing perceived support. If traumas and adversities affect the development and maintenance of supportive networks (both familial and peer), and the resulting lower levels of support help explain subsequent depression, then social support is a mediator by which exposure to childhood adversity results in depression in young adulthood. However, it is not likely that all hardships affect support equally. Consider family support. Certain specific traumas and adversities are probably more deleterious to long-term family support than others (e.g., being sexually

abused by a family member versus being hospitalized with an illness). Or, more pertinent to the present investigation, it may be that different conceptual types--or domains--of stress differentially affect subsequent levels of family support. If so, the mediating influence of family support on the relationship between stress and depression is dependent on the type of stress considered.

Adversity and family support. Although family support--besides directly benefiting individuals--often acts as a buffer against the ill effects of stressors, families themselves do not remain unaffected by those stressors. Traumas and adversities experienced by children usually involve the family (Harmer, Sanderson, & Martin, 1999). Family members can, of course, be directly responsible for adversities, such as intra-familial sexual abuse. They are perhaps more frequently, though, co-victims of traumas and adversities. For example, when the main economic provider of a family becomes unemployed, rarely do any of the other family members remain unaffected. Indeed, the family has been referred to as a "conduit" by which extra-familial stressors affect family members (Pearlin & Turner, 1987).

Each of the stressor domains under study has the potential to adversely affect families in numerous ways,

including producing a reduction in the levels of support experienced by its members. For example, it is plausible that non-violent self-adversities could affect family support. Some adversities experienced by children could represent a source of irritation for parents, resulting in a decline in supportive behavior. Academic ineptitude, which can culminate in being required to repeat a grade, can elicit from parents increased criticism. Excessive parental criticism in response to undesirable behaviors can lead to increased risk for depressive symptomatology (Robertson & Simons, 1989).

Although directly-experienced adversities can inhibit later family support, stressors that affect children indirectly through their impact on family members and/or family functioning may be especially detrimental. Non-violent family-adversities may reduce family support in several ways. To begin with, many of these stressors can result in the actual reduction of family members from whom support can be drawn. This may include cases such as parental divorce, the hospitalization or death of family members, and the imprisonment of a parent. Secondly, family adversities often involve problems or strains within existing family relationships (e.g., inter-parental conflict). The "spillover effect" discussed in much of the

family systems literature would predict that adversities resulting in--or represented by--conflict or problems in any one familial relationship are likely to adversely affect the nature of (all) other familial relationships. This could include aspects of supportiveness. Indeed, it has been found that stress arising outside of the family is related to subsequent conflict between spouses (Elder & Liker, 1982; Pearlin & Turner, 1987), and that marital conflict is related to impaired parenting--in particular, parents are more likely to be withdrawn or emotionally unavailable to their children (Dickstein & Parke, 1988; Howes & Markman, 1989). In fact, family-related traumas and adversities frequently cause parents to employ dysfunctional parenting practices (Ge et al., 1994), and a common characteristic of impaired parenting is lower levels of supportive behavior. For example, McLoyd (1989) found that job and income loss put fathers at greater risk for depression, and that these fathers were, among other things, less nurturant toward their children. Others have found evidence to suggest that the emotional and economic difficulties often associated with parental separation compromise parents' abilities to provide support (e.g., Hetherington, Cox, & Cox, 1978; Patterson & Bank, 1989).

Importantly, impaired family interactions resulting from exposure to family-related adversity may contribute to *long-term* reductions in family support. Family ties represent permanent relationships, and experiencing hardships might cause irreparable damage to those enduring associations. Inter-personal conflicts borne in adversity may remain unresolved, and feelings of frustration and irritation produced by earlier difficulties (e.g., a family member's drug or alcohol problem) may continue. A fundamental aspect of family systems theory is the idea that interactions between family members--whether functional or dysfunctional--tend toward homeostasis. In this way, past exposure to adversities may contribute to a stable pattern of low family support.

Personally experiencing violent victimization in childhood certainly has the potential to adversely affect later family support. While very few studies have explicitly examined the issue, evidence from research on the various problem outcomes associated with childhood victimization does give some indication that this type of hardship may jeopardize family support. Becker-Lausen and Mallon-Kraft (1997) demonstrate that violent victimization has been shown to affect one's capacity to develop and maintain intimate relationships. This extends to lasting

familial relations, and would therefore predict less family support into adulthood.

A variety of studies have demonstrated that witnessing violence has implications for cognitive, developmental, and psychological problems (see review by Edleson, 1999). And while these hint at a reduction in capacity to draw support from others, no studies to date have examined specifically social support as an outcome of witnessing violence. An idea to be discussed more fully in the next section (*adversity and peer support*) is that future levels of support are somewhat dependent on the proper development of social competency related to intimacy. If so, it is reasonable to believe that personally experiencing violent victimization would have a greater impact than witnessing the violent victimization of others. This is consistent with literature demonstrating increased likelihood to experience the negative outcomes associated with violence based on level of exposure to the violence. For example, in a study of the effects on children of experiencing a school shooting, Pynoos et al. (1987) found that children who were more directly involved in the event (e.g., on the playground versus absent from school) later reported higher levels of psychological difficulties. If personally experiencing victimization is

more disturbing to crucial developmental processes than seeing someone else victimized, then it may more severely hinder the development of social competencies, resulting in greater reductions in lasting levels of family support. However, it is important to note that witnessing violence as measured in the present study involves observing the violent victimization of an intimate (i.e., "someone you were really close to"). Thus, given the importance of emotional proximity regarding violence-related outcomes, essential developmental processes might be disrupted as much by witnessing violence as by personally experiencing it. In other words, both personally experiencing violence and witnessing violence may similarly affect later family support.

As demonstrated, experiencing violent victimization as a child may reduce later family support. There could be differences in effect, however, depending on whether or not the perpetrator of violence is a family member. In fact, the possibility exists that extra-familial abuse can increase family support. If one considers the recent high-profile case of abduction involving Elizabeth Smart, it is not difficult to imagine that the apparent surge of care and concern by her parents (exhibited in media reports) represents an increase in level of support compared to that

existing prior to the abduction. Nevertheless, most evidence suggests that extra-familial victimization is more likely to produce decreases in family support rather than increases. For example, disclosure of extra-familial abuse has the potential to negatively affect parent-child interactions (Esquilin, 1987; Regehr, 1990). Upon discovery or disclosure of extra-familial sexual abuse, Manion et al. (1996) found that mothers of sexually abused children experienced poorer family functioning and lower satisfaction in their parenting role. Troubled parent-child interactions are less likely to be characterized by supportiveness.

While extra-familial victimization has the potential to reduce levels of family support, it seems likely that victimization at the hands of family members is even more harmful. It was suggested earlier that intra-family victimization might be especially damaging to children's subsequent well-being. It is likely that the deep impact made on children by abuse suffered at the hands of family members is related, at least in part, to strains on intra-familial relationships, not only between the victim and perpetrator, but also between the victim and other family members. One likely result of strained or discordant family relationships, and of the dysfunctional parenting

practices that so often attend such dynamics, is diminished support. And although it has been shown that extra-familial victimization can disturb family functioning, intra-familial victimization is likely to be even more disturbing. In their review of studies of the effects on children of community violence, Horn and Trickett (1998) state that, "violence perpetrated by adult family members is likely to be more traumatic than the same acts of violence involving nonfamily members" (p. 132). Moreover, victimization at the hands of family members is more likely to be chronic (Finkelhor, 1994), and it has been suggested by some (e.g., Pearlin, 1989) that persistent adversities--due to their frequent, fixed, ongoing nature--may be more harmful to well-being than discrete events. This harm may extend to greater decreases in levels of family support.

Importantly, besides likely causing a more severe reduction in family support, intra-familial victimizations probably also produce *longer-lasting* reductions. Long-term healthy relationships with family members--characterized by supportiveness--seem more feasible when a child has experienced victimization at the hands of non-family instead of at the hands of family. Although extra-familial victimization likely produces a decrease (rather than increase) in lasting levels of family support, it is

difficult to imagine that the decrease would be as great as that produced by intra-familial victimization. If feelings of distrust and betrayal in a relationship hinder the promotion of supportiveness within that relationship, then past injury experienced by one at the hands of the other may make a relationship characterized by supportiveness difficult to possess. In other words, it may be more difficult to maintain supportive relations with those who you feel have injured you. This is not an issue in cases of extra-familial victimization, but is very much so in cases of intra-familial victimization.

Adversity and peer support. Although friendship networks are a valuable resource for both directly enhancing well-being, and for reducing the impact of childhood adversity, stressors have the potential to actually cause a reduction in subsequent levels of peer support. This may happen through a decrease in the availability of peers from whom support can be drawn. Perhaps even more importantly, traumas and adversities experienced in childhood may disrupt normal role development and the acquisition of social skills needed to develop and maintain supportive relationships.

Lin and Peek (1999) suggest that the ability to draw support from others is partially predicated on an

individual's sense that he or she is integrated into a social network, which sense comes through extending social support to others. Experiencing hardships in childhood may hinder individuals from participating in these types of reciprocal relationships. In a review of literature considering the direct and indirect effects of stressors on mental health, Monroe and McQuaid (1994) suggest that friends can be wearied by responding to the needs of others. In this way, stressors experienced in childhood (which tend to increase risk of experiencing stressors in adulthood) may produce lasting reductions in peer support.

Although directly-experienced (non-violent) adversities have the potential to limit later support received from friendship networks, hardships experienced indirectly through family difficulties may be even more detrimental to lasting levels of peer support. According to attachment theory, forming an emotional bond with caregivers is one of the earliest developmental tasks of children (Bowlby, 1969). According to Coble, Gantt, and Mallinckrodt (1996), the type of attachment that a child develops predicts not only the quality of immediate relationships with caregivers, but also provides a model upon which to base all subsequent inter-personal relationships. In short, secure attachments benefit a

child immediately with a sense of security, and lastingly with social competency to draw support from future relationships, including peers. As the authors conclude, "children with secure attachments to their caregivers...do develop a higher level of the social skills necessary to interact successfully with peers" (p. 155). Further, persons lacking social competencies, "lack social support because of a general inability to recruit it from relationships that are available" (p. 144). Importantly, research presented by the authors suggests that the development of attachment is related to parental behavior. Specifically, physical contact, frequent interaction, and prompt and appropriate responses to children's cues are parental behaviors associated with securely attached infants. As discussed earlier, family-related hardships can disrupt family functioning, including parent-child relations. Stressors may adversely affect parental behavior, and thereby threaten in children the development of secure attachments and the social competency to garner future support from others. This could result in experiencing lower levels of peer support, even into adulthood.

Evidence exists to suggest that childhood exposure to violent victimization can also hinder later peer support.

For example, Harter, Alexander, and Neimeyer (1988) found increased perceptions of social isolation among young adult female victims of childhood sexual abuse. Lower levels of peer support could come about by the increased likelihood of experiencing later stressors (a frequent outcome of earlier victimization), whereby help extended by friends is exhausted. Overtaxed friends may become reluctant to continue offering support. However, a lack of later peer support caused by violent victimization is probably most expressly due to the deleterious effects that victimization can have on developmental processes at this formative stage of life, resulting in an incapacity to garner later support from sources that otherwise do exist.

Less is known about the effect on peer support of witnessing violence. No studies to date have explicitly examined peer support as an outcome of witnessing violence. Further, there is a lack of existing research to adequately inform speculation as to the relative impact on peer support of violence that is personally experienced versus violence that is witnessed. There is reason to suppose that both types of violence have the potential to interfere with cognitive and social development, which in turn may hamper one's competence to maintain later supportive friendship networks. As with family support, however, to

the extent that future levels of peer support depend on the development of social competency, victimization may be more detrimental than witnessing violence. It is important to keep in mind, however, that witnessing violence as measured presently involves observing the victimization of an intimate. This could intensify the traumatic effect that witnessing violent victimization may have (as compared to, say, the effect of witnessing the violent victimization of a non-intimate). Therefore, in the present study, witnessing violence might be as harmful as personally experiencing victimization, and could result in diminished levels of later peer support that are comparable to those produced by personal victimization.

There is good reason to suppose that violent victimization will produce lower levels of subsequent peer support. To what extent later peer support is differentially affected by various types of violent victimization, however, is unclear. Specifically, comparisons in impact between extra- and intra-familial victimization are limited by a lack of existing empirical research. For example, Becker-Lausen and Mallon-Kraft (1997) outline evidence suggesting that a common outcome of childhood maltreatment (e.g., sexual abuse) is intimacy dysfunction. That is, children who suffer maltreatment are

more likely to become socially isolated and are less able to develop and maintain healthy intimate relationships, including friendships. The researchers do not, however, distinguish between extra- and intra-familial victimization, and no comparisons in outcomes are made between the two. It is certainly likely that extra-familial victimization is hazardous to developmental processes related to social competence, and therefore poses a threat to acquiring future peer support. It was suggested earlier, however, that it is largely in/through the family that these developmental processes occur. If indeed intra-familial victimization is more disruptive than extra-familial victimization to family functioning and the development in children of secure attachments to caregivers (Alexander, 1992), it is likely that intra-familial victimization will more severely inhibit children from acquiring the social competencies necessary to garner future support from peers. Exacerbating the corrosive effects of intra-familial victimization is the fact that it tends to be more chronic than extra-familial victimization, a characteristic that likely increases its detrimental effects on--ultimately--one's ability to participate in reciprocally supportive relationships. In these ways,

intra-familial victimization may affect a greater reduction in later peer support than extra-familial victimization.

Self-concept: Self-esteem and Mastery

Besides the social resources represented by family support and peer support, another contributor to well-being are personal resources. These can be thought of as, "personal characteristics relevant for...adaptation to unexpected, ambiguous, or severe events" (Turner & Roszell, 1994, p. 179). Two characteristics that have been identified as especially salient for understanding stress processes are self-esteem and mastery (Pearlin et al., 1981). These factors have demonstrated particular significance in past stress research (see review by Turner & Roszell, 1994).

Self-esteem can be defined as, "the evaluation which the individual makes and customarily maintains with regard to himself or herself: it expresses an attitude of approval or disapproval toward oneself" (Rosenberg, 1965, p. 5). Many studies have demonstrated the importance of self-esteem for mental health. In a review of much of this literature, Turner and Roszell state that, "research has continued to accumulate indicating a significant inverse correlation between self-esteem and depressive symptomatology" (p. 192). Importantly, evidence suggests

that self-esteem is a relatively stable trait (Heatherton & Polivy, 1991; Kernis, 1993). Therefore, events in childhood that affect self-esteem can be expected to have a lasting impact into adulthood.

Like self-esteem, mastery represents a personal characteristic that contributes to good mental health. It is a concept related to perceived causal relevance, and, "concerns the extent to which one regards one's life-chances as being under one's own control in contrast to being fatalistically ruled" (Pearlin & Schooler, 1978, p. 5). A sense that situations are under one's control allows an individual to better cope with stressful events or circumstances in part because of a belief that problems are solvable. Numerous studies have documented the psychological benefits of possessing a strong sense of mastery (Rosenfield, 1989; Wheaton, 1980). As Turner and Roszell (1994) state in their review, "A substantial and rather consistent body of evidence has accumulated on the connection between mastery or control and the occurrence of psychological distress" (p. 184).

Adversity and self-esteem. While self-esteem appears to contribute to well-being (both directly and as a moderator of stress), there is reason to believe that, like the social resources of peer and family support,

experiencing adversities in childhood may inhibit the development of self-esteem. An individual's level of self-esteem is believed to arise in part out of social processes and contexts (Turner & Roszell, 1994). In other words, social environments and experiences play a role in the development of self-esteem. For example, levels of self-esteem have been shown to vary by such factors as socioeconomic status (e.g., Gecas & Seff, 1990), marital status (e.g., Pearlin & Schooler, 1978), and gender (e.g., Pearlin et al., 1981). If the development and maintenance of self-esteem is an ongoing process subject to external forces, it is reasonable to suppose that it can be influenced by stressful events and circumstances experienced in childhood.

Non-violent self-adversity can negatively affect children's self-esteem. For example, the academic failure represented by having to repeat a grade can cause feelings of incompetence. As noted by Chen and Kaplan (2003), "A history of school failure is...a stressor of a self-devaluing experience that engenders feelings of psychological inadequacy and inferiority" (p. 112). There is evidence that children who suffer serious physical illness experience lower self-esteem (Hauser et al., 1979). Tew and Laurence (1985) found that children with spina

bifida reported lower levels of self-esteem than their healthy counterparts.

Though experiencing (non-violent) adversity directly can reduce subsequent levels of self-esteem, it may be that hardships experienced indirectly through family problems have an even more profound effect. There is evidence to suggest that parental psychological difficulties put children at risk for lower levels of self-esteem (Hirsch, Moos, & Reischl, 1985). Drug and alcohol abuse by family members can also have detrimental effects. Roosa et al. (1988) found that children of problem-drinking parents experienced lower self-esteem. Physical illness among family members can also take a toll. Lewis et al. (1985) found that children of mothers with nonmetastatic breast cancer reported experiencing lower levels of self-esteem relative to controls. It has been posited that early experiences in the family are in large part responsible for the development of self-concept. Socialization by parents is a chief means by which children develop self-identity and character traits. If, as has been argued, family-adversities are typically more disruptive to family functioning than self-adversities, then they may interfere more severely with processes related to the development of

self-concept; they may be especially detrimental to lasting levels of self-esteem.

Personally experiencing violent victimization is another type of stress that has consequences for children's self-esteem. Evidence exists to suggest that experiencing physical or sexual abuse is related to the development of subsequent low self-image and poor mental health (Ackerman et al., 1998; Boudewyn & Liem, 1995). Sexual abuse in particular has been shown to adversely affect self-esteem (Oates et al., 1985). Importantly, childhood victimization appears to have long-term consequences (Browne & Finkelhor, 1986). Children who have been sexually abused are at greater risk of developing negative self-perceptions, which can continue on into adolescence and adulthood (Gold, 1986; Shapiro & Dominiak, 1990). Brayden et al. (1995) found that, among females, sexual abuse in childhood was related to adult depression through the development of poor self-esteem. A recent study by Briere and Elliott (2003) demonstrates that physical abuse and sexual abuse in childhood are both related to impaired self-reference in adulthood. Much less is known about the effects on self-esteem of witnessing violent victimization, though some evidence does suggest a relationship. In a study using retrospective reports of childhood exposure to parental

partner abuse, Silvern et al. (1995) found that witnessing abuse as a child was related to lower levels of self-esteem as a young adult.

Much of the research devoted to assessing the effects on children of experiencing violent victimization has focused primarily on outcomes related to such things as psychiatric disorders, externalized problem behaviors, posttraumatic stress disorder, and even academic achievement. Researchers interested in the effects on children of witnessing violence have typically followed suit (see reviews by Buka et al., 2001; and Edleson, 1999). Comparatively few studies have considered the effects of victimization or witnessing victimization on elements of self-concept, and none that I am aware of have compared differences in effect between the two. Following the logic of the importance of proximity to violence discussed earlier, it is hypothesized that personally experiencing violent victimization will operate to more severely inhibit self-esteem than will witnessing violence. As demonstrated by Silvern et al. (1995), however, it is important to note that observing the victimization of an intimate (in their study, a parent) can produce substantial reductions in self-esteem. Given that witnessing violence as measured in

the present study involves observing the victimization of an intimate, the impact on self-esteem may be considerable.

It has been adequately documented that violent victimization has negative consequences for children's sense of self. Several studies noted here (and many more like them) clearly indicate that children who suffer childhood victimization are at increased risk for lower self-esteem, both in the short- and long-term. A common shortcoming of the vast majority of studies of childhood victimization, however, is that they do not adequately distinguish between intra- and extra-familial victimization, and virtually none compare differences in outcomes between the two. Although both intra- and extra-familial victimizations likely produce reductions in self-esteem, victimization at the hands of family members is hypothesized to be more damaging. While victimization by non-family members is no doubt destructive, perpetrators who are closest to the victim, and who are most immediately involved in their functional development, likely cause greater harm (Browne & Finkelhor, 1986). Finally, there is reason to believe that chronic adversities will be more problematic than episodic adversities to the development of self-concept, and especially to the attainment of high levels of self-esteem (Pearlin et al., 1981). Because

intra-familial victimization tends to be more chronic than extra-familial victimization, it is likely to have a more destructive effect. In these ways, intra-familial victimization is hypothesized to be more detrimental to self-esteem than extra-familial victimization.

Adversity and mastery. There is reason to believe that childhood and adolescent adversities may inhibit the development of mastery. Many events and circumstances, such as the illness or death of a parent, occur beyond personal control. Experiencing these no doubt diminishes an individual's sense of self-efficacy. As noted by Pearlin and associates (1981), stressors may provide individuals with, "inescapable proof of their inability to alter the unwanted circumstances of their lives" (p. 340). To the extent that individuals internalize this message, they may be less likely to endeavor to avoid or change future difficulties. Evidence of this is provided by research suggesting that exposure to early hardships puts children at risk for lower educational performance through a reduction in *motivation* (Vondra et al., 1990; Zigler & Butterfield, 1968). A generalized sense of helplessness created by early adversity may continue into adulthood, experienced as diminished feelings of self-efficacy.

Being sent or taken away from one's parents is a type of non-violent, directly experienced adversity that is likely to cause subsequent reductions in levels of mastery. For example, McIntyre (1991) found that children in foster care were more likely than home-raised children to develop an external locus of control. Another self-adversity that can inhibit feelings of efficacy is academic failure, such as being required to repeat a school grade (Bandura, 1982). As noted by Bandura, "Inability to influence events and social conditions that significantly affect one's life can give rise to feelings of futility and despondency" (p. 140).

Traumas and adversities experienced indirectly through family problems also have the potential to affect mastery. Clair and Genest (1987) report that children of alcoholics are more likely to see family problems as unchangeable. Chassin et al. (1996) outline evidence to suggest that reduced mastery is a mechanism by which parental alcoholism produces negative outcomes in children. Changes in family structure can have an influence on children's mastery. Fogas et al. (1992) found that negative events surrounding divorce impacted children's well-being through decreased feelings of personal control.

While both directly- and indirectly-experienced traumas and adversities can affect mastery, it is likely that hardships experienced through family difficulties are most problematic. If early experiences in the family and socialization by parents are important for the development of character traits, then adversities that affect family functioning are liable to produce greater deficiencies than those that do not. Self-adversities, although experienced directly, do not likely interfere as much with what may be crucial to proper development--the health of the family environment and the fitness of its performing members.

It is likely that both personally experiencing violent victimization and witnessing violence affect one's sense of mastery. Many studies of the negative outcomes associated with childhood victimization suggest a reduction in feelings of efficacy (Alexander & Lupfer, 1987; Finkelhor, 1990). Less is known about the effects on mastery of witnessing the victimization of others. Taken together, though, studies of the deleterious effects of witnessing violence (see review by Horn & Trickett, 1998) hint at the potential for reductions in mastery. Similar to the earlier discussion concerning self-esteem, however, little research exists to inform speculation as to differences in relative impact on mastery of the two types of violence.

No studies to date have made explicit comparisons in effect on mastery between experiencing violent victimization and witnessing the victimization of others. Personal victimization, though, can be said to occur "closer" (both physically and emotionally) to an individual than witnessing the violent victimization of another. Therefore, since proximity to violence can predict severity of outcome, it is hypothesized that personally experiencing violent victimization will operate to more severely inhibit mastery than will witnessing violence. However, again, because witnessing violence as measured in the present study involves observing the victimization of an intimate (and recognizing the supposed importance of emotional proximity when assessing the effects on well-being of witnessing violence), it is acknowledged that the impact on mastery of seeing the violent victimization of others may be substantial.

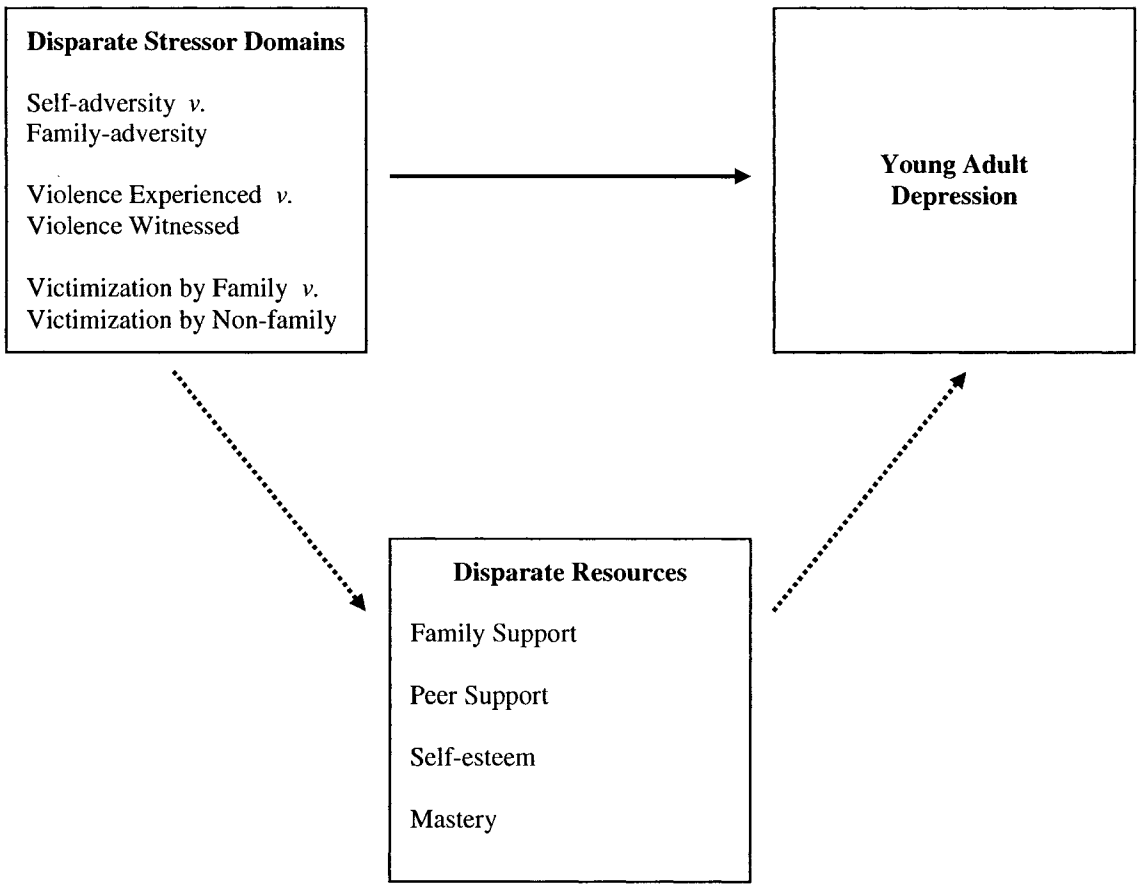
As demonstrated, violent victimization likely has consequences for lasting levels of mastery. It is not known, however, whether the consequences are similar for victimization that is suffered at the hands of family members as compared to victimization that is suffered at the hands of non-family. No studies to date have made systematic comparisons in effects on mastery between intra-

and extra-familial victimization. While both types of mistreatment likely produce decreases in mastery, it is hypothesized that intra-familial victimization affects a greater reduction. As has been argued repeatedly, conditions in the family are likely crucial to the development of various cognitive, social, and psychological capacities. Secure attachments to caregivers, in large part dependent on parental behavior, heavily influence these outcomes. Referring to intra-familial sexual abuse perpetrated by parents, Alexander (1992) states, "A neglect of one's needs (as inherently experienced by the sexually abused child)...will necessarily result in a sense of self as unworthy, undeserving, and even bad" (p. 190). Exposure to victimization at the hands of non-family, while no doubt detrimental to feelings of mastery, is not likely as devastating as mistreatment that is suffered at the hands of those chiefly responsible for emotional development. Finally, intra-familial victimization tends to be more chronic than extra-familial victimization. As stated by Cole and Putnam (1992), "Although child sexual abuse is a form of trauma, incest by a father is rarely a discrete traumatic event" (p. 174). This lends further credence to the notion that intra-familial victimization produces a

more severe and lasting impact on mastery (Pearlin et al., 1981).

In sum, the present study is an examination of the mediating effects of certain social and personal resources on the stress-depression relationship. As depicted in Figure 1, it is likely that differences in effects on depression exist between (1) non-violent self-adversity and non-violent family-adversity, (2) violence personally experienced and violence witnessed, and (3) victimization by family and victimization by non-family. Something that may help to explain any differences in outcomes across stress types is the mediating role of social support and self-concept. It may be that exposure to adversity in childhood/adolescence reduces subsequent levels of family support, peer support, self-esteem and mastery, increasing the likelihood of experiencing young adult depression. Further, because different types of stress likely differentially affect these resources, an awareness of such variations may account for differences in outcomes. Ascertaining to what extent different domains of stress differentially affect the mechanisms involved in the translation of stress to depression will contribute to our understanding of stress processes.

Figure 1. Conceptual Model



CHAPTER II

METHODS

Sample

This dissertation research represents secondary analysis of a survey, "Childhood Adversity and the Mental Health of Adults," funded by the National Institute of Mental Health (R03#MH56169; Heather Turner, Principle Investigator). It is based on a sample of 649 individuals attending one of three colleges in the New England area. These include: a university comprised largely of White, middle class students, many of whom come from small, semi-rural communities; a state college consisting of a mixture of working class White, Hispanic, African-American, and Asian students living in a medium-sized urban community; and an inner-city community college consisting of mostly lower-income African-American and Hispanic students who live in a large urban center. Although college students are not typically representative of all young adults, the diversity of the sample was increased by obtaining students from colleges that enroll individuals of differing socio-economic statuses, racial backgrounds, and urbanicities. Twenty percent of the sample is non-White and 40% of

respondents came from households where the main provider had less than a college degree. The sample included students ranging in age from 18 to 29, although 95% of the sample is under 25 (median age = 19 years). The sample is 41% male and 59% female.

The majority of the sample (approximately 65%) was obtained through a random sample of student registration directories. The response rate for this part of the sample was 86%. The sample also includes students who were recruited through a variety of college classes within the Liberal Arts. Response rates within classes ranged from 60% to 95%. Given favorable response rates and success in identifying and recruiting respondents with varied socio-demographic characteristics, the sample is reasonably representative of a diverse New England college population. Nevertheless, it is acknowledged that any college sample is likely to under-represent the most distressed and/or the most disadvantaged individuals.

Both face-to-face and telephone interview modes were used (18% in-person; 82% telephone). Graduate students and professional survey research interviewers conducted interviews. All interviewers attended extensive training sessions and were monitored closely throughout the survey. Respondents were paid $10 for their participation.

Measures

Depressive Symptomatology

Symptoms of depression were assessed by the Center for Epidemiologic Studies Depression Scale (CES-D). Respondents indicated how often over the preceding two weeks they had experienced each of 20 symptoms on a 4-point scale ranging from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). The specific items that constitute this measure are presented in Appendix A. A summary of the 20 items was constructed. The validity and reliability of this scale are well established (Radloff, 1977). In the present study, the reliability coefficient for the CES-D is .89.

Childhood/Adolescent Adversity

Adversity in childhood was assessed by a comprehensive measure that includes 30 possible traumatic events and adversities. Respondents were asked whether or not they had experienced each of the events/adversities at any time in their life. The full list of traumas and adversities and their exact wording is presented in Appendix B.

Each of the specific stressor domains was created by sub-dividing the whole list of traumas and adversities into separate categories. Items contained in a given domain share characteristics that reflect the nature of that

domain. The lists of traumas and adversities, in abbreviated form, are presented by domain in Appendix C. Individual traumas/adversities were coded 0 = *never happened* and 1 = *occurred one or more times*. Then, a summary count of traumas was used to construct variables representing each of the first four domains ("Non-violent Self-adversity", "Non-violent Family-adversity", "Violence Personally Experienced", and "Violence Witnessed"). Measures of victimization ("Victimization by Family" and "Victimization by Non-family") were constructed using the same six items for both domains. If respondents indicated having experienced a given victimization, they were then asked a series of detailed probes, including who was involved in the incident. If a family member was the perpetrator, respondents received a "1" (and all other respondents received a "0") for the given victimization. The items were then summed to create a measure of victimization by family. A measure of victimization by non-family was created using the same process. (A similar process was used for the first two items contained in the "Non-violent Family-adversity" domain so that only those adversities occurring to family members were counted.)

Examination of these composite adversity measures suggested positively skewed distributions. To alleviate

this problem, responses were collapsed into categories representing level of frequency of exposure to traumas/adversities. For both "Non-violent Self-adversity" and "Non-violent Family-adversity", all reports of experiencing adversity numbering 4 or greater were collapsed into a category representing the highest level of frequency, while the four other categories (0 through 3) correspond to the actual number of adversities experienced. Similarly, for both "Violence Personally Experienced" and "Violence Witnessed", all reports of experiencing adversity numbering 3 or more were collapsed, while the three other categories (0, 1, and 2) correspond to the actual number of adversities experienced. "Victimization by Family" and "Victimization by Non-family" were both collapsed into two categories each, where 0 = *never happened* and 1 = *occurred one or more times*.

Family Support

Perceived family support was assessed with a modified version of the Provisions of Social Relations Scale (Turner et al., 1983). The scale was designed to reflect the "provisions" of social relationships conceptualized by Weiss (1974), which includes attachment, social integration, reassurance of worth, reliable alliance, and guidance. Individuals responded to each item (see Appendix

A) on a 4-point scale ranging from "strongly disagree" to "strongly agree." A summary of the nine items was constructed. The alpha coefficient for this scale is .84.

Peer Support

Eight of the nine items used to measure family support were reworded to assess attachment, social integration, reassurance of worth, reliable alliance, and guidance provided by friends rather than family (see Appendix A). As before, subjects responded to each item on a 4-point scale ranging from "strongly disagree" to "strongly agree." A summary of the eight items was constructed, and the alpha coefficient for this scale is .91.

Self-esteem

Self-esteem was measured with a summary score of an instrument developed by Rosenberg (1965). This scale is well established in the literature. It is composed of seven items reflecting different "self-statements," or beliefs (items presented in Appendix A). Respondents rate each statement on a 5-point scale ranging from *strongly agree* to *strongly disagree*. The internal reliability for this scale is .81.

Mastery

Mastery was assessed using the summary score of an eight-item scale developed by Pearlin and Schooler (1978).

Respondents rated each item of a 4-point scale ranging from *strongly agree* to *strongly disagree*. This scale has also been used successfully in numerous studies, and its psychometric properties are well established. The exact wording of each item is presented in Appendix A. In the present study the alpha coefficient is .71.

Sociodemographics

Gender is a dichotomous variable (1 = *male*; 2 = *female*), while age is a continuous variable ranging from 18 to 29. Given relatively small numbers within minority subgroups in this sample, minority status was collapsed into a dichotomous variable (0 = *white*; 1 = *nonwhite*). Respondents coded as 1 on this variable (n = 130), include Hispanic Whites (13%), Hispanic Blacks (8%), African Americans (28%), Asians (17%), and other (38%). Respondents who placed themselves in the "other" category were largely non-Hispanic Caribbean blacks and mixed-ethnicity respondents who claimed to have no dominant identity. Respondents were also asked the highest level of education completed by the parent who "provided the major financial support for the family or household". Respondents answered on an 11-point scale ranging from *grade school only* to *doctorate degree*.

Analyses

Using the sample data, several analyses were performed to examine the issues under study. First, descriptive and bivariate analyses were conducted. This included examination of (a) frequency distributions of sample characteristics, (b) frequency distributions of items comprising each stressor domain, (c) mean scores for the composite stressor domains, depression, and the resource variables--overall, and by key demographic characteristics, (d) mean scores for depression and the resource variables across trauma count groups for each stressor domain, and (e) bivariate associations among all relevant variables.

Next, a series of hierarchical regression analyses were performed for each of the three pairs of stressor domains (Non-violent Self-adversity and Non-violent Family-adversity; Violence Personally Experienced and Violence Witnessed; and Victimization by Family and Victimization by Non-family). These examined the direct effects on depression of each of the two domains that constitute a pairing (e.g., Non-violent Self-adversity and Non-violent Family-adversity) and the mediating effects of the four resource variables on those relationships. In the first series--Non-violent Self-adversity and Non-violent Family-adversity--Step 1 involved regressing *depression* on *non-*

violent self-adversity, *non-violent family-adversity*, and several control variables (*age*, *sex*, *race*, and *parent's education*) to test the direct independent effects on depression of each of the two types of adversity. In Step 2, a resource variable (e.g., *family support*) was added to the regression equation to test the mediating effect of that variable on the relationships to depression of each of the two stressor domains. This step was repeated for each of the three other resource variables (Steps 3-5). If adding a hypothesized mediator to a regression equation causes a previously significant direct relationship to attenuate, it is evidence that the relationship is mediated by the added variable. Thus, I was able to determine the relative mediating influence of each factor on the relationships to depression of each of the two types of adversity. In the final model (Step 6), all four resource variables were entered into the regression equation concurrently to test for their independent effects on depression and their combined mediating effect on the relationships to depression of each of the two stressor domains. This entire series of analyses was repeated for each of the two other pairs of stressor domains (Violence Personally Experienced and Violence Witnessed; Victimization by Family and Victimization by Non-family).

CHAPTER III

RESULTS

This chapter presents findings from a series of analyses conducted using the sample data. It offers further description of the sample, findings from bivariate analysis, and results from a series of hierarchical regression analyses designed to examine the direct effects on depression of each of three pairs of stressor domains, and the mediating effects of the four resource variables on those relationships.

Descriptive and Bivariate

The distribution of demographic characteristics of the sample is shown in Table 1. The majority of subjects (84%) were younger than age 22. There were a somewhat greater number of females than males (60% vs. 40%). Whites outnumbered Non-whites 5 to 1. A majority of respondents (60%) reported parental educational attainment of an associate degree or greater.

Table 2 presents frequency distributions of items measuring non-violent self-adversity and non-violent family-adversity. The two most common types of self-adversity were being teased due to physical appearance (n =

Table 1. Sample Characteristics

	Frequency	Percent
Age		
18	163	25.3
19	174	27.0
20	139	21.5
21	67	10.4
22+	102	15.8
Sex		
Males	263	40.5
Females	386	59.5
Race		
White	519	80.0
Non-white	130	20.0
Parental education		
Less than college degree	253	39.5
Associate degree or greater	387	60.5

Table 2. Frequency Distributions of Items Measuring Non-violent Self-adversity and Non-violent Family-adversity

	Frequency	Percent
Non-violent self-adversity		
Natural disaster	82	12.6
Serious accident	86	13.3
Hospitalization with illness	136	21.0
Repeated a grade	58	8.9
Removed from parents	22	3.4
Have seen dead body	119	18.3
Teased due to race/religion/etc.	59	9.1
Teased due to physical appearance	138	21.3
Non-violent family-adversity		
Family Member had Serious Accident	204	31.8
Family Member Hospitalized w/ Illness	332	51.7
Provider Unemployed	146	22.5
Parent Sent to Prison	18	2.8
Family Member Abuse Alcohol/Drugs	145	22.3
Parent had Mental Illness/Breakdown	63	9.7
Inter-parental Conflict	216	33.4

138) and being hospitalized with an illness (n = 136). The least common was being removed from one's parents (n = 22). In terms of family-adversity, a large number of subjects reported having a family member hospitalized with an illness (n = 332), whereas relatively few had a parent sent to prison (n = 18). In all, study participants reported 700 episodes of self-adversity, and 1,124 episodes of family-adversity, among 387 and 527 subjects, respectively.

Frequency distributions of items measuring violence experienced and violence witnessed are shown in Table 3. The most common type of violence personally experienced was being chased by a "gang, bully, or someone you were frightened of, when you thought you could really get hurt" (n = 115). The least common type of violence personally experienced was suffering injury with the use of a weapon (n = 30). The most common type of violence witnessed by these subjects was seeing an intimate physically assaulted, though seeing an intimate assaulted with a weapon was the least common type (n = 135, n = 44, respectively). A total of 349 episodes of personally experienced victimization were reported (by 218 subjects), and 322 episodes of witnessing the violent victimization of an intimate (by 203 subjects).

Table 3. Frequency Distributions of Items Measuring Violence Personally Experienced and Violence Witnessed

	Frequency	Percent
Violence personally experienced		
Physically Assaulted by Family Member	49	7.6
Physically Assaulted by Non-family	86	13.3
Injured with Weapon	30	4.6
Threatened with Weapon	69	10.6
Chased by Someone	115	17.8
Violence witnessed		
Witnessed Intimate Physically Assaulted	135	20.8
Witnessed Intimate Assaulted w/ Weapon	44	6.8
Witnessed Intimate Threatened w/ Weapon	72	11.1
Witnessed Intimate Chased by Someone	71	11.0

Table 4 presents frequency distributions of items measuring victimization by family and victimization by non-family. More subjects reported being physically assaulted by a family member (n = 37) than experiencing any other type of intra-familial victimization. Only a single case of attempted kidnapping by family was reported. Among victimizations perpetrated by non-family, the most common type was being chased by someone you were frightened of, wherein you feared for your safety (n = 104). An attempted kidnapping was the least likely form of extra-familial victimization to be experienced by these subjects (n = 27). In all, study participants reported 77 episodes of intra-familial victimization and 350 episodes of extra-familial victimization, by 61 and 206 individuals, respectively.

The small number of subjects reporting intra-familial victimization may help explain a somewhat unexpected finding from the multivariate analyses that follow.

Table 4. Frequency Distributions of Items Measuring Victimization by Family and Victimization by Non-family

	Frequency	Percent
Victimization by family		
Raped	3	0.5
Molested	20	3.3
Physically Assaulted	37	5.7
Threatened with Weapon	10	1.6
Chased	6	0.9
Attempted Kidnapped	1	0.2
Victimization by non-family		
Raped	28	4.3
Molested	30	5.0
Physically Assaulted	86	13.3
Threatened with Weapon	58	9.0
Chased	104	16.3
Attempted Kidnapped	27	4.2

It is important to note the distinctiveness of this sample, especially in terms of the level of adversity to which these subjects, relative to other segments of the population, have likely been exposed. Although representative of the general population in some ways (e.g., gender and racial composition), the fact that all subjects currently attend a college or university means that they are not representative of the full community of young adults. In particular, their enrollment in higher education indicates an advantaged status that likely puts

them at lower risk for experiencing many types of stress, and perhaps especially the worst kinds of (severely negative) stressors.

Mean scores for each of the stressor domains, depression, and each of the resource variables are presented in Table 5. The most common type of adversity reported was non-violent family-adversity (M = 1.71, SD = 1.21), followed by non-violent self-adversity (M = 1.06, SD = 1.12). On average, there were relatively few reports of victimization by family (M = .11, SD = .31) and victimization by non-family (M = .35, SD = .48). Subjects were slightly more likely to personally experience violence (M = .52, SD = .84) than they were to witness the violent victimization of an intimate (M = .48, SD = .81).

Table 5. Mean Scores for Stressor Domains, Depression, and Resource Variables

	Mean	SD
Non-violent self-adversity	1.06	1.12
Non-violent family-adversity	1.71	1.21
Personally experienced violence	.52	.84
Violence witnessed	.48	.81
Victimization by family	.11	.31
Victimization by non-family	.35	.48
Depressive symptomatology	18.44	6.16
Family support	33.03	3.90
Peer support	29.45	3.78
Self-esteem	23.96	3.96
Mastery	27.04	3.66

Table 6 shows results from a series of ANOVAs conducted to examine the distribution of stressors, depression, and resource variables across key demographic characteristics. Significant differences in mean scores between males and females were found among four of the six types of adversity (exceptions are non-violent family-adversity and victimization by family), with males reporting higher levels of each. Peer support was the only resource variable in which males and females differed significantly, with females reporting higher levels. Race was an important factor in predicting adversity and social support. Non-whites reported higher levels of non-violent self-adversity, violence personally experienced, and victimization by non-family. They also reported lower

Table 6. Mean Scores for Stressor Domains, Depression, and Resource Variables by Sex, Race, and Parental Education

	Sex		Race		Par. Edu.	
	Male	Female	White	Non-wht	<Coll.	Coll.+
Non-viol. self-a	1.24	.94***	.90	1.70***	1.17	1.00
Non-viol. family-a	1.66	1.75	1.73	1.65	1.91	1.59**
Violence exper'd	.82	.32***	.45	.80***	.56	.50
Violence witn'd	.59	.40**	.45	.60	.54	.45
Vict. by family	.10	.11	.10	.13	.11	.10
Vic. by non-family	.45	.28***	.33	.46*	.38	.34
Depress. sympt.	18.03	18.72	18.38	18.72	18.19	18.66
Family support	32.74	33.23	33.21	32.31*	32.88	33.11
Peer support	28.81	29.88***	29.63	28.73*	29.10	29.71*
Self-esteem	24.25	23.76	23.99	23.80	24.01	23.91
Mastery	26.78	27.22	27.18	26.52	27.09	27.02

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

levels of family support and peer support than their White counterparts. Level of parental education was important in two ways. Subjects whose parents attained a college degree or greater were less likely to experience non-violent family-adversity, and they reported higher levels of peer support. It should be noted that in cases where differences in mean scores were significant only at the .05 level, tests were repeated using Bonferroni adjustments. This was done to ensure that significant findings were not an artifact of chance. Results from these additional tests are consistent with ANOVA findings as reported in Table 6 (results not shown).

Another series of ANOVAs was conducted to examine the distribution of depression and the resource variables across trauma count groups. Table 7 shows the results of this analysis for each stressor domain. Mean levels of depressive symptomatology differ by trauma count for each of the stressor domains. Generally, an increase in number of traumas/adversities experienced corresponds to an increase in level of depression reported (exceptions to this pattern are found among non-violent family-adversity and violence witnessed, where the difference between the highest count group and the next highest count group

actually corresponds to a small decrease in level of depression).

Mean levels of family support also differ by trauma count groups for each of the stressor domains. Higher levels of adversity generally correspond to lower levels of

Table 7. Means for Depression and the Resource Variables Across Trauma Count Groups for Each Stressor Domain

	Depressive symptom.	Family support	Peer support	Self-esteem	Mastery
Non-viol.Self-a					
0	17.55	33.68	29.68	24.36	27.40
1	18.46	33.18	29.58	23.87	26.85
2	18.93	32.60	29.14	23.86	26.98
3	19.95	31.10	28.67	22.26	26.15
4+	22.11	30.96	29.04	23.79	26.64
	(p <.001)	(p <.001)		(p <.05)	
Non-viol.Fam-a					
0	15.38	33.29	29.53	25.32	27.92
1	17.78	33.91	29.76	24.46	27.52
2	19.57	32.73	29.06	23.55	26.57
3	20.30	32.88	29.14	22.55	26.13
4+	19.67	30.54	29.75	23.28	26.98
	(p <.001)	(p <.001)		(p <.001)	(p <.001)
Viol. Exper'd					
0	17.85	33.57	29.89	24.16	27.27
1	19.02	32.47	28.58	23.58	26.73
2	19.95	31.48	28.67	23.67	26.53
3+	21.28	30.83	28.34	23.11	26.24
	(p <.01)	(p <.001)	(p <.001)		
Viol. Witness'd					
0	17.88	33.36	29.49	24.08	27.29
1	18.78	32.86	29.53	24.05	26.95
2	21.25	32.22	29.23	23.53	26.10
3+	20.26	29.74	28.74	22.52	25.74
	(p <.001)	(p <.001)			(p <.05)
Vict. by Fam.					
0	18.64	33.27	29.58	23.98	27.04
1+	20.85	31.33	28.85	22.33	26.17
	(p <.01)	(p <.001)		(p <.01)	
Vict. by Non-f.					
0	17.89	33.38	29.88	23.98	27.17
1+	20.67	32.47	28.77	23.48	26.53
	(p <.001)	(p <.01)	(p <.001)		(p <.05)

family support, except in the case of non-violent family-adversity. Experiencing 4 or more family-adversities is associated with the lowest levels of family support, but differences among the other trauma count groups are small, and they do not follow a consistent pattern. Apparently, it is differences between the highest group and the other groups that account for the finding of significant group differences in family support. A Scheffe multiple comparison test, which compares differences between each pair of means, confirms this. It shows significant differences between the "4+" group and each of the other groups, and no differences among the other groups (results not shown). This phenomenon also helps explain exceptions to general patterns found among other parts of this analysis, as noted.

Differences in mean levels of peer support across trauma count groups exist for only two stressor domains--violence experienced and victimization by non-family. Generally, experiencing a greater number of traumas is associated with lower levels of peer support (with the exception of differences between 1 episode of violence experienced and 2 episodes). Similarly, differences in levels of self-esteem by trauma count are observed for non-violent self-adversity, non-violet family-adversity, and

victimization by family. As before, the general pattern is a decline in mean level of self-esteem as number of adversities experienced increases, with exceptions existing among the two highest count groups for non-violent self-adversity and non-violent family-adversity.

Results also indicate that mastery levels are different across trauma count groups for non-violent family-adversity, violence witnessed, and victimization by non-family. Again, a greater number of traumas corresponds to lower levels of mastery, except for the two highest count groups for non-violent family-adversity. As before, Bonferroni multiple-comparison tests concur with ANOVA findings (results not shown).

Table 8 presents bivariate correlations among all relevant variables. As expected, each of the stressor domains has a significant positive relationship with depression. The strongest of these is non-violent family-adversity (r = .239, p < .01), and the weakest is victimization by family (r = .112, p < .01). Each of the resource variables is negatively associated with depression, such that lower levels of social and personal resources are related to higher levels of depressive symptomatology. Self-esteem clearly has the strongest

Table 8. Zero-order Correlations of All Relevant Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Depression	--														
2.Age	.106**	--													
3.Sex	.055	-.045	--												
4.Race	.022	.268**	-.034	--											
5.Careg edu.	.051	-.189**	-.028	-.178**	--										
6.Non-viol. Self-adv.	.164**	.199**	-.131**	.287**	-.129**	--									
7.Non-viol. Famil-adv.	.239**	.018	.038	-.028	-.107**	.263**	--								
8.Violence exprienced	.152**	.211**	-.297**	.161**	-.076	.315**	.181**	--							
9.Violence witnessed	.157**	.071	-.115**	.076	-.110**	.271**	.288**	.427**	--						
10.Victim. by family	.112**	.080	.007	.031	-.043	.144**	.181**	.379**	.158**	--					
11.Victim. by non-f.	.222**	.153**	-.174**	.103*	-.059	.206**	.168**	.715**	.276**	.159**	--				
12.Family support	-.149**	-.074	.061	-.093*	.077	-.199**	-.186**	-.213**	-.171**	-.152**	-.113**	--			
13.Peer support	-.174**	-.185**	.139**	-.095*	.091*	-.074	-.026	-.147**	-.033	-.059	-.141**	.265**	--		
14.Self-estm	-.379**	-.055	-.061	-.020	-.013	-.095*	-.207**	-.073	-.071	-.124**	-.060	.345**	.330**	--	
15.Mastery	-.302**	-.073	.059	-.072	-.011	-.079*	-.136**	-.087*	-.117**	-.073	-.082*	.287**	.325**	.619**	--

*$p < .05$ **$p < .01$ (two-tailed)

relationship to depression (r = -.379, p < .01) among the resource variables.

In considering the relationships between resource variables and stressor domains, there is a consistent pattern of negative associations. For example, family support is negatively related to each type of adversity, such that higher levels of adversity (across all six types) are related to lower levels of family support. Peer support is negatively related to violence experienced (r = -.147, p < .01) and victimization by non-family (r = -.141, p < .01), but does not have significant associations with any of the other four types of adversity. Self-esteem is related to non-violent self-adversity, non-violent family-adversity, and victimization by family (r = -.095, p < .05; r = -.207, p < .01; r = -.124, p < .01, respectively). Mastery is negatively related to all types of adversity, except victimization by family.

As would be expected, there are strong positive correlations among the resource variables. Of these, the relationship between self-esteem and mastery is clearly the strongest (r = .619, p < .01), and the relationship between family support and peer support is the weakest (r = .265, p < .01). Similarly, there are strong positive correlations among the various types of stress. The strongest of these

is between violence personally experienced and victimization by non-family (r = .715, p < .01), and the weakest is between non-violent self-adversity and victimization by family (r = .144, p < .01).

Some interesting results are found among the demographic variables. Table 8 shows that males were more likely than females to experience non-violent self-adversity (r = -.131, p < .01), violence witnessed (r = -.115, p < .01), violence personally experienced (r = -.297, p < .01), and victimization by non-family (r = -.174, p < .01). There were no differences between males and females in levels of non-violent family adversity or victimization by family. The only difference between males and females among the resources variables was in levels of peer support, with females reporting higher levels (r = .139, p < .01).

Race was associated with several other factors. Non-whites reported higher levels of adversity than Whites for non-violent self-adversity (r = .287, p < .01), violence experienced (r = .161, p < .01), and victimization by non-family (r = .103, p < .05). There were no differences between Whites and Non-whites for the other three types of stress. Non-whites also reported lower levels of family support (r = -.093, p < .05) and peer support (r = -.095, p

< .05) than Whites. There were no differences by race in levels of mastery and self-esteem. Finally, race was positively associated with age (r = .268, p < .01) and negatively associated with parental education (r = -.189, p < .01), such that Non-whites tended to be older and report lower parental educational attainment than their White counterparts. Parental education was negatively associated with non-violent self-adversity (r = -.129, p < .01), non-violent family-adversity (r = -.107, p < .01), and violence witnessed (r = -.110, p < .01), and positively association with peer support (r = .091, p < .05).

Multivariate

To examine the direct independent effects on depression of each of three pairs of stressor domains, and the mediating effects of the four resource variables on those relationships, regression analyses were performed. Steps were first taken, however, to ensure that any difference in effects on depression between domains is not an artifact of systematic variation in recentness of event types. This was accomplished by creating for each domain a variable that represents the average time since adversities occurred (e.g., average time since non-violent self-adversity). To test for differences in average time since adversities occurred between the domains that constitute

each pairing, *t* tests were conducted (results not shown). The only pair of "average time since" variables to have significantly different mean scores were those that correspond to violence personally experience and violence witnessed. Therefore, a separate regression analysis was conducted to determine what effects controlling for recentness of events might have on the relationships to depression of violence experienced and violence witnessed (results not shown). Controlling for recency (by adding the "average time since" variables to a regression of depression on the stressor domains and control variables) does not attenuate the strength in relationship to depression of violence experienced or violence witnessed, nor is the latter model an overall improvement--it does not account for a greater percentage of the variance in depression. In sum, it appears that differences in effects on depression between domains (in the analyses that follow) cannot be attributed to systematic variation in recentness of event types.

Table 9 shows results from the first set of hierarchical regression analyses. In Step 1, depression is regressed on self-adversity, family-adversity, and the demographic variables. Results indicate that both directly-experienced adversities and adversities

experienced indirectly through family problems are significant independent predictors of depression. As expected, family-adversity has a stronger relationship to depression (B = .226, p < .001) than does self-adversity (B = .106, p < .05).

In step 2, family support is added to the regression equation. Family support is directly related to depression (b = -.156, B = -.099, p < .05), such that higher levels of family support predict lower levels of depression. Adding family support also affected a small reduction in strength of relationship to depression of both self-adversity (by 11%) and family-adversity (by 6%). Though each type of stress remains a significant predictor of depression, this attenuation in strength is evidence of a modest mediating influence by family support.

In Step 3, peer support is added (separately) to the regression equation. As with family support, there is a negative relationship between peer support and depression (b = -.302, B = -.182, p < .001). Adding peer support, however, has virtually no effect on the relationships to depression of self-adversity or family-adversity, and therefore exhibits no mediating effect. As shown in Step 4, when self-esteem is added to the regression equation, it has the strongest direct relationship to depression (b =

Table 9. Hierarchical Regression of Depression on the Predictor Variables: Non-violent Self-adversity and Non-violent Family-adversity (Standardized Coefficients in Parentheses)

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Age	.326** (.118)	.319** (.116)	.242* (.088)	.275** (.100)	.278** (.101)	.243* (.088)
Sex	.844 (.067)	.918 (.073)	1.134* (.090)	.620 (.049)	1.059* (.084)	.846 (.067)
Race	-.111 (-.007)	-.189 (-.012)	-.146 (.009)	-.085 (-.005)	-.389 (-.025)	-.201 (-.013)
Parent education	.240* (.096)	.248* (.099)	.275** (.110)	.202* (.081)	.207* (.082)	.212* (.084)
Self-adversity	.583* (.106)	.519* (.094)	.592* (.107)	.519* (.094)	.575* (.104)	.546* (.099)
Family-adversity	1.164*** (.226)	1.089*** (.211)	1.143*** (.222)	.824*** (.160)	.971*** (.188)	.848*** (.165)
Family support		-.156* (-.099)				.050 (.032)
Peer support			-.302*** (-.182)			-.121 (-.073)
Self-esteem				-.518*** (-.330)		-.398*** (-.254)
Mastery					-.454*** (-.268)	-.173* (-.102)
R^2	.095***	.104***	.126***	.199***	.163***	.210***
Number of cases	620	620	620	618	615	613

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

-.518, B = -.330, p < .001) of the four resource variables (when each is considered separately). It is also the most influential single mediator among the four resource variables. Adding self-esteem reduces the effect that

self-adversity has on depression by 11%, and the effect that family-adversity has on depression by 29%. In Step 5, mastery is added separately to the regression equation. Mastery is directly related to depression (b = .454, B = -.268, p < .001). Its addition affects little reduction in strength of relationship to depression of self-adversity, but a moderate reduction in strength of family-adversity (17%).

In all, the two most important mediators of the relationship to depression of *self-adversity* are family support and self-esteem, both affecting 11% reductions. The two most important mediators of the relationship to depression of *family-adversity* are self-esteem and mastery (affecting 29% and 17% reductions, respectively). It is also interesting to note that self-esteem affected a much larger reduction in strength of relationship to depression of family-adversity (by 29%) than of self-adversity (by 11%), as did mastery, though on a smaller scale (by 17% and 1%, respectively). These findings provide some evidence that the importance of mechanisms involved in the translation of stress to depression varies by type of stress.

To test for their independent effects on depression and their combined mediating effect on the relationships to

depression of each of the two stressor domains, all four resource variables were entered into the regression equation concurrently (Step 6). Both self-esteem and mastery remain significantly related to depression (b = -.398, B = -.254, p < .001; b = -.173, B = -.102, p < .05, respectively), whereas family support and peer support do not. In other words, family support and peer support are not related to depression independent of self-esteem and mastery. The combined mediating effect of the four resource variables on the relationships to depression of the two stressor domains is greater for family-adversity (27% reduction) and smaller for self-adversity (6% reduction). The full model accounts for 21% of the variance in depression.

The same set of analyses was repeated for the second pair of stressor domains, violence personally experienced and violence witnessed. In Step 1 of Table 10, depression is regressed on violence experienced, violence witnessed, and the demographic variables. Both experiencing violence directly and witnessing the violent victimization of others have similar direct, independent effects on depression (B = .131, p < .01; B = .126, p < .01, respectively). In Step 2, family support was added to the regression equation. Besides being directly related to depression (b = -.176, B

= -.112, $p < .01$), family support also affects reductions in strength to depression of both types of adversity. Family support is a stronger mediator of violence experienced (reducing the strength to depression by 15%) than violence witnessed (7%).

Violence experienced is affected by the addition of peer support (Step 3) in much the same way as with family support, reducing its strength to depression by 16%. However, adding peer support has an unexpected effect on the relationship to depression of violence witnessed. It actually produces a small increase in strength (by 7%), suggesting that peer support is suppressing some of the effect of witnessing on depression. It could be that people with high peer support have a larger pool of peers that they consider close. This also represents a larger group of intimates whom one has the potential to see victimized, increasing one's risk of witnessing the victimization of an intimate.

When self-esteem is added to the regression equation in Step 4, it affects a substantial reduction in strength of the violence experienced coefficient (by 26%), and a moderate reduction of the violence witnessed coefficient (by 14%). Therefore, self-esteem appears to be a stronger

Table 10. Hierarchical Regression of Depression on the Predictor Variables: Violence Personally Experienced and Violence Witnessed (Standardized Coefficients in Parentheses)

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Age	.287* (.105)	.283* (.104)	.214 (.078)	.255* (.093)	.248* (.091)	.229* (.083)
Sex	1.525** (.122)	1.528** (.122)	1.771*** (.142)	1.099* (.088)	1.639** (.131)	1.307** (.104)
Race	-.389 (-.025)	-.463 (-.030)	-.441 (-.029)	-.319 (-.021)	-.599 (-.039)	-.434 (-.028)
Parent education	.180 (.073)	.193* (.078)	.208* (.084)	.156 (.063)	.152 (.062)	.157 (.063)
Viol. experienced	.954** (.131)	.814* (.111)	.800* (.110)	.703* (.095)	.881** (.121)	.707* (.096)
Viol. witnessed	.961** (.126)	.891** (.117)	1.030** (.135)	.826** (.108)	.763* (.100)	.813** (.106)
Family support		-.176** (-.112)				.047 (.030)
Peer support			-.304*** (-.186)			-.099 (-.061)
Self-esteem				-.553*** (-.356)		-.435*** (-.280)
Mastery					-.485*** (-.288)	-.182* (-.108)
R^2	.063***	.075***	.095***	.186***	.144***	.197***
Number of cases	629	629	629	627	624	622

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

mediator of violence experienced than it is violence witnessed.

Interestingly, whereas each of the first three resource variables have a stronger mediating influence on

the relationship to depression of violence experienced than violence witnessed, the opposite is true of mastery. Adding mastery to the regression equation (Step 5) affects a smaller reduction in strength to depression of violence experienced (by 8%), and a larger reduction of violence witnessed (by 21%).

In Step 6 of Table 10, all resource variables are added concurrently. As with the first set of analyses (Table 9), both self-esteem and mastery have direct independent effects on depression (b = -.435, B = -.280, p < .001; b = -.182, B = -.108, p < .05, respectively), whereas family support and peer support do not. The combined mediating effect of the four resource variables is stronger for violence experienced than for violence witnessed, producing reductions in strength of relationship to depression of 26% and 15%. The full model accounts for 19.7% of the variance in depression.

Table 11 shows results from the third set of hierarchical regression analyses, victimization by family and victimization by non-family. In Step 1, depression is regressed on the two stressor domains and the demographic variables. Victimization by non-family is significantly related to depression (b = 2.673, B = .213, p < .001), independent of victimization by family. Victimization by

Table 11. Hierarchical Regression of Depression on the Predictor Variables: Victimization by Family and Victimization by Non-family (Standardized Coefficients in Parentheses)

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Age	.410*** (.150)	.405*** (.147)	.344** (.125)	.352*** (.128)	.349** (.127)	.322** (.117)
Sex	1.452** (.118)	1.543** (.126)	1.745*** (.142)	1.098* (.089)	1.571*** (.128)	1.319** (.107)
Race	.619 (.039)	.515 (.033)	.540 (.034)	.476 (.030)	.236 (.015)	.343 (.022)
Parent education	.171 (.069)	.181 (.073)	.187 (.076)	.134 (.054)	.132 (.053)	.134 (.054)
Vic. by family	1.332 (.068)	1.020 (.052)	1.182 (.060)	.589 (.030)	.972 (.050)	.658 (.034)
Vic. by non-family	2.673*** (.213)	2.563*** (.204)	2.429*** (.193)	2.413*** (.192)	2.516*** (.199)	2.331*** (.184)
Family support		-.177** (-.114)				.043 (.027)
Peer support			-.313*** (-.194)			-.122 (-.076)
Self-esteem				-.513*** (-.344)		-.389*** (-.261)
Mastery					-.464*** (-.284)	-.180* (-.110)
R^2	.095***	.107***	.130***	.210***	.173***	.223***
Number of cases	570	570	570	569	566	565

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

family, however, is not related to depression independent of victimization by non-family. When added separately into the regression equation (Steps 2-4), each of the resource variables affects small reductions in strength to

depression of victimization by non-family, with family support the smallest (by 4%) and self-esteem the greatest (by 10%). As with the two previous sets of regression analyses, only self-esteem and mastery have direct independent effects on depression when all resource variables are added to the regression equation concurrently (Step 6). Once again, self-esteem is a stronger predictor (b = -.389, B = -.261, $p < .001$) than mastery (b = -.180, B = -.110, $p < .05$). The four resource variables together affect a 13% reduction in strength of relationship to depression of victimization by non-family. The full model accounts for 22.3% of the variance in depression.

CHAPTER IV

DISCUSSION

The purpose of this study has been to investigate the relationship between childhood adversity and young adult depression by (1) examining the relative impact on well-being of several different types of adversity, and (2) considering the mediating influence of social and personal resources on the stress-depression relationship; specifically, variations in mediating effects across stress types (see Figure 1). Findings from bivariate and multivariate analyses offer some interesting insights concerning these issues, and they help to improve our understanding of several factors related to stress processes.

The bivariate analyses provide some evidence of the importance of social status in studying stress and well-being. For example, males were more likely than females to experience several types of stress: non-violent self-adversity, violence personally experienced, violence witnessed, and extra-familial victimization. Although gender differences in exposure to stress is an area of research that has received considerable attention, most of

it has focused on the ways in which females have been at greater risk for depression. It has been suggested, for example, that women's adult roles, especially family roles, have traditionally been characterized by greater stress (e.g., Bebbington, 1996). Because the present study is an examination of childhood adversities, however, stress exposure attached to adult gender roles would not be evident. Instead, the gender differences in exposure found here appear to be more linked to violence. Indeed, three of the four types of stress for which males reported higher levels are violence-related. There is much evidence to suggest that males are more likely than females to be involved in many types of delinquent behavior, both as perpetrators and victims (e.g., Snyder & Sickmund, 1999). One explanation for this finding is suggested by Routine Activities Theory. Part of this theory is the idea that differences in rates of victimization can be explained by differences in patterns of daily behaviors. As applied to childhood and adolescent victimization, young people are seen as engaging in many activities (e.g., staying out late, drinking) that put them at increased risk for experiencing victimization. If males are more likely than females to engage in behaviors that put them in harm's way, then they will be more likely to experience harm (Jensen &

Brownfield, 1986). It is perhaps telling that the two types of adversity in which there were no significant differences between males and females were non-violent family-adversity and victimization by family. These types of adversity could be considered as operating more independent of the routine behaviors of the individuals who experience them. Indeed, others (e.g., Finkelhor, 1997) have noted the limitations of Routine Activities Theory for explaining intra-familial victimization.

Another gender-related finding from the bivariate analysis consistent with previous research is higher levels of peer support reported by females. Many studies have demonstrated that, as compared to men, women tend to have supportive networks that are characterized by greater quantity and quality. That is, they have a greater number of supporters who provide a higher level of support (e.g., Turner, 1994).

The bivariate analysis also suggests that race can be important for predicting exposure to social stress. Non-whites reported higher levels of non-violent self-adversity, violence personally experienced, and victimization by non-family. In referring to past research related to stress and mental health, Brown et al. (1999) state that, "sparse attention is devoted to the stress one

experiences, or does not experience, because of race" (p 174). The researchers do, however, provide some reasons to expect higher rates of stress exposure among racial minorities (e.g., discrimination). This may help explain the finding here that Non-whites were more likely to experience non-violent self-adversity, since the measure does include experiences of being teased or harassed due to race or nationality. Higher rates among Non-whites of violence personally experienced and victimization by non-family might be explained in part by the fact that minority status is often related to a greater likelihood to experience many forms of victimization (Miethe & McCorkle, 2001). It is important to note, however, that the findings discussed here are bivariate, and that race is often confounded with socioeconomic status.

Some interesting patterns emerge from the bivariate associations among race, age, parental education, and adversity. Age is associated with race, such that Non-white subjects tended to be older. At first glance, this appears an odd result. However, given that the sample is drawn from college students, it is perhaps not surprising that Non-whites tend to be older than their White counterparts. On average, they may be disadvantaged by lower socioeconomic status, an idea supported by the

association between race and parental educational attainment. Lower socioeconomic status may affect a greater likelihood to experience a more "non-traditional" college trajectory, wherein individuals start at a later age and/or take longer to finish. This idea is supported in the present study by the negative association between age and parental education, such that older subjects report lower levels of parental education. In other words, it is not race per se that matters for the age at which one experiences a college career, but socioeconomic status (represented by parental educational attainment in the present study), which is often closely allied with race. Additional evidence of the importance of parental educational attainment is found in its negative associations with non-violent self-adversity, non-violent family-adversity, and violence witnessed. If parental education is indicative of socioeconomic status, it is not surprising that subjects who report higher levels are at lower risk for experiencing adversity. It is consistent with a large body of literature that demonstrates an inverse relationship between socioeconomic status and exposure to adversity (e.g., Turner, Wheaton, & Lloyd, 1995).

The bivariate relationships among stressor domains, resource variables, and depression were as expected. The finding that each stressor domain is related to higher levels of depression is consistent with earlier discussions of the impact on well-being of traumas and adversities. The negative associations between depression and each of the resource variables also speaks to the importance of social and personal resources for mental health. Finally, the analyses show that experiencing stressors is generally associated with lower levels of the four resource variables. This is consistent with previous assertions that early stressors adversely affect levels of social and personal resources over time.

Relative Impact of Stressor Domains on Depression

One of the major objectives of this study was to examine the relative impact on young adult depression of various types of childhood adversity. To that end, a series of hierarchical regression analyses were performed. The first of these demonstrated that both non-violent self-adversity and non-violent family-adversity affect later well-being. Adversity experienced indirectly through family hardships, however, has a more severe impact on young adult depression than does directly experienced self-adversity. This is not surprising, given earlier arguments

that family-related problems may take a heavier toll on later well-being than hardships that--although experienced directly--do not interfere as much with family functioning. For example, although being hospitalized with an illness would no doubt affect a child's well-being, the greater and more complex problems created by a comparable hospitalization of the child's parent (e.g., financial distress, increased likelihood to employ dysfunctional parenting practices), would likely produce worse consequences. Because it is in the family that young persons must exist and develop--indicating not only a quantity of involvement, but also a quality--family hardships no doubt create a deleterious milieu from which members cannot easily escape. Further evidence of the considerable impact on well-being of family-adversity is the finding that, among all stressor domains, this type of adversity is most strongly correlated with depression (bivariate analyses).

The second set of analyses showed that personally experiencing violent victimization and witnessing the violent victimization of others each negatively affect psychological well-being. A shortcoming of much previous research that attempts to attribute negative outcomes to the effects of witnessing violence has been a failure to

adequately control for the effects of experiencing violence. Findings from the present study bolster the idea that witnessing does have effects independent of experiencing. Further, this study used (versions of) the same set of items to measure both violence experienced and violence witnessed. This provides greater control of one type of violence while testing for the independent effects of the other, increasing confidence in the belief that witnessing has effects independent of experiencing.

The fact that witnessing violence was found to be as strong a predictor of depression as personally experiencing violence is perhaps also related to the way it has been measured here. Witnessing violence in the present study involves observing the victimization of an intimate. Given the supposed importance of "emotional proximity" in predicting negative outcomes associated with violence, it is perhaps understandable that witnessing the violent victimization of "someone you were really close to" would have considerable impact.

Consistent with a substantial body of research demonstrating the harmful effects of childhood exposure to violent victimization, the final set of analyses reveals that victimization by non-family increases the risk for experiencing young adult depression. In the present study,

however, victimization by *family* is not related to depression (independent of victimization by non-family). There are several plausible explanations for this unexpected finding. To begin with, intra- and extra-familial victimization are often highly correlated, such that victims of extra-familial victimization are frequently at greater risk for experiencing intra-familial victimization. In this way, intra-familial victimization is related to depression, but not when extra-familial victimization is controlled. The significant bivariate correlation between intra- and extra-familial victimization in the present study (see Table 8) supports this idea. However, the correlation is not particularly strong, suggesting that there may be better explanations for the unexpected finding.

It could be that intra-familial victimization represents something different for this sample (drawn from among college attendees) than it would for other, less-advantaged groups. For one thing, the domain "victimization by family" may be dominated in this study by episodes of violence that are less detrimental to well-being than episodes that would dominate the reports of other groups. For example, while subjects here reported 12 physical assaults for each instance of rape, less-

advantaged groups (e.g., population-based or clinical samples) might report a greater proportion of rapes to physical assaults. If rape has more severe detrimental effects on subsequent well-being than physical assault, then variations in frequency of items contained in a measure of intra-familial victimization will vary in its impact on depression across samples.

Perhaps more important than variations in the proportions of reported items contained in a measure of intra-familial victimization is the possible difference in *quality* of the same item across groups. That is, an incident reported by respondents in this sample might have different characteristics than the same incident reported by members of other groups. This could include differences in the perpetrator of violence. When asked about having ever experienced a physical assault, for example, a subject of the present study may be more likely to recall an episode involving a sibling, whereas a member of a more disadvantaged group may be more likely to recall an episode involving a caregiver. Indeed, of the 37 subjects who reported being physically assault by a family member, 21 identified the perpetrator as a parent, and 16 identified the perpetrator as a sibling (analyses not shown). If for other groups a greater proportion of victimizations

reported involved caregivers, then "victimization by family" may show greater effects on depression. While much sibling violence can have consequences for later well-being (Wiehe, 1998), many forms may be relatively normative, and as a result, may not have as detrimental an impact on well-being as violence perpetrated by a parent. Other characteristics of a given episode that could vary include the level of malice with which one is "chased", "threatened with a weapon", or "physically assaulted." There is probably reason to believe that this sample, being somewhat more advantaged than other groups, has experienced less severe versions of some of these victimizations. The situational dynamics involved in episodes of victimization matter for well-being (Finkelhor, 1990). If intra-familial victimizations experienced by the present sample tend to be characterized by dynamics that make them less detrimental, then it may help explain the finding of no relationship to depression of victimization by family.

Lastly, the finding that intra-familial victimization is not related to depression might also be due to the low number of cases reported by study participants (n = 61), resulting in insufficient statistical power to detect an association with depression independent of extra-familial victimization. However, the relatively weak bivariate

correlation between intra-familial victimization and depression (half as strong as the correlation between extra-familial victimization and depression) suggests that the other explanations discussed here better inform the issue.

Variations in Mediating Influences Across Stress Types

Another major objective of this research was to examine the mediating influences of social and personal resources on the relationships to depression of the stressor domains. Findings revealed that, in general, the mediating influences were relatively small. There could be several reasons for this. Perhaps other factors, not examined in the present study, are operating to mediate the relationship between childhood adversity and young adult depression. For example, it is likely that early adversity affects later well-being in part through a reduction in educational attainment (Chen & Kaplan, 2003). Because the current sample includes only individuals enrolled in college, and thereby excludes those whose non-attendance may be a result of experiencing adversity, it is difficult to determine the effects of adversity on educational attainment among these subjects. This makes an assessment of the mediating effect of educational attainment unfeasible. Additionally, it could be that these types of

childhood adversity have long-term direct effects on depression. Much literature suggests that exposure to childhood adversity predicts both short- and long-term mental health problems. For example, children of alcoholic parents have been shown to be at elevated risk for depression in childhood (West & Prinz, 1987) and adulthood (Domenico & Windle, 1993; Tweed & Ryff, 1991). It could be that depressive symptomatology immediately resulting from exposure to adversity continues into adulthood.

Although the mediating influences of the resource variables on the relationships to depression of stressor domains were relatively small, some interesting patterns did emerge. For example, in the first set of analyses, the two most important mediators of the relationship to depression of *family-adversity* are self-esteem and mastery. That these elements of self-concept more prominently mediate the relationship between family-adversity and depression than do family support and peer support is evidence of the substantial impact that family-related troubles have on children's developing sense of self. It was argued earlier that experiences in the family are in large part responsible for the development of self-concept. Adversities that interfere with the proper functioning of the family create an environment that inhibits the proper

development of beneficial personality characteristics. This is supported by numerous studies demonstrating that children who are exposed to family-related troubles experience lower levels of self-esteem (e.g., Roosa et al., 1988) and mastery (e.g., Clair & Genest, 1987). Findings here suggest that reductions in self-esteem and mastery are also partly the means by which family-related adversities in childhood affect young adult depression.

The two most important mediators of the relationship to depression of *self-adversity* are family support and self-esteem. Perhaps reductions in family support offers a better explanation of the relationship between self-adversity and depression than does reductions in peer support because these types of directly-experienced adversities affect the permanent relationships you have with your family more than they affect your ability to garner future support from peers. It was argued earlier that some self-adversities experienced in childhood can be a source of irritation for parents (e.g., academic failure), resulting in reductions in supportive behavior. This may establish a pattern of parent-child interactions characterized by lower support that continues into adulthood. The ability to establish supportive relationships with others, however, could remain

unaffected. Perhaps reductions in self-esteem offers a better explanation of the relationship between self-adversity and depression than does reductions in mastery because experiencing adversities directly causes you to doubt your self-worth more than it causes you to doubt your ability to control future events and circumstances. For example, having to repeat a grade is more likely to produce feelings of incompetence than it is feelings of inevitability. Experiencing frequent teasing and harassment due to religion, sexual orientation, or physical appearance is more likely to create feelings of inferiority than it is feelings of inefficacy.

These findings--that the two most important mediators of the relationship to depression of *family-adversity* are self-esteem and mastery, and the two most important mediators of the relationship to depression of *self-adversity* are family support and self-esteem--suggest that different mediators matter more or less depending on the type of stress considered. Further, the combined mediating effect of the resource variables is smaller for self-adversity than it is for family-adversity. Because this suggests that the selected mediators explain the effect on depression of one type of stress better than the other, it is more evidence that the mechanisms involved in the

translation of stress to depression vary somewhat by stress type.

The second set of analyses reveals that the relationship between *personally experiencing violence* and depression is most strongly mediated by family support, peer support, and self-esteem (and more weakly mediated by mastery). That reductions in family support and peer support help explain the relationship to depression of experiencing violence likely speaks to the impact of victimization on the ability to develop and maintain supportive relationships. Reductions in peer support could be partially attributable to the tendency for earlier adversities to beget later adversities, causing wearied friends to be reluctant to continue to offer repeated support (Monroe & McQuaid, 1994). However, decreased peer support probably has even more to do with the deleterious effects that victimization can have on important developmental processes, resulting in an incapacity to garner later support from sources that otherwise do exist. This is evidenced in higher levels of perceived social isolation found among young adult female victims of childhood sexual abuse (Harter, Alexander, & Neimeyer, 1988).

Reductions in family support could also be attributed to the debilitating effects of victimization on social competencies. Although scant research has explicitly examined the impact of childhood victimization on subsequent family support, there is reason to expect that reductions in ability to cultivate future supportive relationships produced by victimization extend to lasting familial relations (Becker-Lausen & Mallon-Kraft, 1997). Perhaps an even better explanation, though, is that families are often the source of violence to which children are exposed. Family ties represent permanent relationships. Experiencing victimization at the hands of a family member might cause irreparable damage to that enduring association, manifested in lower levels of support. Another possible explanation is that many children could be at greater risk for experiencing both violent victimization and lower family support. For example, some parenting styles are characterized by a general lack of involvement (Baumrind, 1991). If parents are uninvolved in the lives of their children, it is likely that they are being less supportive. They may also be less likely to monitor the activities of their children. According to Routine Activities Theory, this would put children at increased risk for experiencing victimization.

Besides family support and peer support, self-esteem was also a prominent mediator of the victimization-depression relationship. It is not surprising that reductions in self-esteem help explain the relationship to depression of personally experiencing violence. There is much research demonstrating the severely detrimental effects that victimization can have on feelings of self-worth (e.g., Briere & Elliott, 2003). The importance of self-esteem for psychological health is equally clear (see review by Turner & Roszell, 1994). In the present study, self-esteem is the strongest predictor of depression across all three sets of analyses (see Step 6 of Tables 9-11). The contribution made here is in demonstrating that reductions in self-esteem are also partly responsible for the impact of victimization on later well-being, improving our understanding of the hazards of violent victimization and the processes at work in the translation of stress to depression.

Whereas the relationship to depression of personally experiencing violence is most strongly mediated by family support, peer support, and self-esteem, the relationship to depression of *witnessing violence* is most strongly mediated by mastery. It is not surprising that reductions in mastery help explain the impact of witnessing violence on

later well-being. There is much empirical evidence to suggest that children who witness violence are at increased risk for experiencing numerous adverse consequences (see reviews by Buka et al., 2001; and Edleson, 1999), which can persist into adulthood (Silvern et al., 1995). While reductions in mastery as a specific consequence of witnessing violence has received less attention by researchers than many other outcomes, taken together, studies of the deleterious effects of witnessing violence do justify the expectation that mastery would be adversely affected (see review by Horn & Trickett, 1988). It is once again important to note that witnessing violence as measured in the present study involves observing the violent victimization of an intimate. Violence perpetrated in your presence against "someone you were really close to" would immediately elicit feelings of helplessness, and would probably inhibit long-term the acquisition of feelings of mastery. Further, the importance of a sense of mastery for psychological health is well-established (Turner & Roszell, 1994). Multivariate analyses from the present study concur (see Step 6 of Tables 9-11). What this study adds is evidence of the mediating influence of mastery; reductions in mastery represents a mechanism by

which witnessing the violent victimization of intimates results in later depression.

These findings--that the most important mediators of the relationship to depression of *violence experienced* are family support, peer support, and self-esteem, while the most important mediator of the relationship to depression of *violence witnessed* is mastery--demonstrate variation in (the importance of) mediators across stress types. Further evidence of this idea is found in the differences in combined mediating effects of the resource variables on the relationship to depression between violence experienced (a greater effect) and violence witnessed (a lesser effect).

Limitations and Suggestions for Future Research

Some limitations of the present study should be noted. Something that has already been mentioned is the non-representativeness of the sample. All subjects were currently enrolled in institutions of post-secondary education. This requires caution in generalizing findings to less-advantaged groups. Although there were a substantial number of adversities reported by study participants, they are likely at lower risk for experiencing many types of adversities, and perhaps especially the most severely negative types of adversities, as compared to other groups. They are probably also less

depressed. For one, their college enrollment may represent a selection effect, whereby highly depressed individuals--less capable of participating in post-secondary education--are screened out. Further, they are probably better equipped than less-advantaged groups with cognitive, social, and material resources to deal with the adversity they do experience. In these ways, it is acknowledged that the current sample is not representative of the full community of young adults. While *levels* of adversity and depression may be lower in this sample, however, there is no compelling reason to expect that the nature of the *associations* between stress and depression detected here would be unique to these subjects. Therefore, findings from this study are not necessarily diminished by the use of a non-representative sample. Nevertheless, future research would likely benefit from use of population-based and/or clinical samples to verify this assertion.

Another limitation of this study is the difficulty in establishing causality. Any study employing a cross-sectional design requires, to some extent, inferences regarding the direction of causes and effects. The present study is benefited by the use of retrospective data. Because subjects reported on past history of stress exposure and current state of well-being, confidence

regarding the temporal sequencing of these conditions is enhanced. However, it is plausible that at least part of the relationship between stress and mental health flows from the latter affecting the former (Turner & Noh, 1988). It could be that persons higher in depression to begin with, and who continue to exhibit higher levels into young-adulthood, have been at increased risk for lifetime exposure to adversity because of their depression (e.g., academic failure). Further, and perhaps more likely, current well-being might influence recollection of past exposure to adversity. For example, depressed persons may accentuate the negativity of their past experiences because of their current condition, selectively remembering more hardships. These issues call into question the nature of the stress-depression relationship. Nevertheless, the preponderance of existing evidence suggests that a more substantial proportion of the relationship between stress and depression is explained by the negative impact of hardships on well-being, rather than the reverse (Thoits, 1983; Turner, Wheaton, & Lloyd, 1995).

A related issue, and one that is perhaps even more problematic, is that measures of the resource variables (hypothesized to mediate the stress-depression relationship) are contemporaneous with the measure of

depression. That is, subjects were asked about their current levels of depression, and also their current levels of social and personal resources. Without certainty of temporal order, it is even more difficult to infer causality, since depression may affect resources. Individuals experiencing greater depression could struggle to maintain support networks and a healthy self-concept *because of* their psychological difficulties. Although no doubt reciprocal in nature, the accumulation of existing evidence does suggest that some substantial part of the relationship between depression and social and personal resources flows from resources to depression (Ensel & Lin, 1991).

One solution to the difficulties in establishing causality would be use of a longitudinal research design. Antecedents, mediators, and outcomes could be measured among the same subjects at various points in time. This would help to establish the nature of the relationships among variables--specifically, causality. In this way, greater confidence could be gained in the thesis that adversities affect resources and resources affect well-being. A prospective longitudinal survey would also reduce the potential problem of recall bias (discussed above), since traumas and adversities could be recorded immediately

following their occurrence, and mental health outcomes assessed at a later point.

The current study, and future research on this topic, could also have intervention implications, and would therefore benefit from a program-based assessment. If, for example, reduced mastery does indeed offer the best explanation of the relationship between *witnessing violence* and depression, intervention strategies intended to help those who experience this specific type of adversity could benefit from this knowledge. Perhaps counseling offered victims could be designed to emphasize the development of feelings of self-efficacy. (It is acknowledged that most individuals who witness the violent victimization of intimates are also themselves more likely to be victimized. As demonstrated here, this other type of violence exposure may activate somewhat different causal pathways to depression. Nevertheless, knowledge of perhaps the types--and proportions--of violence to which a victim has been exposed would still inform treatment strategies; they might just be more complex or multifaceted in cases of multidimensional violence exposure.) Treatment efforts based on the mediating links between stress and depression could be evaluated through a quasi-experimental research design. Differences in outcomes between experiment and

comparison/control groups would help to verify the validity of the model proposed here.

The present study adds refinement to a particular aspect of the stress process framework--specifically, the nature and role of mediators of the stress-depression relationship. Rather than a single theory, the stress process model is a way of organizing various theories that are all related to a similar topic (i.e., stress and well-being). As stated by one of the chief originators of the framework, "the notion of the 'stress process'...represents an attempt to give some conceptual organization to the diverse lines of research that were--and still are--underway" (Pearlin, 1999, p 395). Future researchers seeking to further improve understanding of the specific pathways involved in the translation of stress to well-being could consider a number of different variables in addition to those used here. These might include other types of stress (e.g., chronic versus discrete), and other potential mediators (e.g., academic achievement). It would also be beneficial to examine other outcomes. For example, given that four of the six stressor domains used here are violence-related, it could be helpful to consider other outcomes often associated with violence exposure. This might include propensity to engage in deviant behaviors

like substance abuse, property crime, sexual assault, and other violent crimes. Further, results here indicate that males were more likely than females to be exposed to violence. Assessing externalized problem behaviors such as those mentioned would likely improve understanding of the effects of stress--and variations in the pathways by which stress affects well-being--since depression is more characteristically a female reaction to stress exposure (Rosenfield, 1999).

Conclusion

In conclusion, this study contributes to an improved understanding of several issues related to childhood adversity and young adult depression. It has revealed variations in the impact on depression of different types of stress. This includes demonstrating that adversities experienced indirectly through family difficulties likely represent some of the worst types of non-violent stress, and that witnessing the violent victimization of an intimate may be in some ways as damaging as personally experiencing the same types of victimization. This study also represents perhaps the first effort to explicitly examine variations in the importance of mediators across different domains of stress. And although the mediating influences of the selected resource variables are moderate,

patterns emerge that indicate differences in mediation by stress type. Understanding these variations likely has value beyond merely an enhanced understanding of stress processes. Young adult mental health is an important issue. As stated by Chen and Kaplan (2003), "The peak onset of mental disorders...is between adolescence and young adulthood, and the prevalence of mental disorders among this age group is startling" (p 111). Because earlier mental health is an important predictor of later mental health, young adult depression matters not only for current well-being, but has important implications far beyond young adulthood (Keller et al., 1982; Sorenson, Rutter, & Aneshensel, 1991). If variations in the causal pathways by which childhood adversity affects young adult well-being can be more clearly identified, then resources and services aimed at helping those exposed to stress can be allocated with more precision and to greater effect.

LITERATURE CITED

Ackerman, P. T., Newton, J. E., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of post traumatic stress disorder and other psychiatric diagnoses in three groups of abused children (sexual, physical, and both). *Child Abuse and Neglect, 22*, 759-774.

Allen, D. M. & Tarnowski, K. J. (1989). Depressive characteristics of physically abused children. *Journal of Abnormal Child Psychology, 17*, 1-11.

Alexander, P. C. (1992). Application of attachment theory to the study of sexual abuse. *Journal of Consulting and Clinical Psychology, 60*, 185-195.

Alexander, P. C. & Lupfer, S. L. (1987). Family characteristics and long-term consequences associated with sexual abuse. *Archives of Sexual Behavior, 16*, 235-245.

Amato, P. R. & Keith, B. (1991). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin, 110*, 26-46.

Aneshensel, C. S. (1999). Outcomes of the stress process. In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 211-227). New York: Cambridge University Press.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122-147.

Barerra, M. (1986). Distinctions between social support concepts, measures, and models. *American Journal of Community Psychology, 14*, 413-445.

Barrera, M., & Garrison-Jones, C. (1992). Family and peer social support as specific correlates of adolescent depressive symptoms. *Journal of Abnormal Child Psychology, 20*, 1-16.

Baumrind, D. (1991). Parenting styles and adolescent development. In J. Brooks-Gunn, R. Lerner, & A. C. Peterson (Eds.), *Encyclopedia of adolescence* (pp. 746-758). New York: Garland.

Bebbington, P. (1996). The origins of sex differences in depressive disorder: Bridging the gap. *International Review of Psychiatry, 8*, 295-332.

Becker-Lausen, E. & Mallon-Kraft, S. (1997). Pandemic outcomes: The intimacy variable. In G. K. Kantor & J. L. Jasinski (Eds.), *Out of the darkness: Contemporary perspectives on family violence* (pp. 49-57). Thousand Oaks, CA: Sage Publications.

Boney-McCoy, S. & Finkelhor, D. (1995). Psychosocial sequelae of violent victimization in a national youth sample. *Journal of Consulting and Clinical Psychology, 63*, 726-736.

Boudewyn, A. C., & Liem, J. H. (1995). Childhood sexual abuse as a precursor to depression and self-destructive behavior in adulthood. *Journal of Traumatic Stress, 8*, 445-459.

Bowlby, J. (1969). *Attachment and loss*. New York: Basic Books.

Brayden, R. M., Deitrich-Maclean, G., Deitrich, M. S., & Sherrod, K. B. (1995). Evidence for specific effects of childhood sexual abuse on mental well-being and physical self-esteem. *Child Abuse and Neglect, 19*, 1255-1262.

Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse and Neglect, 27*, 1205-1223.

Brown, G. R., & Anderson, B. (1991). Psychiatric morbidity in adult inpatients with childhood histories of sexual and physical abuse. *American Journal of Psychiatry, 148*, 55-61.

Brown, J., & Cohen, P. (1999). Childhood abuse and neglect: Specificity of effects on adolescent and young adult depression and suicidality. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 1490-1497.

Brown, T. N., Sellers, S. L., Brown, K. T., & Jackson, J. S. (1999). Race, ethnicity, and culture in the sociology of mental health. In C. S. Aneshensel & J. C. Phelan (Eds.), *Handbook of the sociology of mental health* (pp. 167-182). New York: Kluwer Academic Press.

Browne, A. & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*, 66-77.

Buka, S. L., Stichick, T. L., Birdthistle, I., & Earls, F. J. (2001). Youth exposure to violence: Prevalence, risks, and consequences. *American Journal of Orthopsychiatry, 71*, 298-310.

Burnam, A., Stein, J. A., Golding, J. M., Siegel, J. M., Sorenson, S. B., Forsythe, A. G., & Telles, C. A. (1988). Sexual assault and mental disorders in a community population. *Journal of Consulting and Clinical Psychology, 56*, 843-850.

Carbonell, D. M., Reinherz, H. Z., & Giaconia, R. M. (1998). Risk and resilience in late adolescence. *Child and Adolescent Social Work Journal, 15*, 251-272.

Chassin, L., Curran, P., Hussong, A., & Colder, C. (1996). The relation of parent alcoholism to adolescent substance use: A longitudinal follow-up study. *Journal of Abnormal Psychology, 105*, 70-80.

Chen, Z., & Kaplan, H. B. (2003). School failure in early adolescence and status attainment in middle adulthood: A longitudinal study. *Sociology of Education, 76*, 110-127.

Clair, D., & Genest, M. (1987). Variables associated with the adjustment of offspring of alcoholic fathers. *Journal of Studies on Alcohol, 48*, 345-355.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38*, 300-314.

Coble, H. M., Gantt, D. L., & Mallinckrodt, B. (1996). Attachment, social competency, and the capacity to use social support. In G. R. Pierce, B. R. Sarason, & I. G. Sarason (Eds.), *Handbook of social support and the family* (pp. 141-172). New York: Plenum Press.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357.

Cole, P. M., & Putnam, F. W. (1992). Effect of Incest on self and social functioning: A developmental psychopathology perspective. *Journal of Consulting and Clinical Psychology, 60*, 174-184.

Crittenden, P. M. (1998). Dangerous behavior and dangerous contexts: A 35-year perspective on research on the developmental effects of child physical abuse. In P. K. Trickett & C. J. Schellenbach (Eds.), *Violence against children in the family and the community* (pp. 11-38). Washington, DC: American Psychological Association.

Dickstein, S., & Parke, R. (1988). Social referencing in infancy: A glance at fathers and marriage. *Child Development, 59*, 506-511.

Domenico, D., & Windle, M. (1993). Intrapersonal and interpersonal functioning among middle-aged female adult children of alcoholics. *Journal of Consulting and Clinical Psychology, 61*, 659-666.

Drotar, D., & Bush, M. (1985). Mental health issues and services. In H. Hobbs & J. M. Perrin (Eds.), *Issues in the care of children with chronic illness* (pp. 514-550). San Francisco: Jossey-Bass.

Dura, J. R., & Beck, S. J. (1988). A comparison of family functioning when mothers have chronic pain. *Pain, 35*, 79-89.

Edleson, J. L. (1999). Children's witnessing of adult domestic violence. *Journal of interpersonal violence, 14*, 839-870.

Eiser, C. (1990). Psychological effects of chronic disease. *Journal of Child Psychology and Psychiatry, 31*, 85-98.

Elder, G. H., Jr., & Liker, J. K. (1982). Hard times in women's lives: Historical influences across forty years. *American Journal of Sociology, 88*, 241-269.

Ensel, W. M., & Lin, N. (1991). The life stress paradigm and psychological distress. *Journal of Health and Social Behavior, 32*, 321-341.

Erel, O., & Burman, B. (1995). The linkage between marital quality and the parent-child relationship: A meta-analysis. *Psychological Bulletin, 118*, 108-132.

Esquilin, S. (1987). Family responses to the identification of extra-familial child sexual abuse. *Psychotherapy in Private Practice, 5*, 105-13.

Fogas, S., Wolchik, S. A., Braver, S. L., Freedom, D. S., & Bay, R. C. (1992). Locus of control as a mediator of negative divorce-related events and adjustment problems in children. *American Journal of Orthopsychiatry, 62*, 589-598.

Feiring, C., Taska, L., & Lewis, M. (1996). A process model for understanding adaptation to sexual abuse: The role of shame in defining stigmatization. *Child Abuse and Neglect, 20*, 767-782.

Fendrich, M., Warner, V., & Weissman, M. M. (1990). Family risk factors, parental depression, and psychopathology in offspring. *Developmental Psychology, 26*, 40-50.

Finkelhor, D. (1990). Early and long-term effects of child sexual abuse: An update. *Professional Psychology: Research and Practice, 21*, 325-330.

Finkelhor, D. (1994). Current information on the scope and nature of child sexual abuse. *The Future of Children, 4*, 31-53.

Finkelhor, D. (1997). The victimization of children and youth: Developmental victimology. In R. C. Davis, A. J. Lurigio & W. G. Skogan (Eds.), *Victims of crime* (pp. 86-107). Thousand Oaks, CA: Sage Publications.

Finkelhor, D. & Ormrod, R. (2000). *Characteristics of Crimes Against Juveniles*. Bulletin. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Fitzpatrick, K. M. (1993). Exposure to violence and presence of depression among low-income African-American youth. *Journal of Consulting and Clinical Psychology, 61*, 528-531.

Garrison, W. T., & McQuiston, S. (1989). Chronic illness during childhood and adolescence. *Psychological aspects* (Developmental Clinical Psychology and Psychiatry, Vol. 19). Newbury Park, CA: Sage.

Ge, X., Conger, R. D., Lorenz, F. O., & Simons, R. L. (1994). Parents' stressful life events and adolescent depressed mood. *Journal of Health and Social Behavior, 35*, 28-44.

Gecas, V. & Seff, M. A. (1990). Social class and self-esteem: Psychological centrality, compensation, and the relative effects of work and home. *Social Psychological Quarterly, 53*, 165-173.

Gelles, R. J., & Conte, J. R. (1990). Domestic violence and sexual abuse of children: A review of research in the eighties. *Journal of Marriage and the Family, 52*, 1045-1058.

Gold, E. R. (1986). Long-term effects of sexual victimization in childhood: An attributional approach. *Journal of Consulting and Clinical Psychology, 54*, 471-475.

Gore, S. (1981). Stress-buffering functions of social support: An appraisal and clarification of research methods. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events and their contexts* (pp. 202-222). New York: Prodist.

Green, R. (1993). Child sexual abuse: Immediate and long-term effects and intervention. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 890-902.

Harmer, A., Sanderson, J., & Martin, P. (1999). Influence of negative childhood experiences on psychological functioning, social support, and parenting for mothers recovering from addiction. *Child Abuse and Neglect, 23*, 421-433.

Harter, S., Alexander, P. C., & Neimeyer, R. A. (1988). Long-term effects of incestuous child abuse in college women: Social adjustment, social cognition, and family characteristics. *Journal of Consulting and Clinical Psychology, 56*, 5-8.

Hartup, W. W. (1978). Children and their friends. In H. McGurk (Ed.), *Issues in childhood social development* (pp. 130-170). London: Methuen.

Hauser, S. T., Pollets, D., Turner, B., Jacobson, A., Powers, S., & Noam, G. (1979). Ego development and self-esteem in diabetic adolescents. *Diabetes Care, 2*, 465-471.

Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910.

Henderson, A. S. (1992). Social support and depression. In H. O. F. Veil & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 85-92). New York: Hemisphere.

Henning, K., Leitenberg, H., Coffey, P., Turner, T., & Bennett, R. T. (1996). Long-term psychological and social impact of witnessing physical conflict between parents. *Journal of Interpersonal Violence, 11*, 35-51.

Hetherington, E. M., Cox, M., & Cox, R. (1978). The aftermath of divorce. In J. H. Stevens, Jr. & M. Matthews (Eds.), *Mother/child father/child relationships* (pp. 149-176). Washington, DC: National Association for the Education of Young Children.

Hilsman, R., & Garber, J. (1995). A test of the cognitive diathesis-stress model of depression in children: Academic stressors, attributional style, perceived competence, and control. *Journal of Personality and Social Psychology, 69*, 370-380.

Hirsch, B., Moos, R., & Reischl, T. (1985). Psychosocial adjustment of adolescent children of a depressed, arthritic, or normal parent. *Journal of Abnormal Psychology, 94*, 154-164.

Holmes, T., & Robins, L. (1988). The role of parental disciplinary practices in the development of depression and alcoholism. *Psychiatry, 51*, 24-36.

Horn, J. L., & Trickett, P. K. (1998). Community violence and child development: A review of research. In P. K. Trickett & C. J. Schellenbach (Eds.), *Violence against children in the family and the community* (pp. 103-138). Washington, DC: American Psychological Association.

Howes, P., & Markman, H. J. (1989). Marital quality and child functioning: A longitudinal investigation. *Child Development, 60*, 1044-1051.

Jensen, G. F., & Brownfield, D. (1986). Gender, lifestyles, and victimization: Beyond routine activity theory. *Violence and Victims, 1*, 85-99.

Keller, M. B., Shapiro, R. W., Lavori, P. W., & Wolfe, N. (1982). Recovery in major depressive disorder: Analysis with the life table and regression models. *Archives of General Psychiatry, 39*, 905-910.

Kernis, M. H. (1993). The roles of stability and level of self-esteem in psychological functioning. In R. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard*. New York: Plenum.

Kolko, D. J. (1992). Characteristics of child victims of physical violence: Research findings and clinical implications. *Journal of Interpersonal Violence, 7*, 244-276.

LaGreca, A., Silverman, W., Vernberg, E., & Prinstein, M. (1996). Symptoms of posttraumatic stress in children after Hurricane Andrew: A prospective study. *Journal of Consulting and Clinical Psychology, 64*, 712-713.

Lavigne, J. V., & Faier-Routman, J. (1992). Psychological adjustment to pediatric physical disorders: A meta-analytic review. *Journal of Pediatric Psychology, 18*, 133-157.

Lewis, F. M., Ellison, E. S., & Woods, N. F. (1985). The impact of breast cancer on the family. *Seminars in Oncology Nursing, 1*, 206-213.

Lin, N., & Peek, M. K. (1999). Social networks and mental health. In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 241-258). New York: Cambridge University Press.

Manion, I. G., Mcintyre, J., Firestone, P., Ligezinska, M., Ensom, R., & Wells, G. (1996). Secondary traumatization in parents following the disclosure of extrafamilial child sexual abuse: Initial effects. *Child Abuse and Neglect, 20*, 1095-1109.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Ed.), *Handbook of child psychology: Socialization, personality, and social development* (pp. 1-101). New York: Wiley.

McIntyre, A. (1991). Attribution of control and ego development: Marker variables for a model of foster care risk. *Journal of Applied Developmental Psychology, 12*, 413-428.

McLeod, J. D. (1991). Childhood parental loss and adult depression. *Journal of Health and Social Behavior, 32*, 205-220.

McLoyd, V. C. (1989). Socialization and development in a changing economy. *The American Psychologist, 44*, 293-302.

Miethe, T. D., & McCorkle, R. C. (2001). *Crime profiles: The anatomy of dangerous persons, places, and situations*. Los Angeles, CA: Roxbury.

Monroe, S. M., & McQuaid, J. R. (1994). Measuring life stress and assessing its impact on mental health. In W. R. Avison & I. H. Gotlib (Eds.), *Stress and mental health: Contemporary issues and prospects for the future* (pp. 43-73). New York: Plenum.

Oates, R. K., Forest, D., & Peacock, A. (1985). Self-esteem of abused children. *Child Abuse and Neglect, 9*, 159-163.

Patterson, G., & Bank, L. (1989). Some amplifying mechanisms for pathological processes in families. In M. R. Gunnar & E. Thelen (Eds.), *Systems and development* (pp. 167-209). Hillsdale, NJ: Erlbaum.

Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior, 30*, 241-256.

Pearlin, L. I. (1999). Stress and mental health: A conceptual overview. In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 161-175). New York: Cambridge University Press.

Pearlin, L. I., Lieberman, M., Menaghan, E., & Mullan, J. (1981). The stress process. *Journal of Health and Social Behavior, 22*, 337-356.

Pearlin, L. I., & Radabaugh, C. W. (1985). Age and stress: Perspectives and problems. In B. H. Hess & E. W. Markson (Eds.), *Growing old in America*, 3rd ed. (pp. 293-308). New Brunswick, NJ: Transaction.

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior, 19*, 2-21.

Pearlin, L. I., & Turner, H. A. (1987). The family as a context of the stress process. In S. V. Kasl & C. L. Cooper (Eds.), *Stress and health: Issues in research methodology* (pp. 143-166). New York: Wiley.

Pynoos, R. S., Frederick, C., Nader, K., & Arroyo, W. (1987). Life threat and posttraumatic stress in school-age children. *Archives of General Psychiatry, 44*, 1057-1063.

Radloff, L. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

Regehr, C. (1990). Parental responses to extrafamilial child sexual assault. *Child Abuse and Neglect, 14*, 113-20.

Robertson, J. F., & Simons, R. L. (1989). Family factors, self-esteem, and adolescent depression. *Journal of Marriage and the Family, 51*, 125-138.

Rollins, B. C., & Thomas, D. L. (1979). Parental support, power, and control techniques in the socialization of children. In W. R. Burr, R. Hill, F. I. Nye, & I. L. Reiss (Eds.), *Contemporary theories about the family*, vol. 1. New York: Free Press.

Roosa, M. W., Sandler, I. N., Beals, J., & Short, J. L. (1988). Risk status of adolescent children of problem drinking parents. *American Journal of Community Psychology, 16*, 225-239.

Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenfield, S. (1989). The effects of women's employment: Personal control and sex differences in mental health. *Journal of Health and Social Behavior, 30*, 77-91.

Rosenfield, S. (1999). Gender and mental health: Do women have more psychopathology, men more, or both the same (and why)? In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 348-360). New York: Cambridge University Press.

Sandler, I. N., Miller, P., Short, J., & Wolchik, S. (1989). Social support as a protective factor for children in stress. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 277-307). New York: Wiley.

Sarason, I. G., & Sarason, B. R. (1985). *Social support: Theory, research, and applications*. Boston: Martinus Nijhoff.

Scott, K. D. (1992). Childhood sexual abuse: Impact on a community's mental health status. *Child Abuse and Neglect, 16*, 285-295.

Shapiro, S., & Dominiak, G. (1990). Common psychological defenses seen in the treatment of sexually abused adolescents. *American Journal of Psychotherapy, 44*, 68-74.

Silvern, L., Karyl, J., Waelde, L., Hodges, W. F., Starek, J., Heidt, E., & Min, K. (1995). Retrospective reports of parental partner abuse: Relationships to depression, trauma symptoms and self-esteem among college students. *Journal of Family Violence, 10*, 177-202.

Sim, H. (2000). Relationship of daily hassles and social support to depression and antisocial behavior among early adolescents. *Journal of Youth and Adolescence, 29*, 647-659.

Smith, C., & Carlson, B. E. (1997). Stress, coping, and resilience in children and youth. *The Social Service Review, 71*, 231-256.

Snyder, M., & Sickmund, H. N. (1999). *Juvenile offenders and victims: 1999 national report.* Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Sorenson, S. B., Rutter, C. M., & Aneshensel, C. S. (1991). Depression in the community: An investigation into age of onset. *Journal of Consulting and Clinical Psychology, 59*, 541-546.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266-1281.

Straus, M. A., & Gelles, R. J. (1990). *Physical violence in American families.* New Brunswick, NJ: Transaction Publishers.

Tennant, C. (1988). Parental loss in childhood: Its effect in adult life. *Archives of General Psychiatry, 45*, 1045-1050.

Tew, B., & Laurence, K. (1985). Possible personality problems among 10-year old spina bifida children. *Child: Care, Health, and Development, 11*, 375-390.

Thoits, P. A. (1982). Life stress, social support and psychological vulnerability: Epidemiological considerations. *Journal of Community Psychology, 10*, 341-362.

Thoits, P. A. (1983). Dimensions of life events that influence psychological distress: An evaluation and synthesis of the literature. In H. H. Kaplan (Ed.), *Psychosocial stress: Trends in theory and research* (pp. 33-103). New York: Academic Press.

Turner, H. A. (1994). Gender and social support: Taking the bad with the good? *Sex Roles, 30*, 521-541.

Turner, H. A., & Butler, M. J. (2003). Direct and indirect effects of childhood adversity on depressive symptoms in young adults. *Journal of Youth and Adolescence, 32*, 89-103.

Turner, R. J. (1999). Social support and coping. In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 198-210). New York: Cambridge University Press.

Turner, R. J., Frankel, B. G., & Levin, D. M. (1983). Social support: Conceptualization, measurement and implications for mental health. In J. R. Greeley (Ed.), *Research in community and mental health*, vol. 3 (pp. 67-110). Greenwich, CT: JAI Press.

Turner, R. J., & Lloyd, D. A. (1995). Lifetime traumas and mental health: The significance of cumulative adversity. *Journal of Health and Social Behavior, 36*, 360-376.

Turner, R. J., & Noh, S. (1988). Physical disability and depression: A longitudinal analysis. *Journal of Health and Social Behavior, 29*, 23-37.

Turner, R. J., & Roszell, P. (1994). Psychosocial resources and the stress process. In W. R. Avison & I. H. Gotlib (Eds.), *Stress and mental health: Contemporary issues and prospects for the future* (pp. 179-212). New York: Plenum.

Turner, R. J., & Wheaton, B. (1997). Checklist measurement of stressful life events. In S. C. Cohen & R. C. Kessler (Eds.), *Measuring stress: A guide for health and social scientists* (pp. 29-58). New York: Oxford University Press.

Turner, R. J., Wheaton, B., & Lloyd, D. A. (1995). The epidemiology of social stress. *American Sociological Review, 60*, 104-125.

Tweed, S. H., & Ryff, C. D. (1991). Adult children of alcoholics: Profiles of wellness amidst distress. *Journal of Studies on Alcohol, 52*, 133-141.

Veil, H. O. F., & Baumann, U. (1992). The many meanings of social support. In H. O. F. Veil & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 1-7). New York: Hemisphere.

Vogel, S., & Vernberg, E. (1993). Children's psychological responses to disasters. *Journal of Clinical Child Psychology, 22*, 464-484.

Vondra, J., Barnett, D., & Cicchetti, D. (1990). Self concept, motivation, and competence among preschoolers from maltreating and comparison families. *Child Abuse and Neglect, 14*, 525-540.

Weiss, R. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17-26). Englewood Cliffs, NJ: Prentice-Hall.

West, M., & Prinz, R. (1987). Parental alcoholism and childhood psychopathology. *Psychological Bulletin, 102*, 204-218.

Wheaton, B. (1980). The sociogenesis of psychological disorder: An attributional theory. *Journal of Health and Social Behavior, 21*, 100-124.

Wheaton, B. (1985). Models for the stress-buffering functions of coping resources. *Journal of Health and Social Behavior, 26*, 352-364.

Wiehe, V. R. (1998). *Understanding family violence: Treating and preventing partner, child, sibling, and elder abuse*. Thousand Oaks, CA: Sage.

Zigler, E., & Butterfield, E. C. (1968). Motivational aspects of changes in IQ test performance of culturally deprived nursery school children. *Child Development, 39*, 1-14.

APPENDIX A

ITEMS USED TO MEASURES DEPRESSION AND RESOURCES

Depressive Symptomatology

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating.
3. I felt that I could not shake off the blues.
4. I felt that I was just as good as other people.*
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.*
9. I though my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.*
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.*
17. I had crying spells.
18. I felt sad.
19. I felt that people disliked me.
20. I could not get "going."

Family Support

1. You feel very close to your family.
2. You have family who would always take the time to talk over your problems, should you want to.
3. Your family often lets you know that they think you are a worthwhile person.
4. Your family is always telling you what to do and how to act.*
5. When you are with your family, you feel completely able to relax and be yourself.
6. No matter what happens you know that your family will always be there for you should you need them.
7. You know that your family has confidence in you.
8. You feel that your family really cares about you.
9. You often feel really appreciated by your family.

Peer Support

1. You feel very close to your friends.
2. You have friends who would always take the time to talk over your problems, should you want to.

3. Your friends often let you know that they think you're a worthwhile person.
4. When you are with your friends you feel completely able to relax and be yourself.
5. No matter what happens you know that your friends will always be there for you should you need them.
6. You know that your friends have confidence in you.
7. You feel that your friends really care about you.
8. You often feel really appreciated by your friends.

Self-esteem

1. You are able to do things as well as most other people.
2. You feel you do not have much to be proud of.*
3. You take a positive attitude toward yourself.
4. On the whole, you are satisfied with yourself.
5. You wish you could have more respect for yourself.*
6. You certainly feel useless at times.*
7. At times, you think you are a failure.*

Mastery

1. You have little control over the things that happen to you.*
2. There is really no way you can solve some of the problems you have.*
3. There is little you can do to change many of the important things in your life.*
4. You often feel helpless in dealing with problems of life.*
5. Sometimes you feel that you are being pushed around in life.*
6. What happens to you in the future mostly depends on you.
7. You can do just about anything you really set your mind to.
8. When you make plans you are almost certain you can make them work.

*These items were necessarily reverse-coded.

APPENDIX B

CHILDHOOD TRAUMA AND ADVERSITY QUESTIONS

1. In your whole life, were you ever in a **VERY SERIOUS** fire, explosion, flood, tornado, hurricane, earthquake or other disaster?

2. In your whole life, have you ever lived near a war zone or been present during a political uprising?

3. In your whole life, were you ever in a **VERY SERIOUS** accident (at home, school, or in a car) where you were injured and had to be hospitalized?

4. In your whole life, did you ever have a **VERY SERIOUS** illness where you had to be hospitalized?

5. At any point in your life, has someone you were really close to had a **VERY SERIOUS** accident where he or she had to be hospitalized?

6. At any point in your life, has someone you were really close to had a **VERY SERIOUS** illness where he or she had to be hospitalized?

7. When you were in elementary school, junior high, or high school, did you ever have to do a school year over again?

8. When you were growing up, were there times when the main provider for your household was unemployed when he or she wanted to be working?

9. Was there ever a time when you were growing up that your family was forced to live on the street or in a shelter?

10. When you were a child or teenager were you ever sent away or taken away from your parents for any reason?

11. When you were a child or teenager, did either of your parents, stepparents or guardians have to go to prison?

12. In your whole life, were you ever forced or threatened into having sexual intercourse when you didn't want to?

13. [Other than that/those time(s)] has there ever been a time (including when you were a child or teenager) when someone touched your genitals [or breasts] or made you touch their private parts when you didn't want him or her to?

14. In your whole life, have you ever been **BADLY** beaten up—punched, kicked or hit very hard—by a family member, like a parent, stepparent, sibling, or other relative?

15. In your whole life, have you ever been **BADLY** beaten up—punched, kicked or hit very hard—by someone other than a family member, like a friend, or someone at school or in the neighborhood?

16. In your whole life, have you ever been actually shot with a gun or injured with some other weapon, like a knife or bat?

17. In your whole life, has someone (including friends, family members or strangers) ever threatened or attacked you with a gun, knife, or some other weapon even though you were not injured?

18. In your whole life, have you ever been chased, but not caught, by a gang, "bully" or someone you were frightened of, when you thought you could really get hurt?

19. In your whole life, has anyone ever tried to kidnap you or force you into a car?

20. In your whole life, have you ever seen a dead body in someone's house, on the street, or somewhere in your neighborhood (other than in connection with a funeral)?

21. Have you ever personally seen or heard someone you were really close to getting **BADLY** beaten up (that is, punched, kicked or hit very hard) by either a stranger or someone you knew? [Probe: this would include times when someone in your family hurt another family member.]

22. Have you ever personally seen or heard someone you were really close to getting shot with a gun or injured with some other weapon like a knife or a bat?

23. Have you ever personally seen or heard someone you were really close to threatened or attacked with a gun, knife, or some other weapon, even though he/she was not injured?

24. Have you ever seen someone you were really close to getting chased, but not caught, by a gang, "bully" or someone he or she was frightened of, when you thought he or she could really get hurt? [Probe: this would include times when someone in your family chased another family member]

25. Other than on television or in movies, have you ever personally seen someone else get **BADLY** beaten up, or shot, injured, or threatened with a gun or other weapon? [Probe: this would include a stranger, acquaintance, or someone else you were not close to.]

26. When you were growing up, was there ever a time that a family member drank or used drugs so often that it caused problems?

27. When you were a child or teenager, did either of your parents, stepparents, or guardians ever have a mental illness or "nervous breakdown?"

28. Has there ever been a time when you were living with your parents or stepparents when they were always arguing, yelling, and angry at one another?

29. Was there a time in your life when you were frequently teased, harassed or treated badly because of your race, nationality, or religion, or because people thought you were gay?

30. When you were a child or teenager, was there ever a time when you were frequently teased or ridiculed about your physical appearance because of something like a physical disability, a weight problem, or severe acne?

APPENDIX C

TRAUMA AND ADVERSITY MEASURES, BY DOMAIN

Non-violent Self-adversity and Non-violent Family-adversity

Non-violent Self-adversity	Non-violent Family-adversity
1. You natural disaster	5. Intimate had accident
3. You had serious accident	6. Intimate hospitalized with illness
4. You hospitalized with illness	8. Provider unemployed
7. You repeated a grade	11. Parent go to prison
10. You sent or taken away from parents	26. Family member drug or alcohol problem
20. You seen a dead body	27. Parent have mental illness or breakdown
29. You teased because of race...or sexual orientation	28. Inter-parental arguing/yelling/anger
30. You teased because of physical appearance	

Violence Personally Experienced and Violence Witnessed

Violence Personally Experienced	Violence Witnessed
14. You physically assaulted by family member	21. Witnessed intimate physically assaulted
15. You physically assaulted by non-family member	22. Witnessed intimate assaulted with a weapon
16. You injured by use of a weapon	23. Witnessed intimate threatened with a weapon (not injured)
17. You threatened with a weapon (not injured)	24. Witnessed intimate chased (but not caught) by someone
18. You chased (but not caught) by someone	

Victimization by Family and Victimization by Non-family

Victimization by Family	Victimization by Non-family
12. You raped	12. You raped
13. You molested	13. You molested
14. You physically assaulted by family member	15. You physically assaulted by non-family member
17. You threatened with a weapon (not injured)	17. You threatened with a weapon (not injured)
18. You chased (but not caught) by someone	18. You chased (but not caught) by someone
19. You attempted kidnapped	19. You attempted kidnapped

APPENDIX D

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF NEW HAMPSHIRE

LAST NAME *Muller*

FIRST NAME *Paul*

DEPT *SOCIOLOGY*

APPROVAL DATE *2/10/2004*

PROJECT # *SOC01*

OFF-CAMPUS ADDRESS (if applicable)

DATE OF NOTICE *7/9/2004*

PROJECT TITLE *The relative impact of childhood stressor domains on young adult depression and the mediating role of social and personal resources*

The Sociology Departmental Review Committee, a subcommittee of the Institutional Review Board (IRB) for the Protection of Human Subjects in Research, reviewed and approved the protocol for your study as Exempt as described in Federal Regulations 45 CFR 46, Subsection 101 (b).

Approval is granted to conduct the project as described in your protocol. Changes in your protocol must be submitted to this committee for review and approval prior to their implementation.

The protection of human subjects in your study is an ongoing process for which you hold primary responsibility. In receiving approval for your protocol, you agree to conduct the project in accordance with the ethical principles and guidelines for the protection of human subjects in research, as described in the Belmont Report. The full text of the Belmont Report is available on the Office of Sponsored Research (OSR) webpage at http://www.unh.edu/osr/compliance/Regulatory_Compliance.html and by request from the OSR.

There is no obligation for you to provide a report to this committee upon project completion unless you experience any unusual or unanticipated results with regard to the participation of human subjects. Please report such events to this office promptly as they occur.

If you have questions or concerns about your project or this approval, please feel free to contact a member of the Sociology Departmental Review Committee.

For the IRB,

Julie F. Simpson
Manager, Research Conduct and Compliance Services

cc: File
Heather Turner