# INVESTIGATING THE EFFECTS OF INTIMATE PARTNER VIOLENCE ON WOMEN'S HEALTH

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ABSTRACT

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Prior research consistently demonstrates that intimate partner violence places women at risk for various physical and psychological health problems, yet few researchers have examined the process by which abuse impacts women's health. Several researchers have noted that injuries are the most logical link between abuse and physical health problems. Others have suggested that the stress of surviving an intimate partner's violence can significantly jeopardize women's health. Furthermore, researcher's reliance on samples of low-income women has limited our ability to differentiate the effects of poverty from those due to abuse. Clarifying the complex relationships among abuse, injuries, stress, income, and health is essential to fully understanding the impact of intimate partner violence on women's livelihood. It is also an important step toward developing interventions that effectively address survivor's needs.

The present study investigated the effects of injuries, stress, and income on the relationship between abuse and women's physical and psychological health. As part of a larger research project, 397 women – half had been assaulted by an intimate partner – completed face-to-face interviews after being recruited through newspaper advertisements to participate in a cross-sectional study on women's health. Structural equation modeling techniques (AMOS's version 3.6) and hierarchical multiple regression

analyses were used to test the path model of direct and indirect relationships among abuse, injuries, stress, physical health, psychological health, income, and social support.

The results of this study clarified the process by which abuse impacts women's health; both injuries and the joint effects of stress and psychological health problems (depression, suicide ideation, and dissatisfaction with quality of life) significantly compromised women's physical health. The findings provide strong support for a stress-response theory about the effects of abuse on women's health. The stress associated with surviving an intimate partner's violence had a greater impact on women's physical health problems than did their injuries, and concomitant rates of depression, suicide ideation, and dissatisfaction with their quality of life significantly moderated the relationship between abuse-related stress and women's physical health problems.

Intimate partner violence had a stronger impact on women's health than did income level. Income level did not have a significant direct effect on rates of physical health problems, and the direct effect of abuse was five times greater than the direct effect of income on women's stress levels. However, having a higher income did significantly reduce the impact of stress on women's rates of depression and dissatisfaction with their quality of life. It did not significantly moderate the impact of stress on women's rates of suicide ideation. Conversely, women's satisfaction with the amount and quality of their social support did not appear to buffer the effects of stress on their psychological health.

The results of this study underscore the need for comprehensive screening protocol and coordinated community-response initiatives. Further investigation of specific abuse-related stressors and longitudinal research are also recommended.

This is dedicated to the women whose strength and courage made this work possible.

They are an inspiration.

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# CHAPTER 1

# INTRODUCTION

Intimate partner violence is a pervasive social problem that compromises the personal health and safety of millions of women (National Coalition Against Domestic Assault, 1995; Stark & Flitcraft, 1982; Straus & Gelles, 1986). For the past two decades researchers have documented staggering rates of intimate partner violence against women of all ages, racial and ethnic groups, and socioeconomic levels. A recent national random survey of women's health estimates that 4.4 million adult women are physically or sexually abused by an intimate partner each year (Plichta, 1996). Other researchers estimate that between 12% and 35% of medical patients (Abbott, Johnson, Koziol-McLain, & Lowenstein, 1995; Council on Scientific Affairs, American Medical Association (AMA), 1992; Domino & Haber, 1987; Haber & Roos, 1985; McCauley, Kern &, 1997; Warshaw, 1989) and 22% to 50% of mental health clients (Carmen, Rieker, & Mills, 1984; Post, Willett, Franks, House, Back & Weissberg, 1980; Swett & Halpert, 1993;Waldinger, Swett, Frank, & Miller, 1994) have been physically, sexually, or emotionally abused by an intimate partner at some point in their adult lives.

Battered women suffer countless injuries, acute and chronic health problems, and symptoms of depression and anxiety. Cross-sectional and longitudinal investigations of women from domestic violence shelter programs, emergency rooms, and mental health settings consistently demonstrate a strong positive relationship between intimate partner violence and health problems. As a result of prior research, we've learned that a lover's pounding fists damage more than flesh and bone, that the scars of seemingly endless beat-

downs last long after the bruises fade and the scabs heal. Both the immediate and long-term health consequences of the assaults are often severe and debilitating.

The social ramifications of intimate partner violence extend beyond individual pain and suffering. Health problems may impede daily functioning thereby reducing productivity as well as increasing health care costs. If visible, the injuries alone may prevent a woman from going to work or attending classes because they might attract attention and humiliation. Even if they're not visible, they may interfere with her ability to perform job-related tasks or to concentrate on her work. Other health problems associated with abuse -- such as chronic illnesses, various health symptoms, and depression -- can also strain a woman's relationship with her employer, coworkers, family members, friends, and service providers. In effect, a partner's violence places her in double jeopardy: once because of the health problems she suffers and again because of the impact her health problems have on her livelihood.

Eliminating the violence from women's lives is one way to reduce prevailing health problems. Researchers have demonstrated that a survivor's anxiety, depression, and physical health problems intensify as her partner's violence continues, but gradually decrease with subsequent reductions in violence (Sutherland, Bybee & Sullivan, 1998; Campbell, Sullivan & Davidson, 1995; Follingstad, Brennan, Hause, Polek, and Rutledge, 1991). Unfortunately, it is highly unlikely that intimate partner violence will cease being a social problem any time soon. We need to develop alternative strategies for reducing the harmful effects of abuse on women's physical and psychological health now. A key first step in developing these strategies is to examine the relationship between abuse and women's physical and psychological health: to explain how intimate

partner violence affects women's psychological and physical health. While researchers consistently demonstrate a strong link between abuse and women's health issues, few have examined the process by which intimate partner violence affects health problems (Eby, 1996; Campbell and Lewandowski, 1997; Sutherland, Bybee & Sullivan, 1998). Clarification of this process is necessary for effective intervention.

Researchers have demonstrated that stress is a key contributing factor in the relationship between abuse and health outcomes (Eby, 1996; Campbell, Kub, Belknap, & Templin, 1997; Jaffe, Wolfe, Wilson & Zak, 1986). Campbell and associates (1997) found that rates of daily hassles significantly predicted levels of depression among 164 battered women. In a comparative study of low-income women, Eby (1996) confirmed that "abused" women reported higher levels of stress (i.e., stressful life events and daily life circumstances), physical health symptoms and depression than did "non-abused" women. Furthermore, using structural equation modeling techniques, Eby demonstrated that the effect of abuse on low-income women's physical and psychological health was mediated by the stress they experienced. These findings support previous assumptions that battered women suffer numerous physical and psychological health problems in response to stressors associated with intimate partner violence.

However, researchers have noted similar effects associated with living in poverty. Women living in poverty experience a greater number of financial stressors (e.g., job losses, unpaid bills, inadequate housing) and have insufficient financial resources to address those and other undesirable events (e.g., frequent illness, legal problems) than do middle or high-income women (Mcleod & Kessler, 1990). As a result, low-income women are more likely to suffer higher levels of depression and anxiety (Hirschfeld &

Cross, 1982; Lynch, Kaplan & Shema, 1997; Murphy, Olivier, Monson, Sobol, Federman & Leighton, 1991) and chronic physical health problems (Kingston & Smith, 1997; Lynch, Kaplan & Shema, 1997; Luepker, Rosamond, Murphy, Sprafka, Folsom, McGovern & Blackburn, 1993; Stronks, Van Den Bos & Mackenbach, 1997) than women with higher incomes.

Eby's (1996) comparative study indicated that the effects of abuse remain strong even when controlling for women's low-income status. Low-income "abused" women reported higher stress levels and poorer health outcomes than did the group of low-income "non-abused" women. While these findings validate previous assumptions about the effects of intimate partner violence, the extent to which living in poverty impacts women's stress and health remains unclear. This is an important issue to consider. Clarifying the relationship between poverty and stress is crucial to understanding the full impact of abuse on women's physical and psychological health. Failing to do so could result in an underestimate of the true association between intimate partner violence and women's health.

Explicating the relationship between poverty and stress also enhances our ability to develop effective intervention strategies for women of various income levels. Eby (1996) noted that financial issues were the most frequently reported stressors for "abused" and "non-abused" women. The most likely explanation for this finding is that all of the women were living in poverty, so financial issues were a primary concern for them. However, another possible explanation for the finding may relate to the dynamics of intimate partner violence.

Violent intimate partners use a variety of tactics to establish power and control in the relationship. The shoving, pushing, kicking, choking, raping and various emotional assaults are calculated attempts to assert that dominance. Abusive partners often maintain control by restricting women's access to financial resources (e.g., controlling their money and activities, restricting employment options, or ruining their credit rating). Concern about financial issues may be a salient issue for many battered women regardless of their socioeconomic status. If concerns about financial issues are primary stress factors for survivors regardless of income level, then providing access to specific community resources may be key to alleviating the harmful effects of intimate partner violence. Interventions that do not address these concerns may be less effective in preventing poor health outcomes. Therefore, in addition to improving estimates of the effect of intimate partner violence on women's health, clarifying the effects of poverty on stress may lead to more effective interventions for battered women.

The social support women receive from their friends and family also may have an impact on the relationship between abuse-related stress and health outcomes. Past research indicates that social support may buffer the extent to which stress compromises women's psychological health. Friends and family members may provide various resources ranging from emotional support to financial assistance when crises occur. If those resources address women's needs, they may reduce the impact of crises. Investigating the extent to which social support "protects" women from the deleterious effects of intimate partner violence is important. Survivors of intimate partner violence actively seek support from their friends and family; they may need safe shelter for themselves and their children, information about community resources, money, or

someone to talk with. Having the social support available to them when they need it may enhance their ability to alleviate the effects of abuse-related stress.

To summarize, intimate partner violence is associated with numerous immediate and long-term physical and psychological health problems. Several researchers have suggested that it is the stress of surviving an intimate partner's assaults that compromise women's health, yet few investigators have actually examined the process by which abuse predisposes women to chronic illness, complex physical health symptoms, and compromised psychological health (i.e., depression, suicide ideation, and dissatisfaction with quality of life). Understanding this process is crucial to developing effective interventions to reduce the onset of long-term health problems. Findings from a cross-sectional comparative study of low-income women have demonstrated that women's stress levels mediate the relationship between abuse and health outcomes. However, the extent to which living in poverty effects this process remains unclear. Further research with women from a range of income levels is needed to estimate the true effect of intimate partner violence and to develop intervention strategies that effectively meet the needs of women.

A review of the literature is presented to clarify the complex relationship between intimate partner violence and women's health. This review discusses studies that examined the effect of abuse, stress, and poverty on women's physical (i.e., injuries, chronic illness, and physical health symptoms) and psychological (i.e., depression, suicide ideation, and quality of life) health. It includes cross-sectional and longitudinal investigations and critically assesses the extent to which existing literature explains the process by which intimate partner violence affects poor health outcomes. Finally, the

review discusses research about the role of social support in moderating the relationship between abuse and psychological health.

Two issues about the direction and content of the literature review need to be addressed at this time. First, although there are three common types of abuse, physical, sexual, and psychological, the trend of previous research has been to delineate the consequences of physical and sexual abuse. We know relatively little about the effects of psychological abuse on women's physical and psychological health. Therefore, the review will contain research that specifically addresses the effects of physical and sexual abuse.

Second, much of what we currently know about intimate partner violence and its effects on women's health has been derived from studies about low-income women or women in crisis (i.e., living in a battered women's shelter or seeking medical attention from emergency rooms or mental health care facilities). There have been very few studies about abuse where researchers examined community-based samples or samples with a range of incomes. The literature search for this review did identify a few comparative studies, but not comparative studies using middle- or high-income women. Therefore, the information presented in this review is limited with respect to its generalizability to women who are not living in poverty, and to some extent women who are not in a state of crisis.

Physical and Psychological Consequences of Intimate Partner ViolencePrior studies have provided valuable information about the physical and psychological consequences of intimate partner violence. For decades, health care practitioners and medical researchers have documented high rates of physical health symptoms, chronic health problems, depression, anxiety, and suicidal ideation among battered women. They and other researchers have found that battered women often suffer a complex array of physical and psychological health problems that appear unrelated to injuries or predisposing health conditions. Much of previous research has been based on the experiences of low-income women or women who are in a state of crisis (i.e., seeking emergency medical or mental health care or safety in a battered women's shelter). As such, the extent to which the poor health outcomes are due to intimate partner violence remains unresolved. Despite this limitation, a review of the existing literature pertaining to the physical and psychological health consequences of abuse provides meaningful insight to battered women's experiences.

Physical Health Consequences of Abuse

Physical health symptoms. Health care practitioners and other researchers have demonstrated that battered women endure numerous physical health symptoms. Comparative retrospective studies of emergency room and primary health clinic patients indicate that battered women seek medical attention for health complaints more often than do non-battered women (Council on Scientific Affairs, 1992; Domino & Haber, 1987; Drossman, Leserman, Nachman, Li, Gluck, Toomy & Mitchell, 1990; Hamberger, 1994; Koss, Koss, & Woodruff, 1991). They also report a greater range of specific health symptoms. For example, Eby (1996) found that women in the "abused" group reported a

greater number and frequency of physical health problems than did women in the "non-abused" group. Frequently reported symptoms include those associated with sleep problems such as fatigue, insomnia and recurrent nightmares (Eby, 1996; Jaffe, Wolfe, Wilson, and Zak, 1986; Kerouac et al., 1986; Sutherland et al., 1998); headaches, chest pain, back and limb problems, and disturbing physical sensations (Domino & Haber, 1987; Drossman, 1994; Drossman, Talley, Leserman, Olden & Barrio, 1995; Eby, 1996; Follingstad, Brennan, Hause, Polek & Rutledge, 1991; Kerouac et al., 1986; Sutherland et al., 1998); stomach and gastrointestinal problems (Drossman et al., 1990; Follingstad et al., 1991; Scarcini, McDonald-Haile, Bradley & Richter, 1994; Sutherland et al., 1998; Tally, Fett & Zinsmeister, 1995; Talley, Fett, Zinsmeister & Melton, 1994); respiratory problems such as choking sensations, hyperventilation, and asthma (Abbot, Jonson, Kozoil-McLain & Lowenstein, 1995; Keroac et al., 1986); and gynecological symptoms such as pelvic pain, menstrual problems, miscarriages, and hysterectomies (Eby et al., 1995; Eby, 1996; Rapkin, Kames, Darke, Stampler & Naliboff, 1990; Rodriguez, 1989; Schei & Bakketeig, 1989; Sutherland et al., 1998; Toomey, Hernandez, Gittleman & Hulka, 1993).

Most battered women suffer between three and eleven physical health symptoms at any given point in time (Follingstad et al., 1991; Sutherland et al., 1998). In many cases the symptoms appear unrelated and have an unspecified origin. Health care providers have characterized the symptoms as manifestations of stress and have found them difficult to diagnose and treat. As a result, physicians may have provided inadequate or harmful treatment for women's health symptoms without ever addressing the underlying cause of the complaints. Improved identification procedures in emergency

rooms and primary care facilities have revealed that the vague pain complaints when combined with other physical health symptoms may be strong indicators of intimate partner violence (Attala, 1994; Drossman et al., 1995; Randall, 1990; Saunders, Hamberger & Hovey, 1993). When asked, a woman often attributes her physical health problems to her partner's physical and psychological abuse (Abbott et al., 1995; Eby, 1996). For example, Eby (1996) found that most women reported that symptoms such as headaches, sleep problems, muscle tension or soreness, poor appetite, and nightmares were due to their partner's abusive behavior.

The extent of women's physical health symptomatology is directly related to their experiences of abuse. Researchers have found that the frequency and severity of health symptoms is strongly associated with the frequency and severity of abuse (Eby, 1996; Follingstad et al., 1991; Sutherland et al., 1998). As the violence becomes more frequent and severe, so does a woman's physical health symptomatology. Furthermore, the extent to which women experience physical health symptoms is directly linked to their experiences of violence. Sutherland and colleagues' (1998) longitudinal investigation demonstrated that women's physical health symptoms gradually decreased over time as their experiences of abuse declined. The concomitant decline in abuse and physical health symptomatology indicates that intimate partner violence has a significant impact on women's physical health. That the effects of abuse persisted even in the absence of abuse suggests that a partner's violence has a long-lasting impact on a woman's health. It seems likely that women suffer multiple physical health symptoms because of their partners' violence against them.

Chronic health problems. While there is sufficient evidence to conclude that intimate partner violence causes multiple physical health symptoms, the relationship between abuse and chronic health problems is less clear. Health care practitioners and researchers have noted high prevalence rates of physical and sexual abuse among patients suffering from conditions such as arthritis (Kerouac et al., 1986), chronic pain (e.g., lower back, abdominal, headache, and pelvic pain) (Domino & Haber, 1987; Haber & Roos, 1985; Rapkin, Kames, Darke, Stamler & Naliboff, 1990; Toomey, Hernandez, Gittleman & Hulka, 1993), and gastrointestinal illness (e.g., gastroesophageal, noncardiac chest pain, and irritable bowel syndrome) (Drossman et al., 1990; Scarinci et al., 1994; Talley et al., 1995; Talley et al., 1994). While the prevalence rates vary depending on the type of problem and reporting procedures, researchers have estimated that between 31% and 56% of female gastrointestinal illness sufferers report a history of physical or sexual abuse (Drossman et al, 1995). Among chronic pain sufferers between 53% and 66% of the patients reported a history of abuse. These high prevalence rates suggest a strong link between history of abuse and chronic health problems. For example, in a study of 997 gastroenterology outpatients, Talley et al. (1995) noted that patients who reported a history of physical or sexual abuse were twice as likely to have chronic gastrointestinal disease than were patients who did not report a history of abuse.

While previous studies imply a direct link between intimate partner violence and chronic health problems, few researchers have actually assessed the extent to which abuse causes chronic health problems. Furthermore, much of what we do know has been based on retrospective clinical studies that lack a clear distinction between experiences of childhood sexual trauma and intimate partner violence. Prevalence rates are often based

on history of abuse, which includes childhood sexual and physical abuse in addition to intimate partner violence (Drossman et al., 1995; Scarinci et al., 1994; Talley et al., 1994; Talley et al., 1995; Toomey et al., 1993). The lack of differentiation between childhood experiences of abuse and intimate partner violence may lead to an overestimation of the effects of intimate partner violence on chronic health problems. The reliance on clinical samples to determine prevalence rates restricts our ability to generalize existing information to women who haven't sought medical attention or who were misdiagnosed.

Consequently, our knowledge about the process by which intimate partner violence affects chronic health problems is limited. This is an important gap in the literature. Chronic health problems can severely limit a person's ability to perform daily tasks or secure stable employment. They also require consistent medical attention, which can be extremely expensive. For a battered woman, having a chronic health problem may be detrimental to her safety as well as her overall health. If her partner feels that she has not performed her duties as ordered, he may use this as another excuse to beat or humiliate her more. Clearly this is one consequence of intimate partner violence that needs further exploration.

In summary, battering takes its toll on women's physical health in at least two distinct ways. Previous researchers have demonstrated a strong positive relationship between intimate partner violence and women's physical health symptomatology. More frequent and severe violence results in higher rates of physical health symptoms. In addition, longitudinal analyses indicate a long-lasting impact of abuse on women's experiences of physical health symptoms. The relationship between intimate partner violence and chronic illness is less clear. While researchers have noted high prevalence

rates of abuse among chronic pain and gastrointestinal illness sufferers, several methodological limitations prevent us from fully understanding the effect of intimate partner violence on chronic health problems.

Abuse and Psychological Health

Intimate partner violence may be the most common single background factor for female patients in mental health settings (Stark and Flitcraft, 1988). Studies of mental health clinic populations reveal that 37% to 50% of psychiatric inpatients have a history of adulthood sexual or physical abuse (Post, Willett, Franks, House, Back & Weissberg, 1980; Swett & Halpert, 1993). Many battered women endure symptoms of psychological stress such as depression and anxiety (Alpert, 1995; Bergman & Brismar, 1991; Campbell, Kub, Belknap & Templin; Campbell, Sullivan & Davidson, 1995; Carmen et al., 1984; Cascardi & O'Leary, 1992; Follingstad et al., 1991; Gleason, 1993; Goodman et al., 1993; Jaffe et al., 1986; Koss, 1990; Mitchell & Hodson, 1983; Mullen, Romans-Clarkson, Walton & Herbison, 1988; Sato & Heiby, 1992; Stark & Flitcraft, 1988; West, Fernandez, Hillard, Schoof & Parks, 1990) and posttraumatic stress (Astin, Lawrence & Foy, 1993; Cascardi, O'Leary, Lawrence & Schlee, 1995; Dutton & Goodman, 1994; Gleason, 1993; Kemp, Green, Hovanitz & Rawlings, 1995; Kemp, Rawlings & Green, 1991; Koss, 1990; Walker, 1991). Stark and Flitcraft (1988) estimated that nearly 37% of battered women are diagnosed with depression or other situational disorder, and one in ten suffers some form of a psychotic break.

Comparative studies demonstrate that battered women are more likely to suffer severe depression, anxiety, and suicide ideation than are non-battered women (Cascardi & O'Leary, 1992; Eby, 1996; Gelles & Harrop, 1989; Gleason, 1993; Jaffe et al., 1986;

Kerouac et al., 1986; Orava, McLeod & Sharpe, 1996; Rhodes, 1992). For example, Jaffe et al. (1986) compared depression and anxiety levels between 56 battered and 89 non-battered women using the General Health Questionnaire. T-test comparisons revealed that depression scores for the group of battered women were significantly higher than they were for the non-battered group. Eby's (1996) comparative study of low-income women yielded similar results. Women in the "abused" group reported poorer psychological health than did women in the "non-abused" group. These findings suggest a distinct relationship between intimate partner violence and poor psychological health outcomes. A more thorough review of research pertaining to the relationship between abuse and women's experiences of depression and suicide ideation is presented below.

Depression. Depression may be the most prominent mental health consequence of battering (Goodman, et al., 1993; McGrath et al., 1990; Walker, 1984). Although actual prevalence rates of depression among studies of battered women vary depending upon sample characteristics, there is consistent evidence to suggest that battered women suffer symptoms of depression at a greater rate than do women in the general population. The U.S. Department of Health and Human Services (USDHHS) Clinical Practice Depression Guidelines Panel estimated that the point prevalence rates for major depressive disorders among women is 9.3% (USDHHS, 1993). Studies of shelter and community samples consistently demonstrate much higher prevalence rates of depression among battered women. Within shelter populations, researchers report that 70% to 85% of battered women experience at least mild depression, while between 30% and 55% of battered women suffer symptoms of severe depression (Campbell et al., 1995; Cascardi & O'Leary, 1992; Follingstad et al., 1991; Gleason, 1993; Sato & Heiby, 1992; West et al.,

1990). The prevalence rate among a community sample of battered women was lower, but still significantly higher than the general population. Campbell et al. (1997) interviewed 164 battered women who were recruited from newspaper advertisements and bulletin board postings. Using the Beck Depression Inventory, the investigators found that 28% were moderately to severely depressed and 11% were severely depressed.

As noted earlier, battered women are more likely to suffer symptoms of depression than are their non-battered counterparts. Other researchers have demonstrated a strong positive relationship between the frequency and severity of abuse and rates of depression and anxiety (Campbell et al, 1997; Campbell et al., 1995; Cascardi & O'Leary, 1992; Eby, 1996; Khan, Welch & Zillmer, 1993; Sutherland et al., 1998). This means that women's rates of depression are significantly higher for those whose partners' assault them severely and often. It also implies that a woman's level of depression may increase if her partner's violence escalates in frequency and severity.

Researchers have demonstrated that intimate partner violence has serious consequences for women's psychological health. The prevalence rate estimates and comparative analyses provide strong empirical support for concluding that abuse has an impact on women's levels of depression. However, they do little to explain the process by which abuse affects depression. Some researchers assume a stress-response theory of abuse (Campbell et al., 1997; Campbell et al., 1995; Carmen, Russo & Miller, 1981; Eby, 1996; Mitchell & Hodson, 1983), which emphasizes the relationship between the stress of abuse and depression. Other researchers favor a more intra-personal perspective (Gellen et al., 1984; Gleason, 1993). Most of previous research is based on cross-sectional data gathered from clinical settings and battered-women's shelters. The methodological

limitations of these studies have prevented them from being conclusive. However, recent empirical evidence seems to support the stress-response theory.

Eby's (1996) comparative study of low-income women provided support for a stress-response theory of depression. Using structural equation modeling techniques, she demonstrated that abuse indirectly affects psychological health outcomes (i.e., depression, suicide ideation, and quality of life) through women's experiences of stress. Approximately 60% of the effect of abuse on women's psychological health was mediated through stress. This means that for low-income women abuse has a strong impact on levels of depression, but the extent to which battered women experience symptoms of depression depends in large part on their concurrent levels of stress.

Campbell's et al. (1995) longitudinal assessment of depression among 139 battered women provided valuable information about the effects of abuse on depression over time. First, the results of the study provided further support for a stress-response theory of psychological health problems; depressive symptoms reduced most within ten weeks after women left a shelter, and continued to decline as the frequency and severity of abuse declined. Second, the results demonstrated that experiences of abuse had both predictive and concurrent effects on women's experiences of depression. These results indicated that abuse has a resounding and long-lasting impact on women's mental health status, even after the violence has ended.

Although several researchers have established a strong link between abuse and depression, the process by which abuse affects psychological health problems needs further exploration. Most of existing research is based on cross-sectional data gathered from clinical settings and battered women's shelters, or from women who are living in

poverty. Researchers' reliance on low-income and in-crisis samples limits our ability to generalize and interpret these findings. Examining these relationships using comparative samples of women from a broad range of income levels and who are not necessarily in a state of crisis would enhance our understanding about the impact of intimate partner violence on women's experiences of depression.

Suicide ideation. While depression and anxiety appear to be the most common psychological health problems among battered women, researchers have found a consistent relationship between history of abuse and suicidal ideation or deliberate attempts at self-harm (Bergman and Brismar, 1991; Eby, 1996; Koss, 1990; Stark, 1984; Stark and Flitcraft, 1983 & 1988). Stark and Flitcraft (1988) suggest that battering may be the single most important context yet identified for female suicide attempts. In their epidemiological review of relevant research, the authors concluded that between 35 percent and 40 percent of abused women attempt suicide. Estimates suggest that battered women are, in fact, 4.8 times more likely to attempt suicide than non-battered women (Stark and Flitcraft, 1988). Nearly 50 percent of those battered women who attempt suicide will do so more than once (Stark, 1984). Perhaps battered women view suicide as their last resort to stopping the violence.

Our current understanding of the relationship between abuse and psychological health is limited by at least two factors. First, most researchers surveyed samples from clinical settings or battered women's shelters in order to explicate the relationship between abuse and mental health. These were women who actively sought psychiatric services or a safe haven, and probably do not represent the entire population of battered women. Second, prior studies have generally relied on information about low-income

women. The information gleaned from these studies has provided valuable information about the process by which intimate partner violence impacts women's psychological health. However, it does not fully explain the extent to which intimate partner violence affects women's level of depression and suicide ideation.These studies demonstrate that abuse takes a deleterious toll on women's physical and psychological health. Battered women are at risk for long-term health consequences of continuous sexual and physical assaults. They endure the pains and scars of countless injuries, and deal with debilitating physical and psychological health problems. We seem to know much about the effects of violence on low-income women's health. However, we know very little about the process by which different forms of abuse impact the physical and psychological health of women who are not living in poverty. We know even less about the factors that may exacerbate or prevent the development of health problems.

Relationship Between Physical and Psychological Health

Previous research indicates that women who suffer repeated physical, sexual, and verbal assaults from their intimate partners and who are isolated from friends, family, and other support systems are likely to exhibit symptoms of depression and anxiety. Empirical evidence also suggests that these symptoms of depression and anxiety may exacerbate or at least partially explain, their physical health symptoms such as headaches, back pain, nausea, low energy, and muscle tension.

Few researchers have empirically addressed the relationship between the psychological and physical effects of intimate partner violence (Sutherland et al., 1998). However, researchers have established a significant relationship between poor physical health status and symptoms of depression and anxiety (Betrus, Elmore & Hamilton, 1995;

Hays, Wells, Sherbourne, Rogers & Spritzer, 1995; Judd, Paulus, Wells & Rapaport, 1996; Katon, Kleinman & Rosen, 1982a, 1982b; Schulberg, McClelland & Burns, 1987). Depression and anxiety often impede physical functioning and may even increase women's susceptibility to physical illnesses such as cancer (Spiegel, 1996), chronic fatigue (Manu, Matthews, Lane, Tennen, Hesselbrock, Mendola & Affleck, 1989), endocrine disorders (Musselman & Nemeroff, 1996), and immunodeficiency disorders (Maj, 1996). Furthermore, individuals with symptoms of depression are more likely to report frequent pain and illness, limited physical activity, and general poor health than are non-depressed individuals (Betrus et al., 1995; Judd et al., 1996; Leino & Magni, 1993; Lewinsohn, Seeley, Hibbard, Rhode & Sack, 1996; Von Korff, Le Resche & Dworkin, 1993; Von Korff & Simon, 1996) and chronically ill patients (Hays et al., 1995; Wells et al., 1989).

Despite recent advances in identifying the relationship between depression and anxiety and physical health problems, the issue of causal direction (i.e., whether depression predicts physical health problems or vice versa) remains unclear. Several prospective studies have demonstrated that depression predicted higher rates of physical health problems, with no support for the opposite direction (Hays et al., 1995; Leino & Magni, 1993; Von Korff et al., 1993). Other prospective studies revealed a reciprocal relationship between depression and physical health problems over time (Aneshensel, Frerichs & Huba, 1984; Lewinsohn et al., 1996).

Sutherland's et al. (1998) longitudinal study of 139 battered women attempted to clarify the issue of causal direction. The study investigated the relationships between and among women's experiences of abuse, injuries, psychological health (i.e., depression and

anxiety), and physical health symptoms over time. Changes in women's physical and psychological health were examined across three time periods: immediately after exit from a domestic violence shelter, 8 1/2 months after shelter exit, and again six months later. The investigators used structural equation modeling techniques to assess the relationships among abuse, injuries, psychological health and physical health both within and across time points. Within each time point, abuse explained a modest proportion of variance in anxiety and depression ($R^2$ = .21) and the joint effects of abuse and anxiety and depression explained more than half the variance in physical health symptoms ($R^2$ = .53). Abuse had an indirect effect on physical health symptoms, but no significant direct effect. Patterns in the longitudinal model mirrored these relationships. At each time point, recent abuse had a direct impact on change in anxiety and depression as well as an indirect impact, through anxiety and depression, on change in physical health symptoms. Methodological limitations restricted the investigators' ability to accurately test the mediating effect of anxiety and depression across time points as well as the reciprocal relationship between psychological health and physical health. Therefore, the extent to which depression and anxiety mediates the relationship between abuse at one time point and physical health symptomatology at later time points remains unclear.

The results of Sutherland's et al. (1998) longitudinal study did demonstrate that the effects of abuse on physical health symptoms were mediated through concurrent levels of anxiety and depression. Evidence of the mediating relationship provides one explanation of how abuse may lead to physical health problems; the intervening effect of abuse on depression and anxiety leads to subsequent negative effects on physical health.

## Effects of Injuries and Stress on Women's Health

### Injuries

Injuries tend to be the most visible and immediate consequences of abuse. Batterers inflict injuries that range from black eyes, bruises, and fractured ribs to more severe problems such as head trauma, detached retinas, gunshot wounds, and miscarriages (Berrios & Grady, 1991; Drake, 1982; Kerouac, Taggart, Lescop & Fortin, 1986; Sullivan, 1991; Sutherland et al., 1998; Warhaw, 1989). A woman battered when she is not pregnant is most likely to suffer head and upper-body injuries (Berrios & Grady, 1991; Drake, 1982; Derouac et al., 1989). If she is pregnant during her partner's assault(s), she is most likely to be beaten in the breast, abdominal and genital areas (Warshaw, 1989). Women rarely suffer only one type of injury from an assault (Sutherland et al., 1998). The cuts, scrapes, bruises, and broken bones might heal without a trace of what happened. If not, the permanent scars will forever remind her of her partner's brutality. In many cases, the injuries are permanently damaging, life-threatening, or both.

The extent to which injuries lead to long-term health problems is unclear. Several researchers have suggested that injuries from repeated assaults may predispose women to debilitating health problems (Alpert, 1995; Berrios & Grady, 1991; Council on Scientific Affairs, AMA, 1992; Haber & Roos, 1985; Randall, 1990). Broken bones, torn ligaments, lacerations, and head trauma have been linked to health problems such as chronic pain, hearing and vision loss, epilepsy, and arthritis (Goldberg & Tomlanovich, 1985; McCauley, Kern, Kolodner, Dill, Schroeder, DeChant, Ryden, Bass & Derogatis, 1995). Similarly, women who have received injuries as a result of a sexual assault are

likely to report physical health symptoms such as pelvic pain and abnormal vaginal bleeding or other discharge (Eby, Campbell, Sullivan & Davidson, 1995).

While there is reason to assume a direct relationship between injuries and physical health problems, the extent to which injuries lead to poor health outcomes is not well understood. Typically, researchers have documented abuse-related injuries as a way of generating prevalence rates of abuse, yet few researchers have examined the relationship between injuries and other less visible health problems. Sutherland and colleagues (1998) recently addressed this issue while investigating the long-term health effects of abuse. Using longitudinal structural equation modeling techniques, the investigators found that while abuse was strongly related to increased levels of injuries, injuries were not significantly related to the physical health symptoms women reported. These findings seem to contradict previous assumptions about the effect of injuries.

For years health care providers and medical researchers have documented cases where abuse-related injuries predisposed women to numerous chronic health problems. On the other hand, health care practitioners report that battered women often seek medical attention for symptoms that appear unrelated to a specific injury or chronic health problem.

Clearly the relationship between abuse and physical health is complex and cannot be explained by looking at injuries alone. However, abuse-related injuries are significant consequences of intimate partner violence, and the extent to which they contribute to women's physical health problems remains unclear. Further investigation of the impact of injuries on women's physical health is needed.

Effect of Stress on Physical Health

The adverse effects of battering on women's physical and psychological health have been well documented in the abuse literature, yet few researchers have investigated the process by which abuse affects women's health (Eby, 1996; Campbell et al., 1997; Sutherland et al., 1998). A leading assumption among researchers has been that women's physical and psychological health problems are caused by stress associated with intimate partner violence (Campbell, 1989; Campbell et al., 1995; Campbell et al., 1997; Dutton and Goodman, 1994; Eby, 1996; Finn, 1985; Follingstad, et al., 1991; Goodman, Koss & Russo, 1993; Jaffe, Wolfe, Wilson & Zak, 1986; Mitchell and Hodson, 1983). Over the past few decades, the relationship between stress and health has been researched extensively. A brief review of the literature on the health effects of stress is presented to illustrate the process by which women's experiences of abuse may impact their physical and psychological health.

Stress has been linked to various physical health conditions such as frequent headaches, backaches, respiratory infections, gastrointestinal problems, and fatigue (Barnett, Davidson, and Marshall, 1991; DeLongis, Folkman, and Lazarus, 1988; Seyle, 1982); coronary heart disease and associated risk factors (e.g. diabetes, high blood pressure, high cholesterol, obesity) (Elliott, 1995; Pearlin, 1989). For example, Ullman and Siegel (1996) examined the relationship of traumatic events to physical health in a randomized community survey. Results of their study indicated that individuals who experienced traumatic events had poorer perceptions of their physical health, more chronic limitations in physical functioning, and more chronic medical conditions than did individuals who did not experience traumatic events.

Barnett et al. (1991) examined the relationship between work and physical health symptoms with a sample of 403 female health-care professionals. They found that work-related stress (i.e., concerns regarding discrimination, job overload, hazard exposure, supervision, and job mobility) was significantly related to physical health symptomatology. When all five concerns were entered into a regression equation, only work overload and hazard exposure were significant predictors of physical health symptoms.

Elliott (1995) reviewed the current literature on the relationship between psychosocial stress and women's coronary disease. She found evidence to confirm that psychosocial stress is linked to coronary heart disease, ischemic heart disease, myocardial infarction, and a variety of risk factors for coronary heart disease (e.g., high blood pressure, cholesterol). Despite the mounting evidence linking stress to physical health problems, the process by which stressful life events or daily hassles impacts women's physical health remains unclear. Furthermore, the extent to which income levels affect the relationship between stress and physical health needs further exploration.

Effects of Stress on Psychological Health

Stressful life circumstances may jeopardize an individual's psychological health as well as their physical health. Previous research indicates that high levels of stress are associated with psychological distress symptoms such as depression (Amatea and Fong, 1991; Avison & Turner, 1988; Bailey, Wolfe, and Wolfe, 1994; Breslau and Davis, 1986; DeLongis, Folkman, and Lazarus, 1988; Eby, 1996; Eckenrode, 1984; Holahan & Moos, 1991; Kendler, K.S., Kessler, R.C., Walters, E., et al., 1995; Kuyken and Brewin, 1994; Nelson, 1989; Revicki, Whitley, Gallery, and Allison, 1993; Russell and Cutrona,

1991; Stephens, Franks, and Townsend, 1994; Thoits, 1982; USDHHS, 1993a, 1993b), negative affect (Bailey, Wolfe, and Wolfe,1994; Eckenrode, 1984; Stephens, Franks, and Townsend, 1994), and anxiety (Bailey, Wolfe, and Wolfe,1994; Nelson, 1989; Pugliesi, 1989; Thoits, 1982). For example, Holahan and Moos (1991) compared high- and low-stressor groups on levels of depressed mood and depressive features. Their results indicated that individuals with high levels of stress experienced significantly more symptoms of depression than low-stress individuals. Avison and Turner's (1988) analyses of different stressors indicated that enduring interpersonal difficulties represent significant sources of long-term stressful experiences. Furthermore, their results demonstrated a strong positive link between chronic strains and depressive symptoms.

To summarize, previous research has established a strong relationship between stress and negative health outcomes. The physical and psychological consequences of stress mirror many of the health problems experienced by battered women. Conceptualizing abuse as a stressor may help to explain these similarities.Abuse, Stress, and Health Outcomes

Several researchers have suggested that abuse creates stress in women's lives, and, as such, may activate a combination of distress responses. If not resolved, the stress responses may become manifested in the form of physical health symptoms (somatization) and/or psychological health problems. Previous research indicates that while most victims of violence experience immediate distress response, battered women may find it more difficult to resolve distress reactions. Researchers have indicated that abuse-related stress reactions may develop into physical and psychological health problems (Eby, 1996; Campbell et al., 1997; Goodman, Koss & Russo, 1993; Follingstad

et al., 1991; Koss, 1990; Stark & Flitcraft, 1988). Koss (1990) postulated that a woman's ability to resolve the immediate post-victimization stress response hinges on two factors: 1) the interpersonal nature of the victimization and 2) the extent to which social norms support women's responsibility for the provocation of sexual and physical assault. Even when evaluated many years after the assault, victims of sexual violence and assault are significantly more likely than non-victims to qualify for psychiatric diagnoses such as major depression, generalized anxiety, obsessive-compulsive disorder, Posttraumatic Stress Disorder (PTSD), and substance abuse (Koss, 1990; Browne, 1992; Walker, 1984).

Unlike women who experience an isolated incident of sexual or physical assault, battered women often encounter repeated episodes of violence. They may not have an opportunity to resolve immediate post-victimization distress responses. Furthermore, our society still holds women accountable for their life circumstances. While we revere traditional family values, we criticize women for staying in abusive relationships. It is not surprising, therefore, to find that battered women experience high levels of stress and subsequent physical and mental health problems.

The occurrence of stress-related health symptoms, such as chronic pain, fatigue, gastrointestinal illness, and anxiety, among battered women has been documented well in the literature. Most people would agree that the physical violence itself is stressful. Women often report monitoring their own behavior to defuse their partner's temper or at least minimize the severity of the violence. They talk about the uncertainty of knowing when or where the attacks will occur or of being unable to sleep for fear their partners will kill them or harm their children while they're sleeping. Clearly, the violence itself can be stressful for women.

Surviving an intimate partner's violence can be stressful in other ways as well. Researchers have demonstrated that battered women experience more negative life events and daily hassles than do non-battered women (Campbell et al., 1997; Eby, 1996; Jaffe et al., 1986). These may include tensions with family members, friends, neighbors, employers, and service providers who either insist that she leave the relationship, insist that she preserve the relationship, or imply that she is somehow responsible for the violence. They may also include concerns about finances, her children's emotional and physical health, or her own health. Combined with the stress directly related to the assaults, these abuse-related stressors may have a resounding impact on women's physical and psychological health. In a comparative study, Jaffe and associates (1986) found that battered women had significantly more somatic complaints, a higher level of anxiety, and more symptoms of depression than did non-battered women. In addition, battered women's health was significantly related to other stressors in their life such as negative life events, marital problems, child behavior problems, and frequent relocations.

Eby (1996) also found that "abused" women had higher levels of stress (i.e., stressful life events and daily hassles) than did "non-abused" women. More importantly, Eby's study demonstrated that women's experiences of stress mediated the relationship between abuse and both physical health symptoms and psychological health (i.e., depression and quality of life). These findings suggest that stress is a key component in the process by which abuse affects women's health.

The extent to which battered women experience health problems may depend upon women's perceived availability of social support. Dohrenwend (1978) proposed a conceptual framework for understanding the complex relationships between stress and

psychopathology. This same model has been applied to the relationship between stress and physical health outcomes (DeLongis et al., 1988). The psychosocial stress model suggests that situational factors (i.e., material and social supports) and psychological factors (i.e., values and coping abilities) influence the extent to which stressful life events result in negative health outcomes (Levine and Perkins, 1987). This model will be used as a conceptual framework for investigating the moderating effects of social support.

Moderating Role of Social Support

Dohrenwend's (1978) psychosocial stress model suggests that social support moderates the relationship between stress and health outcomes. That is, social support may reduce the deleterious effects of stress on health outcomes. For example, Holahan and Moos (1986) found that positive family support was a significant factor for predicting reduced depression. DeLongis, Folkman, and Lazarus (1988) examined the effects of daily stress on 75 married couples' somatic symptoms and moods. The results of their study indicated that persons with unsupportive relationships and low self-esteem were more likely to experience physical health problems such as the flu, sore throat, headaches, and backaches. In addition, they were susceptible to complex mood disturbances (DeLongis, Folkman, and Lazarus, 1988). The processes by which social support affects the relationship between stress and health are complex.

Reviews of empirical literature (e.g., Broadhead et al., 1983; Cohen and Wills, 1985; Kessler et al., 1985; Pearlin, 1989) often conclude that high levels of social support are associated with lower risk for physical and psychological problems. Researchers have posited two competing models regarding this association. One model, the main-effects hypothesis, suggests that social support directly influences individuals' physical and

psychological health regardless of stress. That is, high levels of social support are associated with positive physical and psychological health outcomes irrespective of whether individuals experience stress (Cohen and Wills, 1985; Wilcox, 1981).

The second model, termed the buffering hypothesis, closely resembles Dohrenwend's (1978) conceptualization of social support. The buffering hypothesis suggests that social support protects individuals from the potentially harmful effects of stressful events (Cohen and Wills, 1985; Wilcox, 1981). The moderating effect of this model is demonstrated with a stress x support interaction, such that the relationship between stress and health diminishes as social support increases. In essence, the buffering model suggests that social support is related to physical and psychological outcomes only during periods of elevated stress. Social support may influence the relationship between stress and health outcomes by reducing or eliminating the immediate stress reaction, or by directly affecting physiological processes (Cohen and Wills, 1985).

Although both models have received substantial empirical support across a variety of situations and circumstances (Cohen and Wills, 1985), the buffering model does not appear to adequately explain the role of social support in battered women's lives (Eby, 1996; Follingstad, 1991; Mitchell and Hodson, 1983). Eby (1996) tested the moderating effects of social support using a community sample of low-income abused and non-abused women. The results of her analyses indicated that social support did not significantly reduce the relationship between stress and psychological health, even when stress levels were high. The results did demonstrate a positive direct association between

social support and psychological health, which appears to support the main-effect hypothesis.

Combined, these findings contradict earlier assumptions regarding the moderating effect of social support. They suggest that a battered woman's perception of social support is beneficial to her overall psychological health regardless of the stress she may be experiencing. There are two plausible explanations for these findings. First, Eby (1996) examined the perceived social support of women who were living in poverty. The main effect hypothesis suggests that women who are highly satisfied with the amount and quality of social support they receive would experience greater psychological health regardless of the level of stress they experience. It is possible that although women felt better knowing they had satisfactory social support, these resources were not sufficient to protect women from the long-term effects of their stressful life circumstances. In fact, Eby (1996) reported that even though many battered women were satisfied with the amount and quality of social support they received, several noted that their family and friends did not understand their life circumstances, particularly with regard to the abuse they experienced.

A second possible explanation for the lack of evidence to support a moderating relationship may relate to methodological issues. Cohen and Wills (1985) noted that to test the moderating effects of social support, one needs adequate variability in stress, social support, and symptomatology. The authors posited that this requirement is often violated in samples where all participants are under relatively high stress to begin with (i.e., homogenous), such as samples of low-income women. Although the group of abused women reported significantly higher stress levels than the group of non-abused

women, all women were navigating the dire circumstances of poverty. All women were already dealing with highly stressful life circumstances, regardless of the abuse they may have been experiencing. It is possible that the sample was too homogenous for significant detection of moderating effects.

## Effects of Income on Stress and Physical Health

Abuse has a resounding impact on women's psychological and physical health. Survivors of intimate partner violence suffer a myriad of physical health symptoms and chronic illnesses as well as symptoms of depression, anxiety, and suicidal ideation. While previous research indicates a strong causal relationship between abuse and poor health outcomes, investigators have noted similar effects associated with living in poverty. Low-income women are more likely to suffer higher levels of depression and anxiety (Hirschfeld & Cross, 1982; Lynch, Kaplan & Shema, 1997; Murphy, Olivier, Monson, Sobol, Federman & Leighton, 1991) and chronic physical health problems (Kingston & Smith, 1997; Lynch, Kaplan & Shema, 1997; Luepker, Rosamond, Murphy, Sprafka, Folsom, McGovern & Blackburn, 1993; Stronks, Van Den Bos & Mackenbach, 1997) than are women with higher incomes.

### The Effect of Income on Stress

Women from low-income households endure unique stresses associated with living in poverty (i.e. income instability, frequent moves, lack of transportation, poor housing conditions) (Belle, 1990; Thoits, 1982). They experience a greater number of financial stressors (e.g., job losses, unpaid bills, inadequate housing) and have insufficient financial resources to address those and other undesirable events (e.g., frequent illness, legal problems) than do middle or high-income women (Mcleod &

Kessler, 1990). For example, low-income women are likely to reside in substandard and overcrowded housing. High levels of dissatisfaction with housing conditions as well as lack of privacy may lead to elevated stress levels (Fuller, Edwards, Sermsri & Vorakitphokatorn, 1993). As a result the chronic stress of living in poverty may be a key underlying cause of several physical and psychological health problems (Belle, 1990).

The Effect of Income on Physical Health

In addition to the chronic stresses associated with living in poverty, several other factors predispose women to poor health outcomes. Low-income women are more susceptible to various illnesses and communicable diseases such as Hepititis and Tuberculosis than are women with higher incomes because of substandard housing and sanitation conditions. They are more likely to be exposed to toxic environmental substances (Havenaar & Van Den Brink (1997) and have limited access to quality health care and preventive services, often receive delayed treatment for illness, and rarely have a regular source of medical care (Bindman, Grumbach, Osmond et al., 1995; Kington & Smith, 1997; Weissman, Fielding, Stern & Epstein, 1991). The combined influence of these factors places low-income women at greater risk for chronic illness and other health problems. On the other hand, women with higher incomes have greater access to resources including quality health care and health maintenance programs (e.g., health club memberships). They have the financial resources to consistently purchase nutritious foods and maintain healthy eating habits, and are more likely than women with low incomes to participate in health promotion activities. It is likely that income level can have a significant impact on women's physical health.

Moderating Effect of Income

Access to financial resources may buffer the effects of stress on women's psychological health. Women with middle and high incomes may suffer fewer and less severe health problems because they have the financial resources to effectively deal with stressful situations. For example, women with higher incomes have access to quality health care and preventive services. When they or members of their families are hospitalized for an illness or injury, knowing that they have the financial resources to cover the cost may reduce the extent to which this stressful event impacts their psychological well-being.

Since most of prior research examining the effects of intimate partner violence has been based on the experiences of low-income women, effects of living in poverty may confound the effects of abuse on women's health. Few researchers have sought to differentiate the effects of poverty from those due to abuse. Eby's (1996) comparative study indicated that the effects of abuse remain strong even when controlling for women's low-income status. Low-income "abused" women reported higher stress levels and poorer health outcomes than did the group of low-income "non-abused" women. While these findings validate previous assumptions about the effects of intimate partner violence, the extent to which living in poverty impacts stress and health remains unclear.

## Rationale for the Current Study

The literature review delineated several gaps in our understanding about the relationship between abuse and women's physical and psychological health. First, we lack a clear understanding of how experiences of abuse affect the physical and psychological health of women who are not living in poverty. To date, there have been

very few studies about battered women where a range of incomes was included in the sample. The financial strain of surviving poverty-level conditions may place low-income women at greater risk for health problems. By virtue of their socioeconomic status, women with higher incomes may not have to deal with similar stressful life circumstances. They reside in more permanent housing situations, have access to transportation, have financial stability, and receive quality health care. Therefore, abuse may have a different impact on their long-term health than it does for low-income women. In order for us to develop comprehensive community-based strategies that effectively address the various needs of all women, we need to know how abuse impacts the physical and psychological health of women across a range of incomes.

A second limitation of the current literature is that most prior studies contain samples of women who are in the midst of a severe crisis. Much of our understanding about the psychological and physical impacts of abuse has been derived from samples of women presenting in emergency departments or battered women's shelters. Campbell et al. (1995) noted that the long-term effects of abuse on women's symptoms of depression decrease over time. That is, as more time is placed between the abusive situation and the measure of depression, the symptomatology decreases. Similarly, physical health problems tend to decline over time, once the crisis is over. Few studies have examined the relationship between abuse and health outcomes using random samples of women from the community. A random sample of community women may provide more variability in measures of abuse, injuries, stress, and health. Hence, the generalizability of research results will increase.

A third limitation is that the current research regarding abuse and health lacks a comprehensive approach to health outcomes. Much of previous research examined the relationship between abuse and psychological health, abuse and physical health symptoms, or abuse and psychosomatic symptoms. Few researchers have combined the various health indices with a measure of chronic health problems. Yet, the abuse literature suggests that battered women suffer various chronic health problems in addition to physical health symptomatology. Similarly, the literature regarding stress research indicates that women may experience chronic health problems as a result of stressful life experiences. The inclusion of a chronic health problems measure will provide a more comprehensive view of women's health experiences.

The present study had two primary goals. The first goal was to clarify the relationship between intimate partner violence and women's psychological and physical health. Previous research has indicated that several complex relationships may exist between women's experiences of abuse and their physical and psychological health. Several researchers have assumed abuse to be a considerable stressor in women's lives. Abuse may exacerbate already existing stressful life circumstances or even provoke its own immediate stress reaction. It is likely that these circumstances of abuse will adversely affect battered women's health.

The second goal was to explore the extent to which income level impacts the effects of abuse on women's physical health and psychological health. For the most part, previous research about the deleterious effects of abuse on women's health has been limited to low-income women. Studies of low-income women have increased our understanding about the health consequences of intimate partner violence, but provide

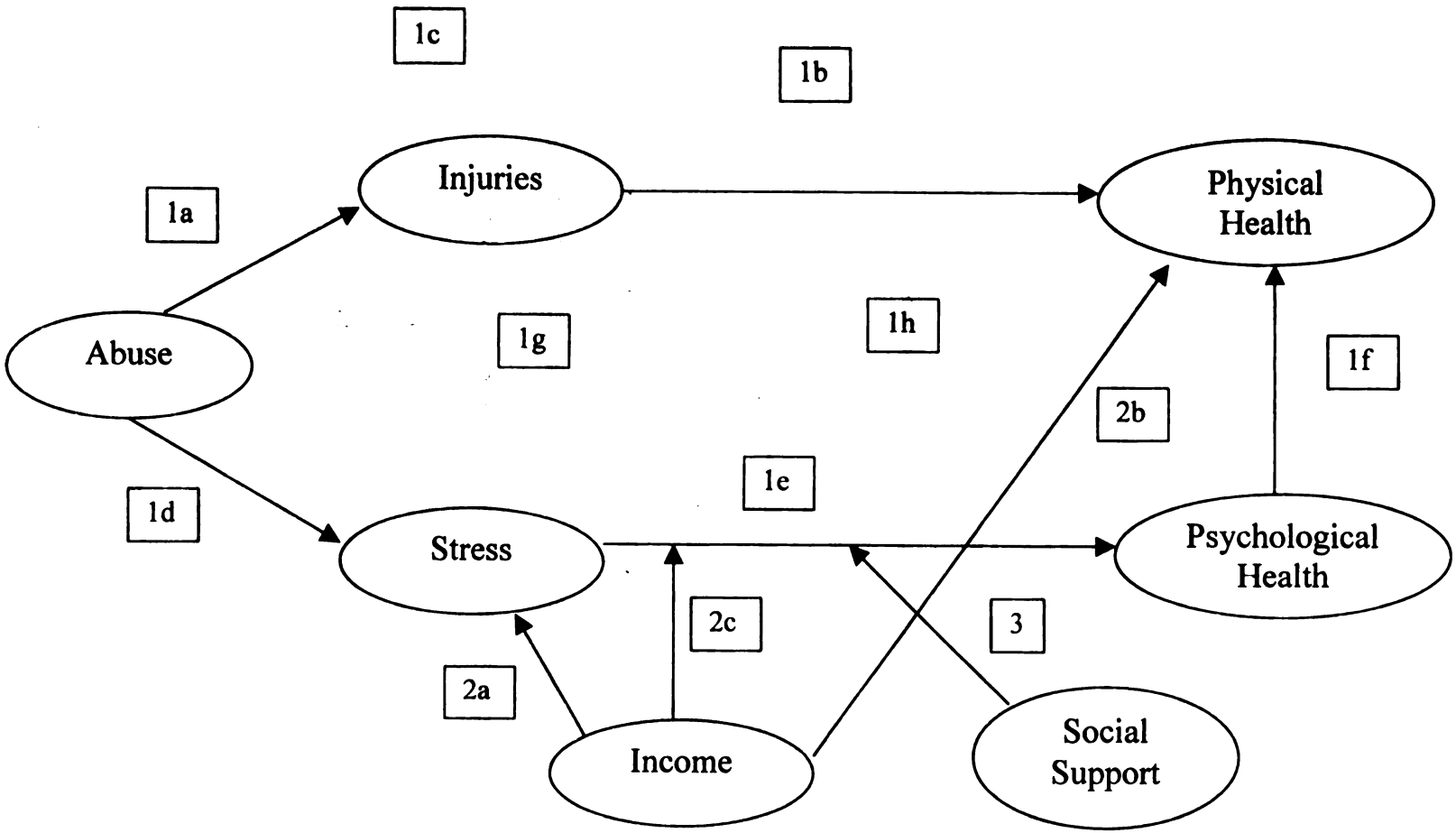


Figure 1. Conceptual model of hypothesized relationships

limited evidence that women's health problems are due to the abuse rather than conditions of poverty.

A conceptual path model of proposed relationships among abuse, health and income is presented in Figure 1. According to the proposed model, the relationships between abuse and women's health as well as the impact of income on these relationships will be explained by several hypotheses. These hypotheses were generated to address three general research questions.

1. To what extent does intimate partner violence affect a woman's physical health? Several hypotheses were tested to better understand the relationship between abuse and physical health outcomes. They asserted both direct and indirect relationships among the constructs.
    a. Women's experiences of abuse will have a direct positive effect on women's experiences of injuries. That is, women who experience higher levels of abuse will report higher levels of injuries than will women who experience lower levels of abuse.
    b. Women's experiences of injuries will have a direct positive effect on women's experiences of health problems. That is, women who experience higher levels of injuries will report higher levels of physical health problems than will women who report lower levels of injuries.
    c. Women's experiences of injuries will partially mediate the relationship between abuse and physical health problems. It is expected that when the effect of injuries are accounted for, the relationship between abuse

and physical health problems will decrease in significance and/or magnitude.

d. Women's experiences of abuse will have a direct positive effect on women's experiences of stress. That is, women who experience higher levels of abuse will report higher levels of stress than will women who experience lower levels of abuse.

e. Women's experiences of stress will have a direct positive effect on their psychological health. That is, women who report higher levels of stress will experience worse psychological health (i.e., high levels of depression and dissatisfaction with quality of life) than women who report lower levels of stress.

f. Women's psychological health will have a direct positive effect on their physical health problems. That is, women who report higher levels of depression and dissatisfaction with their quality of life will report higher rates of physical health problems than will women with lower levels of depression and dissatisfaction with quality of life.

g. Women's experiences of stress will partially mediate the relationship between abuse and psychological health. This means that abuse will have a direct positive effect on psychological health as well as stress such that women who report higher levels of abuse will report higher levels of psychological health. But when the effect of stress is considered the significance and/or magnitude of that relationship will decline. In other words, a woman's stress level may partially explain

her level of depression, dissatisfaction with quality of life, and suicide ideation.

h. Psychological health will partially mediate the relationship between stress and physical health problems. This means that stress will have a direct positive effect on physical health problems as well as psychological health such that women with higher stress levels will report higher rates of physical health problems than will women with lower stress levels. But, when the effect of psychological health is accounted for, the significance and/or magnitude of the relationship between stress and physical health problems will decrease. In other words, women's levels of depression and dissatisfaction with their quality of life may partially explain the relationship between stress levels and physical health problems.

2. To what extent does a woman's income impact the relationship between abuse and her physical health? Three hypotheses were tested to examine the impact of income on the relationship between abuse and physical health. Two of these hypotheses proposed direct relationships between income and stress and physical health, while the third asserted a buffering effect on the relationship between stress and psychological health.

   a. Women's income will have a direct negative effect on their stress level. That is, women who report higher incomes will report lower levels of stress than will women who report lower incomes.

b. Women's income will have a direct negative effect on their physical health outcomes. That is, women who report higher incomes will report lower levels of physical health problems than will women who report lower incomes.

c. Women's income will moderate the relationship between their stress levels and their psychological health. There will be a significant interaction effect of income with levels of stress on women's psychological health. At lower income levels the relationship between level of stress and women's psychological health will be strong and positive. At higher income levels, the relationship between level of stress and women's psychological health will decline.

3. To what extent does a woman's satisfaction with their social support impact the effects of abuse on their psychological health? The model indicates an indirect effect of social support. It is hypothesized that social support will moderate the relationship between stress and women's psychological health. There will be a significant interaction effect of social support with levels of stress on women's levels of depression and dissatisfaction with quality of life. When social support scores are low, the relationship between level of stress and women's psychological health will be strong and positive. At higher levels of social support, the relationship between stress and psychological health will decline.

# CHAPTER 2

# METHOD

## Research Design

A cross-sectional multivariate research design was used to understand the complex relationships between abuse and health outcomes. This design allowed for basic descriptive and comparative analyses of abused and non-abused women of varying income levels. In addition, it accommodated a sophisticated approach to testing the proposed model; structural equation modeling techniques were used to assess the hypothesized relationships among the variables. A discussion of recruitment and data collection procedures, measures, and analyses used in this study is presented.

## Research Participants

The Women's Health Study. As part of a larger research project, 397 women were recruited to participate in the current study. The larger research project, the Women's Health Study, was designed to investigate the effects of various life circumstances (including physical, emotional, and sexual abuse) on women's physical health and psychological health. Women for the Women's Health Study were recruited primarily through newspaper advertisements, although some women heard about the research project through a friend or relative who had seen the advertisement or had seen a flyer. Four consecutive advertisements were placed simultaneously in three local newspapers from August 1996 through June 1997. Each of the four advertisements was designed to attract women who fit a specific profile (e.g., middle-income women who had

been physically harmed by an intimate partner during the past six months). The advertisements are provided in Appendix A.

As noted in the advertisements (see Appendix A), interested women were instructed to call the Women's Health Study office to get more information about the project and to determine their eligibility for participation. Trained Women's Health Study team members answered the telephones, recited scripted information about the project (see Appendix B), screened callers for eligibility, and scheduled the interviews. Eligibility requirements varied depending on the recruiting profiles (i.e., whether we were recruiting for a specific income level or "abuse" status), and the screening forms varied accordingly. An example of the recruitment scripts and corresponding screening forms (*Participant Contact Form)* is provided in Appendix B.

Once eligibility was established, each eligible woman was scheduled for a face-to-face interview at a time and location that was convenient for her (specific information about interviewer training and procedures are discussed later). The interviews took place in several different settings; most were scheduled at the American Red Cross, but some were also conducted in women's homes and on-campus (at Michigan State University). A total of 439 women scheduled interviews with the Women's Health Study. Out of the women who scheduled interviews, 399 (91%) completed them.

The Current Study. Three hundred ninety-seven women (90% of all eligible participants) from the Women's Health Study met the criteria for the current study: 1) they were between 18 and 45 at the time of the interview and 2) they were current residents of the Greater Lansing Area. As noted in Table 1, most of the women in the current study were recruited through newspaper advertisements.

Table 1. Recruitment Method (N = 397)

| Source | N | % |
|---|---|---|
| Newspaper | 333 | 83% |
| Lansing State Journal | (178) | (45%) |
| community newspapers | (155) | (39%) |
| Friends/Relatives | 39 | 10% |
| Flyers | 13 | 3% |
| Other | 6 | 2% |
| Missing | 6 | 2% |

The demographic characteristics of the women who participated in the study are presented in Table 2. Seventy percent of the women identified themselves as white/Caucasian, 20% black/African-American, 6% multiple ethnicity, 5% Hispanic/Latina, 1% Asian-Pacific, and 1% Native American. Generally, the participants were in their 30s (mean age = 34, SD = 7.68), employed at least part-time (66%), had some college experience (74%), and cared for two children (SD = 1.55). Thirty-nine percent were married or living with an intimate partner, 27% were in a serious relationship, but not living together, and 34% were not involved in a serious relationship at the time of the interview. The majority of women (86%) owned or rented housing accommodations, while the remaining 14% had temporary shelter arrangements with friends, relatives, or some other source. Despite the median household monthly income of $1,600 (SD = $1,616), 129 women (33%) were surviving on monthly incomes below the poverty threshold for the number of people supported by that income. In most households, the monthly income supported at least three people (68%), and in 21 (5%) of those homes, the income supported between six and nine people. Two hundred thirty two (59%) women had private medical insurance, 88 (22%) received Medicaid or Medicare,

and 77 (19%) were not insured. As expected, 52% of the participants reported that an intimate partner or ex-partner had physically harmed them within the six months prior to the interview.

The demographic characteristics of this sample were somewhat representative of the Lansing area population. According to the 1990 Census data (U.S. Census Bureau, 1990), the ethnic, educational, and employment distribution of the current sample were comparable to Lansing Area demographics. Women in this sample were as likely to have private health insurance or at least Medicaid or Medicare as did people in the Capital area in 1990 (Health Status Advisory Group Report, 1993). Despite the apparent similarities between this sample and the Lansing population, there was a key difference. The median annual income of $18,000 was substantially less than the 1989 estimates of Lansing area households ($26,398; U.S. Census Bureau, 1990). This difference is important to note because it may mean that this particular sample didn't adequately represent all women from the Lansing area.

Interviews

Interviewer training. Ten undergraduate students interviewed the project participants in exchange for independent study course credits (PSY 490). To be eligible for Independent Study credits in Psychology, students must have had a minimum cumulative grade point average of 2.5 and at least nine credit hours of Psychology. The students were selected based on their eligibility, willingness to commit two consecutive semesters to the research project, and their interest in women's health issues.

Table 2. Demographic Characteristics (N = 397)

| Characteristic | N | % |
|---|---|---|
| Race/Ethnicity | | |
| White/Caucasian | 279 | 70% |
| Black/African-American | 66 | 17% |
| Multi-ethnic | 25 | 6% |
| Hispanic/Latina | 20 | 5% |
| Asian/South-Pacific | 4 | 1% |
| Native-American | 3 | 1% |
| Age (mean = 34 years) | | |
| 17 – 29 years | 121 | 30% |
| 30 - 39 years | 154 | 39% |
| 40 - 50 years | 122 | 31% |
| Household Monthly Income (median = $1,600) | | |
| $0 – 999 | 121 | 31% |
| $1,000 - 1,999 | 110 | 28% |
| $2,000 - 2,999 | 64 | 16% |
| $3,000 - 3,999 | 48 | 13% |
| $4,000 - 4,999 | 32 | 8% |
| $5,000 - 5,999 | 11 | 2% |
| Over $6,000 ($8,667) | 11 | 2% |
| Employment Status (n = 277) | | |
| Full-time | 194 | 70% |
| Part-time | 69 | 25% |
| Temporary/seasonal | 14 | 5% |

Table 2 (con'd).

| Characteristic | N | % |
|---|---|---|
| Relationship Status | | |
| Living together/married | 153 | 38% |
| Not currently dating | 65 | 16% |
| Separated/divorced/widowed, not in a new relationship | 55 | 14% |
| Girlfriend/boyfriend | 54 | 14% |
| Separated/divorced/widowed, in a new relationship | 54 | 14% |
| Dating, not girl-/boyfriend | 16 | 4% |
| Housing Status | | |
| Renting apartment or house | 172 | 43% |
| Own or buying a house | 162 | 41% |
| Staying with friends/relatives | 49 | 12% |
| Renting a room | 6 | 2% |
| Homeless or other shelter | 8 | 2% |
| Education Level | | |
| Some college | 191 | 48% |
| Bachelor's degree | 71 | 18% |
| High school graduate/GED | 37 | 9% |
| Less than high school | 36 | 9% |
| Post-bachelor's degree | 32 | 8% |
| Vocational/trade school | 30 | 8% |
| Medical Insurance | | |
| Private insurance | 232 | 59% |
| Medicaid/Medicare | 88 | 22% |
| None | 77 | 19% |
| Have Children (mean no. = 2) | 295 | 74% |
| Harmed by partner or ex-partner within past 6 months | 207 | 52% |

The students developed interviewing skills through a 10-week intensive training sequence. The training sequence consisted of weekly reading and discussion assignments about issues relevant to middle-income women's health, a Cultural Sensitivity Training seminar, and Interview Practice sessions (See Appendix C for a copy of the *Interviewer Training Syllabus and Training Schedule*). Students honed their recruiting and interviewing skills through role-play exercises and mock interviews. Their progress was evaluated on a weekly basis through individual and group supervision meetings. Feedback regarding their skill development was provided to each student via weekly progress reports.

The second half of the first semester and the entire second semester was devoted to interviewing project participants. Upon successful completion of the training sequence, each student was required to interview at least two women each week. The interviews were arranged at least one week in advance. No student received her assignment until it was determined that she had mastered the interview (i.e., achieved at least 95% inter-rater reliability with other students and instructor on a mock interview).

Completed interviews and their tape recordings were submitted each week. The instructors reviewed and evaluated each completed interview. Interviewers received weekly feedback reports on their case responsibility and interview technique and coding.

Inter-rater reliability estimates were computed twice during the data collection sequence; once before the interviewers began conducting interviews, and periodically (approximately every tenth interview) throughout the second semester of data collection. The first reliability test was based on the percent agreement of interviewers coding one taped interview. That is, each interviewer received the same taped interview and coded it

according to training procedures. During the second semester, each interviewer coded another classmate's taped interview. A systematic procedure was employed to ensure that all possible pairs of interviewers were assessed. Twenty-one inter-rater reliability estimates were calculated. They ranged from .91 to .97 (some low scores were due to technical problems rather than "true" discrepancies among interviewers). In addition, a group inter-rater reliability was computed as the mean of individual percent-agreement estimates (~.94).

Interview protocol. Interviewers used the following protocol for collecting data:

1. The trained interviewer met the participant at a time and private location that was convenient for the participant. The interviewer described the interview process (two-parts - questionnaire and written), reminded the participant that the interview was strictly confidential and informed her that she had the right to decline any part of the interview without penalty. Also, she was reminded that a participant identification number had been substituted for any identifying information on the interview. This step was taken to ensure confidentiality.
2. The interviewer asked the participant to sign a consent form (see *Participant Agreement Form*, Appendix D). The signed consent form demonstrated that the participant understood her rights as a research participant as well as the subject matter of the interview (both verbal and written parts).
3. After the interviewer addressed all of the participant's questions or concerns, she began the verbal section of the interview (see *Women's*

*Health Study Interview*, Appendix E). This part of the interview took anywhere from 60 minutes to 4.5 hours to complete (most were approximately 90 minutes long).

4. Upon completion of the verbal section of the interview, the interviewer reminded the participant about her rights as a research participant. Then, she asked the participant to complete the written section of the interview (see *Women's Health Study Interview - Written*, Appendix E).

5. When the written section of the interview was completed, the interviewer separated the consent form and any other identifying information from the two sections of the interview. Women were thanked for their time, energy, and cooperation. They were paid a $30.00 remuneration fee for their efforts, and then asked to sign a receipt of payment. The receipt remained on file for record-keeping purposes, but kept separate from the completed interview. Finally, all participants received a Women's Health Project business card and a complimentary *Guide to Community Resources* (see Appendix F).

6. Unless the participants submitted a written request, no further efforts were made to contact women who participated in the project. Some women may request a copy of project results when available. To do so, they must submit a written request to the Women's Health Study project director.

## Measures

The purpose of the current study was to clarify the complex relationships between abuse and women's health. Data was collected through face-to-face interviews using a structured questionnaire. The interview consisted of two phases. During the first phase, interviewers administered the oral section of the questionnaire. Upon participants' completion of the oral section, they were asked to complete the written section of the questionnaire. Combined, the questionnaire was designed to assess the following constructs: abuse, injuries, stress, social support, income, physical health, and psychological health. These constructs were assessed using pre-existing measures as well as instruments created specifically for this research endeavor. A description of each construct and associated measures are presented. In addition, established psychometric properties of preexisting and developed measures are provided. The psychometric properties of each scale are summarized in Table 3.

### Abuse

Three different types of abuse were measured: physical, psychological, and sexual. Each type of abuse was measured with respect to its occurrence and frequency. A description of each scale and scoring method is presented below.

Physical abuse. Physical abuse was conceptualized as any incident in which a person is physically harmed by an intimate partner/ex-partner or spouse/ex-spouse. The relationship was considered intimate if the participant indicated that the partner was at least a boyfriend or girlfriend. If a woman had been casually dating, and didn't consider the relationship intimate, she wasn't probed about threats or occurrence of physical harm. Experience of physical abuse was assessed by a modified version of Straus' (1979)

Conflict Tactics Scale (CTS). The modified version of the CTS contained 12 items (see Appendix E, pg. 215). Women were asked to rate how often, in the past six months, their assailant engaged in violent behaviors such as pushing and shoving, slapping, choking, burning, and using a gun or knife against them. Women rated the frequency of their experiences on a 6-point scale ranging from "Never" to "More than 4 times a week." One item, "burned," was dropped from the scale due to a low corrected item-total correlation value (.28). The internal consistency of the remaining 11 items demonstrated high reliability ($\alpha$ = .93). The corrected item-total correlations ranged from .55 to .84. Participants' scale scores were calculated as the mean frequency rate with which they had experienced the physical abuse items.

Psychological abuse. Psychological abuse was conceptualized as any act with which a person was emotionally hurt or harmed by an intimate partner/ex-partner or spouse/ex-spouse. Again, the relationship was considered intimate if the woman stated that the partner was at least a boyfriend or girlfriend. Women's experience of psychological abuse was measured with a shortened version of the 33-item Index of Psychological Abuse (IPA) scale (Sullivan, Parisian & Davidson, 1990). The 21-item version of the IPA asked women how often, in the past six months, they had been harassed, controlled, ridiculed, and criticized by an intimate partner (see Appendix E, pg. 213). Using a 4 -point scale that ranged from "Never" to "Often," women rated how often their partner "tried to humiliate you," "tried to control your money," and "criticized your physical appearance or sexual attractiveness." Each participant's scale score was

Table 3. Psychometric Properties of Instruments

| Instrument | Number of Items | Alpha Coefficient | Corrected Item-total Correlations |
|---|---|---|---|
| **Abuse** | | | |
| Conflict Tactics Scale (CTS) | 11 | .93 | .55 - .84 |
| Index of Psychological Abuse (IPA) | 19 | .94 | .49 - .82 |
| Index of Sexual Abuse (ISA) | 4 | .86 | .70 - .77 |
| **Injuries** | | | |
| Injury Checklist (IC)[a] | 11 | NA | NA |
| **Stress** | | | |
| Difficult Life Circumstances (DLC)[b] | 24 | NA | NA |
| Stressful Life Events (SLE)[b] | 50 | NA | NA |
| **Physical Health** | | | |
| General Health Question (GHQ) | 1 | NA | NA |
| Chronic Health Problems (CHP)[b] | 8 | NA | NA |
| Physical Health Symptoms (PHS) | 30 | .91 | .35 - .69 |
| **Psychological Health** | | | |
| Center for Epidemiological Studies - Depression (CES-D) | 20 | .93 | .42 - .80 |
| Quality of Life Scale (QLS) | 9 | .88 | .41 - .78 |
| Suicide Ideation Scale (SIS)[c] | 2 | NA | .28 |
| **Income** | | | |
| Percent Poverty (INC) | 1 | NA | NA |
| **Social Support**[c] | | | |
| Companionship (SSC) | 2 | NA | .78 |
| Advice and Information (SSA) | 2 | NA | .76 |
| Practical Assistance (SSP) | 2 | NA | .91 |
| Emotional Support (SSE) | 2 | NA | .88 |
| Financial Support (SSF) | 2 | NA | .73 |

[a]unlikely that the occurrence of one type of injury would be related to another type of injury.

[b]unlikely that the occurrence of one type of stressful life circumstance/difficult life situations/chronic health problem will be related to another. These are often unrelated or isolated issues or life events.

[c]two items used to construct scale...therefore, the alpha coefficient is unstable. Only uncorrected inter-item correlations are presented.

calculated as the mean frequency rate with which they experienced the different forms of psychological abuse. Two items were dropped from the scale due to low corrected item-total correlation estimates: "abused or threatened to abuse pets to hurt you" (.38) and "punished or deprived the children when s/he was angry with you" (.40). The chronbach alpha coefficient of the remaining 19 items was .94, with corrected item-total correlations ranging from .49 to .82.

Sexual abuse. Sexual abuse was defined as any act or threat of sexual activity by an intimate partner or ex-partner that was unwanted or forced (Swett, 1993; Winfield, 1990). The relationship was considered intimate if the participant considered the assailant to be at least a boyfriend or girlfriend. Four items were used to construct the Sexual Abuse Scale (SAS). The first item was measured as part of the Index of Psychological Abuse scale (i.e., shortened version of the IPA). Women were asked to indicate how many times in the last six months an intimate partner or ex-partner "used threats to try and have sex with..." her. They rated their experiences on a 4-point scale ranging from "Never" to "Often." The second item was measured as part of the physical abuse scale (i.e., modified version of the CTS). Women were asked to rate, on a 6-point scale, how often in the past six months an intimate partner or ex-partner "forced any sexual activity (she) didn't want to happen." Responses ranged from "Never" to "More than 4 times a week." The remaining two items were taken from the written section of the interview (see Appendix E, pg. 224). For the first question, women were asked, "How often have any of your partner(s) ever used threats to try and have sex with you in the past six months?" For the second question, women were asked, "How often have any of your partner(s) used physical force to have sex with you in the past six months?" Both

questions asked women to rate their experiences on a 5-point scale ranging from "Never" to "more than 20 times (in the past six months)." Although the third and fourth items of this scale repeated the first two questions, women completed these questions without the verbal prompting of the interviewer. Some women may have felt more comfortable responding to the written questions than the oral ones.

The four items were measured using different, yet comparable, scales. To standardize the scoring system, the scales of the two items from the written section and the one CTS item were converted into a 4-point scale (i.e., the IPA scale). Each participant's scale score was calculated as the mean frequency rate with which they experienced all four items. The internal consistency was .86 with corrected item-total correlations that ranged from .70 to .77.

Injuries

An 11-item Index of Injuries was used to assess the rate at which women sustained injuries (Sullivan et al., 1992) during the past six months (see Appendix E, pg. 188). All participants were presented with a list of items that ranged from minor injuries such as cuts, scrapes, and bruises to more severe injuries such as knife or gunshot wounds. They were asked to rate the frequency with which they had sustained these injuries on a 6-point scale ranging from "Never" to "More than four times per week." There was little variability in the frequency with which women reported having sustained injuries; more than half (53%) of the women indicated they had sustained injuries on average less than once per month. Therefore, responses were dichotomized into "yes" and "no" (0/1) codes. Individual scale scores were calculated as the total number of

injuries reported. Since one wouldn't expect one type of injury to coincide with another, estimates of internal consistency were not generated.

Stress

Stress was conceptualized as a response to circumstances or events in which the situational demands exceed perceived resources (personal and environmental). Each participant's perceived stress level was measured by assessing their experiences with various life circumstances and events. Two scales were used to measure participants' experiences with difficult life circumstances and stressful life events. Descriptions of the two separate scales are provided.

Difficult Life Circumstances. The Difficult Life Circumstances [DLC] scale (Barnard, 1988) was used to measure participants' experiences with problematic situations or circumstances. A 24-item scale, it asked women to indicate whether or not a particular situation was problematic for them (see Appendix E, pg. 192). The scale included items such as, "Have you been hospitalized in the past year for any reason, accident or illness?", "Do you have problems with your credit rating?", and "Do you feel that you do not have enough privacy?" Women's responses to the scale items were dichotomously scored 0/1, and the scale score was calculated as the sum of all items.

Stressful Life Events. The Life Event Checklist (Reischl, Eby, & Ramanathan, 1992) was used to assess women's experiences of stressful life events (see Appendix E, pg. 194). This 49-item checklist of events has several subscales related to intimate relationships, school, work, family, finances, and legal issues. Participants were asked whether or not an event took place, then to rate how stressful it was for them. Women rated their perceived stressfulness of the event on a 5-point scale that ranged from "Not at

all stressful" to "Extremely stressful." Each participant's mean stress score was calculated by summing their stressfulness ratings and dividing by the total number of stressors endorsed. Internal consistency was not estimated for this scale. As noted by previous researchers (e.g., Eby, 1996) one should not expect internal consistency among items, since one stressful life event doesn't necessarily coincide with other stressful life events.

Physical Health Outcomes

The Physical Health Outcomes construct was operationalized as a comprehensive assessment of women's physical health. Three measures were used to examine the participants' general health status, physical health symptomatology, and chronic health problems. A description of the three measures is provided along with their psychometric properties, where applicable.

General health status. Women's general health status was assessed by one item, which asked women to rate their general health status on a four-point scale ranging from "excellent" to "poor." This item was adopted from the Michigan Lesbian Health Survey (Bybee, 1990).

Physical health symptomatology. Women's physical health symptomatology was measured using an adapted version of the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS, 1983). The modified version of CHIPS contained several symptoms that frequently bother battered women (Campbell, 1989; Eby, 1996; Rodriguez, 1989). The 35-item scale included symptoms such as sleep problems, muscle tension or soreness, and pelvic pain (see Appendix E, pg. 186). Participants were asked to indicate how often they experienced each of the symptoms during the past six months. They rated

their experiences on a 6-point scale ranging from "Never" to "More than four times a week."

Five items were deleted from the scale due to low corrected item-total correlations (less than .35). The internal consistency of the remaining 30 items was .91 with corrected item-total correlations ranging from .35 to .69. Each participant's score was calculated as the mean frequency rate with which they experienced the 30 physical health symptoms.

Chronic health problems. An adapted version of a Michigan Lesbian Health Survey [MLHS] (Bybee, 1990) subscale was used to measure chronic health problems. The original subscale of health problems contained a list of 55 items, and asked women to indicate if they have ever had any of the health problems listed. Participants were directed to check all the health problems they have ever had, even if they were no longer experiencing them. The modified version of the subscale titled, Chronic Health Problems (CHP) scale, contained a list of nine most commonly cited health problems (based on MLHS data and abuse literature), including high blood pressure, arthritis, allergies, diabetes, and repeated or long-term infections (see Appendix E, pg. 185). Participants were asked two questions. First, they were asked if they have ever experienced any of the health problems. Second, they were asked if they were experiencing the problem at the time of the interview, or had they experienced it in the past only. Participants' responses were coded on a 3-point scale (1 = Yes, now; 2 = Yes, in past only; 3 = No).

One would not necessarily expect one particular chronic health problem to coincide with another (e.g., Cancer and arthritis), so it is unlikely that a list of chronic health problems would show high internal consistency. Therefore, no items were dropped from the scale and individual scores were dichotomously rated 0/1 based on their

"Yes, Now" responses. Each participant's scale score was then calculated as the sum of all items.

Psychological Health

Psychological health was conceptualized as the extent to which women experienced depression, suicidal thoughts and attempts, and satisfaction with the quality of their lives. Three measures were used to assess each participant's psychological health. A description of each measure and their respective psychometric properties is provided.

Depression. Depression was measured using the Center for Epidemiological Studies - Depression Scale (CES-D) (Radloff, 1977). This 20-item scale is a self-report checklist of psychological distress within the general population (see Appendix E, pg. 223). It assesses the extent to which a person experienced symptoms of depression within the past week. Participants rated items such as, "I felt hopeful about the future," "I thought my life had been a failure," and "I felt that people dislike me" on a four-point scale ranging from "Rarely or Never" to "Most or All the time". Four of the items were reverse-scored to coincide with the rating pattern of the other 16 items.

Levels of depression were calculated as the summed rates on all 20 items. Using the sum-total score, the following criteria were applied to determine each participant's depression level: scores 0-15.5 indicated no depression, scores 16.0 - 20.5 indicated mild depression, scores 21 - 30.5 l indicated moderate depression, and scores 31 and above indicated severe depression (Radloff, 1977). Estimates of depression levels were used for descriptive purposes only. The individual scale scores that were used in further analysis were computed as the mean rate of all 20 items, and ranged from (1) to (4). The internal

consistency was $\alpha = .93$, with corrected item-total correlations from .42 to .80.

Suicidal ideation. Participants' risk for suicide was assessed by the following two items: "How often have you thought about ending your life in the past six months?" and "Have you tried to end your life in the past six months?" Participants rated the frequency with which they have thought about committing suicide on a 6-point scale (1 = "Never" to 6 = "More than 4 times a week"). If a woman indicated that she never thought about committing suicide in the past six months, she was not asked to answer the second question (see Appendix E, pg. 191). Otherwise, both questions were posed.

Frequency data was collected for the first item and also for women who responded affirmatively to the second question (i.e., "How many times?"). An ordinal scale was created to represent women who had not answered either question affirmatively as well as those who answered the first, but not the second, and those who answered both. Therefore, women's responses to both questions were coded as follows: (0) no suicidal thoughts or attempts, (1) suicidal thoughts, no attempts, (2) suicidal thoughts and at least one attempt. Reliability estimates were not computed because the scale consisted of only two items.

Quality of life. Perceived quality of life was measured with a modified version of Andrews and Withey's (1976) Quality of Life measure. The adapted version of the original measure contained nine items. Participants were asked to rate, on a 7-point scale (1 = "Extremely Pleased" to 7 = "Terrible"), how they currently felt about various aspects of their lives (see Appendix E, pg. 182). Items included questions such as "How do you feel about your personal safety?," "How do you feel about what you're accomplishing in

your life?," and "How do you feel about your emotional and psychological health"? The internal consistency of this scale was .88 with corrected item-total correlations ranging from .41 to .78. Individual scale scores were calculated as each participant's mean 'feeling' rating.

Social Support

Social Support was conceptualized as perceived support from friends and family. A modified version of Bogat, Chin, Sabbath, and Schwartz's (1983) Social Support Scale assessed perceived social support. The original scale contained 9 items, and measured people's perceived quantity and quality of overall social support, as well as four specific domains of support: companionship, advice and information, practical assistance, and emotional support. The revised instrument contained the same basic domains plus one additional domain, financial assistance (see Appendix E, pg. 183). This 11-item scale asked participants to rate, on a 7-point scale ranging from "extremely pleased (1)" to "terrible (7)," their feelings about the quality and quantity of social support they receive. Internal consistency was calculated as equal to .91, with corrected item-total correlations ranging from .54 to .77.

Although the reliability estimate and item-total correlations demonstrated that this scale was internally consistent, moderate inter-dimension correlations (from .29 to .63) also indicated that the items might represent distinct dimensions. Theoretically, it made sense to consider that satisfaction with the quality and quantity of one type of support (e.g., companionship) may be related but also distinct from one's satisfaction with the quality and quantity of another type of social support (e.g., financial assistance). The moderate inter-dimension correlations provided some empirical support for separating the

dimensions. The efficacy of this direction was further assessed using confirmatory factor analysis techniques (discussed in the Measurement Model section of the Results chapter). Dividing the social support scale into five dimensions resulted in different scale scores; each scale score was calculated as the mean satisfaction rating of the quality and quantity of social support.

Income

Income was operationalized as the extent to which adjusted annual household incomes were below, at, or above poverty level (i.e., percent of poverty). Annual household incomes were adjusted to account for the number of people supported by the average income. Two questions were used to determine participant's placement with respect to poverty. First, women were asked to provide an estimate of their average household monthly income before taxes were taken out. Second, they were asked to indicate how many people that monthly income supported (see Appendix E, pg. 180).

The percent of poverty rates were calculated using a procedure based on the U.S. Census Poverty Threshold Index (1996). First, each woman's annual income was computed by multiplying her monthly income by twelve. Then, each woman's annual income was divided by the appropriate poverty threshold (i.e., highest allowable income considered at poverty level for the number of people supported by it) (U.S. Census Bureau: Poverty Thresholds, 1996). Finally, to generate individual percent poverty rates, each person's poverty estimate was multiplied by 100. One hundred percent poverty would mean that the person's annual income was at the poverty level. Therefore, any figure above 100% poverty means that a person's income is above poverty, and any figure below 100% poverty indicates that an individual's annual income is below the

poverty line. To be eligible for most government assistance (e.g., Medicaid, Food Stamps, Financial Aid) a person would need to demonstrate that their annual income was at or below 125% poverty.

## Analyses

Three research questions were investigated in the present study. The first goal was to better understand the process by which abuse impacted women's physical health. Eby's (1996) model of relationships among abuse, stress, psychological health, and physical health was modified and tested. The second goal was to examine the extent to which a woman's income level (i.e., percent poverty) impacted the relationship between abuse and physical health problems. The third goal was to examine the buffering effects of social support on the relationship between women's stress levels and their psychological health. Both direct and indirect relationships were hypothesized to address these goals. Several analytical procedures were employed to describe the sample, examine the hypothesized relationships among variables, and test the overall fit of the proposed model. A description of these analyses is provided in the Results section where applicable.

# CHAPTER 3

# RESULTS

## Descriptive Statistics

Descriptive statistics were generated for each of the scales assessing the latent variables (i.e., abuse, stress, injuries, physical health, psychological health, social support, and income). Scale means, standard deviations, and response ranges for each construct are presented in Table 4. Additional descriptive information about the women's experiences is summarized below.

### Abuse Experiences

Physical Abuse. Two hundred seven (52%) participants met the criteria for inclusion into the "abuse" group. Typically, women reported between three and eight different types of abuse ($X = 5.52$, $SD = 2.97$). Eighteen women (9%) endorsed one type of physical abuse, and three (1%) women indicated their partners had used all twelve forms of violence. Two women did not report being physically abused, but had been sexually assaulted. As indicated in Table 5, a woman's partner or ex-partner was most likely to push, shove, or grab her (96%), throw something at her (61%), slap her with an open hand (57%), kick or punch her (56%), hit her or try to hit her with an object (55%), choke her (54%) and/or beat her up (50%). Women were least likely to have been burned (7%) by a partner or ex-partner. On average, the women's partners or ex-partners assaulted them two or three times a month.

Table 4. Summary of Scale Scores (N = 397)

| Observed Variable | Mean | SD |
|---|---|---|
| **Abuse** | | |
| Physical Abuse (CTS) | 0.45 | .713 |
| Range: 0 – 4.55 | | |
| Psychological Abuse (IPA) | 0.84 | .738 |
| Range: 0 - 2.74 | | |
| Sexual Abuse (ISA) | 0.28 | .593 |
| Range: 0 - 3.00 | | |
| **Injuries (IC)** | 2.93 | 1.66 |
| Range: 0 – 10 | | |
| **Stress** | | |
| Difficult Life Circumstances (DLC) | 6.41 | 3.46 |
| Range: 0 – 18 | | |
| Stressful Life Events (SLE) | 2.48 | .775 |
| range: 0 – 4.00 | | |
| **Physical Health** | | |
| General Health Question[a] (GHQ) | 2.34 | .839 |
| range: 1 – 4.00 | | |
| Chronic Health Problems (CHP) | 1.56 | 1.42 |
| range: 0 – 6.00 | | |
| Physical Health Symptoms (PHS) | 1.27 | .779 |
| range: 0 - 3.93 | | |
| **Psychological Health** | | |
| Depression (CES-D) | 1.13 | .683 |
| range: 1 - 2.95 | | |
| Quality of Life (QLS)[b] | 4.57 | 1.08 |
| range: 1.11 - 7.00 | | |
| Suicide Ideation (SIS) | 0.52 | .601 |
| range: 0 – 2.00 | | |
| **Income (INC)** | 194 | 149 |
| range: 0 – 795 (percent poverty) | | |
| **Social Support** | | |
| Companionship (SSC)[b] | 4.86 | 1.52 |
| range: 1 – 7.00 | | |
| Advice and Information (SSA)[b] | 5.11 | 1.22 |
| range: 1 – 7.00 | | |
| Practical Assistance (SSP)[b] | 5.15 | 1.59 |
| range: 1 – 7.00 | | |
| Emotional Support (SSE)[b] | 5.06 | 1.56 |
| range: 1 – 7.00 | | |
| Financial Assistance (SSF)[b] | 4.20 | 1.75 |
| Range: 1 – 7.00 | | |

[a]higher score indicates less satisfaction
[b]higher score indicates greater satisfaction

Table 5. Types of Physical and Sexual Abuse Experienced in Past Six Months (N = 207)

| Type of Abuse | N | % |
|---|---|---|
| Physical Abuse | | |
| In the last six months, how often did he/she: | | |
| Push, shove, or grab you | 199 | 96 |
| Throw something at you | 242 | 61 |
| Slap you with an open hand | 118 | 57 |
| Kick you or hit you with a fist | 116 | 56 |
| Hit you or try to hit you with an object | 114 | 55 |
| Choke you | 112 | 54 |
| Beat you up | 104 | 50 |
| Break your glasses or tear your clothing | 87 | 42 |
| Tie you up or physically restrain you in some way | 83 | 40 |
| Threaten you with a gun or knife | 48 | 23 |
| Use a gun or knife against you | 25 | 12 |
| Burn you | 14 | 7 |
| Sexual Abuse[a]: | | |
| How often in the past six months has he/she: | | |
| Used threats to try and have sex with you (O) | 75 | 36 |
| Used threats to try and have sex with you (W) | 52 | 25 |
| Forced any sexual activity you didn't want to happen (O) | 66 | 32 |
| Used physical force to have sex with you (W) | 48 | 23 |

Note: Frequency estimates are reported for only those women who had been physically harmed within the six months prior to the interview (N = 207)
[a]Estimates are reported for women's responses to questions in the oral (O) and written (W) sections of the interview

Sexual Abuse. Of the 207 women who had been assaulted by a partner or ex-partner in the six months prior to the interview, 66 (32%) had also been raped. Since few women (5%) reported only one form or no physical abuse, nearly one in three women was raped by her partner or ex-partner in addition to being physically assaulted in other ways.

Psychological Abuse. All women who indicated that they were in an intimate relationship (i.e., at least girl- or boy-friend type relationship; $\underline{n} = 261$) or who had been in contact with an abusive ex-partner during the previous six months ($\underline{n} = 83$) were asked the psychological abuse items. Of the 344 women questioned, only 23 (7%) endorsed none of the items. On average, women reported at least nine different types of psychological abuse ($X = 9.12$, $SD = 5.79$), and 10% of the women indicated that their partner or ex-partner had used more than 16 different forms of emotional abuse. One woman endorsed all 21 items. The most common types of emotional abuse reported are delineated in Table 6.

As indicated in Table 6, more than half the women said that their partner or ex-partner had ignored or made light of their anger (81%), criticized their friends or family (75%), tried to control their activities (69%), lied to them or deliberately misled them (69%), called them names (67%), accused them of having or wanting other sexual relationships (58%), criticized them in public (52%), or discouraged their contact with friends and family (51%) during the six months prior to the interview. An alarming

Table 6. Types of Psychological Abuse Experienced in Past Six Months (N = 344)

| **Type of Abuse** | **N** | **%** |
|---|---|---|
| In the last six months, how often has he/she: | | |
| Ignored or made light of your anger | 278 | 81 |
| Criticized your friends or family to you | 258 | 75 |
| Tried to control your activities | 237 | 69 |
| Lied to you or deliberately misled you | 237 | 69 |
| Called you names | 231 | 67 |
| Accused you of having or wanting other sexual relationships | 186 | 58 |
| Tried to control your money | 186 | 54 |
| Ridiculed or criticized you in public | 179 | 52 |
| Discouraged your contact with family or friends | 175 | 51 |
| Threatened to end relationship if you didn't do what he/she wanted | 145 | 42 |
| Broken or destroyed something important to you | 141 | 41 |
| Harassed your family or friends in some way | 110 | 32 |
| Told you about other sexual relationships he/she wanted or was having in order to hurt you | 110 | 32 |
| Tried to force you to leave your home | 103 | 30 |
| Drove recklessly so that you felt scared or in danger | 103 | 30 |
| Punished or deprived the children when angry with you | 86 | 25 |
| Threatened to take the children away from you | 83 | 24 |
| Left you somewhere with no way to get home | 79 | 23 |
| Threatened to commit suicide when angry with you | 76 | 22 |
| Threatened to hurt your family or friends | 65 | 19 |
| Abused or threatened to abuse pets to hurt you | 48 | 14 |

number of women (22%) said that their partner or ex-partner had threatened to commit suicide when angry with them. Clearly, many women had been emotionally tormented by a partner or ex-partner even if they had not been physically assaulted.

Injuries

All 397 women were asked to rate the frequency with which they sustained injuries during the six months prior to the interview. Their responses are summarized in Table 7. Overall, women sustained an average of three different types of injuries, ranging from the more common cuts, scrapes, and bruises (92%) and soreness without bruises (61%) to the less prevalent broken bones and fractures (11%) and gunshot or knife wounds (3%). On average, women were injured once a month or less.

Table 7. Types of Injuries Sustained in the Past Six Months (N = 397)

| Injury | N | % |
|---|---|---|
| Cuts, scrapes, or bruises | 365 | 92 |
| Soreness without bruises | 242 | 61 |
| Strains or sprains | 151 | 38 |
| Burns, including rug burns | 143 | 36 |
| Permanent scarring | 143 | 36 |
| Broken bones or fractures | 44 | 11 |
| Dislocated joints | 32 | 8 |
| Loose or broken teeth | 32 | 8 |
| Pregnancy complications/miscarriage | 28 | 7 |
| Internal injuries | 20 | 5 |
| Knife or gunshot wound | 12 | 3 |

Stress

Difficult life circumstances. All 397 women were asked to identify daily hassles they had experienced during the six months prior to the interview. Their responses are presented in Table 8. On average, women had experienced three to nine daily hassles (Mean = 6.4, SD = 3.46), four women (1%) reported no hassles, 23 (6%) endorsed more than half of the items, and no one said she had experienced all 24. The most commonly cited daily hassles were long-term debts (73%), problems with credit rating (51%), lack of privacy (41%), problems with a former spouse or partner (38%), and hospitalization due to accident or illness (38%). Those reported least were problems with a landlord (7%), being without a phone in present home (7%), and having a partner in jail (1%).

Stressful life events. Women had experienced an average of nine (SD = 4.68) stressful life events during the six months prior to the interview. While no one endorsed more than half of 50-item scale, 95% reported at least two items, and all but two of the women said they had experienced at least one of the events. The frequency rates of response for each stressful life event are presented in Table 9. The most common stressful life events evolved around financial matters such as having less money than usual (59%), relationship problems such as increased arguments with a spouse or partner (49%), and legal issues such as being involved in a law suit or legal action (33%). Twenty-nine percent of the women reported that they had been a victim of a violent crime such as rape or assault. The least commonly cited stressful life events were experiencing the death of a child or that of a partner (both were experienced by less than one percent of

Table 8. Occurrence Rates for Difficult Life Circumstances (N = 397)

| Daily Hassle | N | % |
|---|---|---|
| Long-term debts | 290 | 73 |
| Problems with credit rating | 203 | 51 |
| Not enough privacy | 163 | 41 |
| Frequent illnesses | 151 | 38 |
| Problems with former spouse or partner | 151 | 38 |
| Partner away more than half the time b/c of job or other reason | 147 | 37 |
| Work or school interferes w/family life | 127 | 32 |
| Hassled by bill collectors | 123 | 31 |
| Regular arguments with partner | 123 | 31 |
| Hospitalized for accident or illness | 119 | 30 |
| Substandard or unaffordable housing | 111 | 28 |
| Someone in household has a long-term illness | 99 | 25 |
| Looking for a job and have not been able to find one | 95 | 24 |
| Partner's work or school interferes with family life | 95 | 24 |
| Children have learning problems or other school problems | 95 | 24 |
| Children have emotional problems | 91 | 23 |
| Problems with neighbors | 79 | 20 |
| Partner has problem w/ alcohol or drugs | 75 | 19 |
| Have people living with you, you wish weren't there | 56 | 14 |
| Someone other than partner abusive in some way | 56 | 14 |
| Someone in household other than you or partner have problem w/alcohol or drugs | 56 | 14 |
| Problems with landlord | 28 | 7 |
| Without phone at present home | 28 | 7 |
| Partner in jail | 4 | 1 |

Table 9. Stressful Life Event: Rates of Occurrence (N = 397)

| **Stressful Life Event** | N | % |
|---|---|---|
| In the last six months have you: | | |
| Less money than usual | 234 | 59 |
| Had increased arguments with your spouse or partner | 195 | 49 |
| Started a new job or had a major change in a current job | 179 | 45 |
| Had trouble with a family member (not a spouse or partner) | 175 | 44 |
| Separated or ended a long-term committed relationship | 139 | 35 |
| Been involved in a law suit or other legal action | 131 | 33 |
| Been a victim of a violent crime such as rape or assault | 115 | 29 |
| Partner or spouse started a new job or had a big change in current job | 111 | 28 |
| Had a serious illness or injuries happen to a family member (not partner or child) | 107 | 27 |
| Had a serious argument with a friend or neighbor | 107 | 27 |
| Had trouble with partner's family members | 107 | 27 |
| Taken on a major purchase | 99 | 25 |
| Had new troubles with boss or other people at work | 99 | 25 |
| Move to a new town or neighborhood | 99 | 25 |
| Had a serious illness or injury | 95 | 24 |
| Started classes at school | 83 | 21 |
| Been a victim of property damage or theft | 83 | 21 |
| Quit your job | 79 | 20 |
| Learned that your partner was unfaithful | 72 | 18 |
| Married or started a long-term committed relationship | 72 | 18 |
| Reconciled a marital or romantic relationship | 72 | 18 |
| Your partner been fired, laid off, or quit his/her job | 68 | 17 |
| Experienced the death of a close family member (not partner or child) | 64 | 16 |
| Had any sexual difficulties | 60 | 15 |

Table 9 (cont'd).

| **Stressful Life Event** | N | % |
|---|---|---|
| In the last six months have you: | | |
| Been without a phone | 60 | 15 |
| Started a steady dating relationship | 56 | 14 |
| Ended a steady dating relationship | 52 | 13 |
| Had a new person move into your home | 52 | 13 |
| Stopped attending classes | 52 | 13 |
| Experienced the death of a close friend | 48 | 12 |
| Experienced the death of a pet | 48 | 12 |
| Had an affair | 48 | 12 |
| Had a serious illness or injury happen to a child | 44 | 11 |
| Had a serious illness or injury happen to a spouse or partner | 44 | 11 |
| Started receiving public assistance | 44 | 11 |
| Had your children taken away from you or been threatened with having your children removed from your home | 40 | 10 |
| Been fired or laid off from your job | 32 | 8 |
| Had your utilities shut off | 24 | 6 |
| Had or adopted a child | 20 | 5 |
| Been released from jail | 20 | 5 |
| Been arrested or convicted of a serious crime | 20 | 5 |
| Started menopause | 16 | 4 |
| Had your driver's license taken away by the police or court | 16 | 4 |
| Had a miscarriage or stillbirth | 12 | 3 |
| Received a jail sentence or probation | 8 | 2 |
| Retired | 4 | 1 |
| Experienced the death of a child | 4 | 1 |
| Had your spouse or partner retired | 4 | 1 |
| Learned you were unable to have children | 4 | 1 |
| Experienced the death of a spouse or partner | 0 | 0 |

the sample). On average, women perceived the stressful life events as somewhat stressful (Mean = 2.48, SD = .775).

Psychological Health

Three different dimensions of women's psychological health were assessed: depression, suicide ideation, and quality of life. All 397 women were asked to respond to the questions posed by the interviewer in the oral section (e.g., quality of life and suicide ideation items) and in the written section (e.g., depression items - CES-D).

Depression. Table 10 summarizes the number and percentage of women whose scores indicated that they were either severely, moderately, mildly, or not depressed. Sixty-three percent of the women were at least mildly depressed: 37% experienced no depression, 14% mild depression, 19% moderate depression, and 30% severe depression.

Suicide ideation. Table 10 displays the frequency and percentage of women who said they had thought about suicide as well as those who attempted suicide within the six months prior to the interview. Less than half of the participants had ever thought about committing suicide. Of those who had thought about it, 22 (6%) attempted to end their lives at least once during the six months prior to the interview. Two women said that they had attempted suicide more than 10 times. Their partners had assaulted both of those women within the past six months.

Quality of life. Despite the high rate of depression and suicide ideation, women were generally pleased with their quality of life. The mean score was 4.60 (SD = 1.08), with nearly 60% of the sample rating their quality of life as better than "equally satisfied and dissatisfied."

Table 10. Rates of Depression and Suicide Ideation

| | Total (N = 396) | |
|---|---|---|
| | n | % |
| Depression Level | | |
| No depression | 147 | 37% |
| Mild | 55 | 14% |
| Moderate | 77 | 19% |
| Severe | 117 | 30% |
| Suicide Ideation | | |
| No thoughts, No attempts | 213 | 54% |
| Thoughts, No attempts | 162 | 41% |
| Thoughts, Attempts | 22 | 6% |

Note: one participant did not complete the Depression Scale (CES-D).

Physical Health Outcomes

General Health status. One general health question was used to assess each woman's perception of her current health status. With responses ranging from poor (10%) to excellent (14%), most women rated their current health status as either fair (29%) or good (47%).

Chronic health problems. A summary of women's responses to questions about chronic health problems is presented in Table 11. Most women (72%) indicated that they had at least one type of chronic health problem. Three women said they were dealing with six problems, and no one reported more than six. The most common types of chronic health problems endorsed were allergies (45%), extreme weight gain or loss (i.e. more than 2-3lbs./week for 3 months) (25%), arthritis (20%), and long-term or recurring

infections (18%). The chronic health problems reported least were diabetes (n = 20; 5%) and cancer (n = 4; 1%).

Table 11. Occurrence Rates of Chronic Health Problems (N = 397)

| **Chronic Health Problem** | N | % |
|---|---|---|
| Allergies | 179 | 45 |
| Excessive Weight Gain or Loss (2-3 lbs./week for 3 months) | 99 | 25 |
| Arthritis | 79 | 20 |
| Repeated or Long-term Infections | 72 | 18 |
| Eating Disorder | 68 | 17 |
| Heart or Circulation Problems | 52 | 13 |
| High Blood Pressure | 44 | 11 |
| Diabetes | 20 | 5 |
| Cancer | 4 | 1 |

Physical health symptoms. A summary of the types of symptoms women reported is presented in Table 12. On average, women endorsed 16 different health symptoms (X = 16, SD = 6.35) at least once a month or less (X = 1.27; SD = .78). One in four women said that they were bothered by at least 21of the symptoms on the checklist.

Most women reported symptoms indicative of pain and fatigue: feeling low in energy (93%), sleep problems (88%), headaches (84%), muscle tension or soreness (81%), back pain (80%), and fatigue (75%). Ulcers (11%) and rectal bleeding (13%) were the symptoms cited least.

Table 12. Occurrence Rate of Physical Health Symptoms (N = 397)

| **Physical Health Symptom** | N | % |
|---|---|---|
| Feeling low in energy | 369 | 93 |
| Sleep problems | 349 | 88 |
| Headaches | 334 | 84 |
| Muscle tension or soreness | 330 | 83 |
| Back pain | 322 | 81 |
| Constant fatigue | 298 | 75 |
| Nightmares | 266 | 67 |
| Acid stomach or indigestion | 262 | 66 |
| Heart pounding or racing | 242 | 61 |
| Diarrhea | 234 | 59 |
| Muscle cramps | 230 | 58 |
| Feeling weak all over | 226 | 57 |
| Stomach pain | 222 | 56 |
| Dizziness | 214 | 54 |
| Severe aches and pains | 206 | 52 |
| Migraine headaches | 206 | 52 |
| Poor appetite | 203 | 51 |
| Nausea and/or vomiting | 194 | 49 |
| Numbness or tingling in parts of body | 194 | 49 |
| Hot or cold spells | 187 | 47 |
| Pelvic pain | 175 | 44 |
| Shortness of breath | 171 | 43 |
| Pains in your heart or chest | 167 | 42 |
| Ringing in your ears | 159 | 40 |
| Faintness | 151 | 38 |
| Blurred vision | 143 | 36 |
| Hands trembling | 135 | 34 |

Table 12 (cont'd).

| **Physical Health Symptom** | N | % |
|---|---|---|
| Painful intercourse | 99 | 25 |
| Choking sensations | 64 | 16 |
| Ulcers | 44 | 11 |
| | | |
| Symptoms not in final scale: | | |
| | | |
| *Constipation | 203 | 51 |
| *Vaginal bleeding or discharge (other than your period) | 95 | 24 |
| *Bladder infections | 75 | 19 |
| *Painful urination | 72 | 18 |
| *Rectal bleeding | 52 | 13 |

Income

The median, standard deviation, and range of household incomes are presented in Table 2 (Demographic Characteristics). The actual household monthly incomes ranged from $0 to over $6,000. However, when accounting for family size, most women's incomes fell within the low and middle-income ranges. On average, women reported household monthly incomes that were 194% (SD = 149) poverty level (See Table 12). That is, women's incomes were nearly twice the poverty line (94% above poverty).

Forty-three percent were within the low-income range (125% poverty level or less), 19% were between low-income and middle income (up to 200% poverty level), and 37% were within the middle-income range (between 200 and 600%). The remaining two percent were above the middle-income range (i.e., had incomes that were higher than five times the poverty line).

Table 13. Frequency Distribution of Percent Poverty Rates (N = 397)

| **Percent Poverty (median = 194%)** | **N** | **%** |
|---|---|---|
| 0 – 125% | 167 | 42% |
| 126 – 200% | 75 | 19% |
| 201 – 600% | 147 | 37% |
| > 600% | 8 | 2% |

Social Support

Overall, women appeared mostly satisfied with the amount and quality of the support they received from friends and family. Mean satisfaction scores ranged from 4.20 "equally satisfied and dissatisfied" to 5.15 "mostly satisfied."

Correlations Among Observed Variables

As a preliminary assessment of the hypothesized relationships among the observed variables (indicators), the direction, strength, and pattern of the uncorrected correlation coefficients were examined. The uncorrected correlation matrix is presented in Table 14. It should be noted that logarithmic transformations were performed on the following variables to correct skewed distributions: physical abuse [CTS – (skew = 2.30; kirtosis = 6.20)] and sexual abuse [ISA – (skew = 2.65; kirtosis = 7.16)]. The formula for computing the transformations [LN(1+ variable mean)] was based on the recommendations of Wilkinson, Blank, and Gruber (1996), and substantially improved the normal distribution of the scale scores; physical abuse [CTS – (skew = 1.32; kirtosis = 1.01] and sexual abuse [ISA – (skew = 1.93; kirtosis = 2.83]. For the most part, the correlation coefficients indicated that the relationships among the observed variables were in the expected direction and are of reasonable size.

Table 14. Uncorrected Correlation Matrix of Observed Variables (Indicators) (N = 397)

| | CTS | IPA | ISA | IC | SLE | DLS | GHQ | CHP | PHS | CES | QLS | SIS | SSC | SSA | SSP | SSE | SSF | INC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTS | - | | | | | | | | | | | | | | | | | |
| IPA | .72* | - | | | | | | | | | | | | | | | | |
| ISA | .60* | .58* | - | | | | | | | | | | | | | | | |
| IC | .44* | .41* | .34* | - | | | | | | | | | | | | | | |
| SLE | .28* | .34* | .21* | .25* | - | | | | | | | | | | | | | |
| DLS | .37* | .50* | .29* | .35* | .38* | - | | | | | | | | | | | | |
| GHQ | .36* | .34* | .20* | .29* | .26* | .46* | - | | | | | | | | | | | |
| CHP | .22* | .25* | .07 | .29* | .21* | .35* | .42* | - | | | | | | | | | | |
| PHS | .42* | .46* | .24* | .49* | .42* | .53* | .61* | .53* | - | | | | | | | | | |
| CES | .47* | .55* | .33* | .35* | .37* | .54* | .48* | .30* | .59* | - | | | | | | | | |
| QLS | .39* | .45* | .23* | .28* | .40* | .56* | .51* | .29* | .55* | .70* | - | | | | | | | |
| SIS | .34* | .31* | .15* | .29* | -.23* | .31* | .34* | .17* | .38* | .48* | .38* | - | | | | | | |
| SSC | -.23* | -.23* | -.17* | -.20* | -.15* | -.33* | -.22* | -.12* | -.23* | -.40* | -.48* | -.23* | - | | | | | |
| SSA | -.16* | -.24* | -.16* | -.20* | -.16* | -.26* | -.26* | -.09 | -.28* | -.29* | -.38* | -.20* | .42* | - | | | | |
| SSP | -.12* | -.23* | -.12* | -.14* | -.19* | -.32* | -.18* | -.05 | -.27* | -.34* | -.39* | -.22* | .47* | .50* | - | | | |
| SSE | -.18* | -.22* | -.13* | -.18* | -.17* | -.32* | -.25* | -.04 | -.29* | -.39* | -.49* | -.25* | .53* | .54* | .63* | - | | |
| SSF | -.17* | -.30* | -.15* | -.20* | -.33* | -.34* | -.25* | -.18* | -.34* | -.37* | -.42* | -.25* | .29* | .39* | .56* | .45* | - | |
| INC | -.28* | -.38* | -.23* | -.16* | -.17* | -.31* | -.29* | -.16* | -.27* | -.29* | -.27* | -.22* | .16* | .17* | .14* | .18* | .23* | - |

*$p < .05$, otherwise correlation is not significant

**CTS** Conflict Tactic Scale (Physical Abuse)
**IPA** Index of Psychological Abuse
**ISA** Index of Sexual Abuse
**IC** Injury Checklist
**DLS** Difficult Life Situations (Stress)
**SLE** Stressful Life Events (Stress)
**GHQ** General Health Question (Physical Health)
**CHP** Chronic Health Problems (Physical Health)
**PHS** Physical Health Symptoms (Physical Health)
**CES** Depression (Psych. Well-Being)
**QLS** Quality of Life Scale (Psych. Well-Being)
**SIS** Suicide Ideation Scale (Psych. Well-Being)
**SSC** Companionship (Social Support)
**SSA** Advice and Information (Social Support)
**SSP** Practical Assistance (Social Support)
**SSE** Emotional Support (Social Support)
**SSF** Financial Assistance (Social Support)
**INC** Percent Poverty (Income)

The pattern of relationships demonstrates convergent validity among the indicators for abuse, physical health problems, psychological health, and social support, but was less convincing for stress. For example, the correlation coefficient for difficult life situations (DLS) and stressful life events (SLE) was lower than the coefficients for difficult life situations and depression (CES-D).

## Path Model of Hypothesized Relationships

### Modeling Strategy

The path model of hypothesized relationships was tested using the two-step modeling approach recommended by Shumacker and Lomax (1996). The first step involved testing the proposed measurement model. Using structural equation modeling techniques, a confirmatory factor analysis was conducted to assess the extent to which the observed variables (indicators) measured their respective constructs. This step allowed for assessing both convergent and discriminant validity of the model. The second step involved testing the structural model. After recommended modifications were applied to the measurement model, structural equation modeling techniques were used to test the hypothesized relationships among the latent constructs. Additional analyses were conducted to assess the mediating effects of injuries, stress, and psychological health as well as the moderating effects of income and social support.

The assessment of the measurement model will be described first to provide a framework for presenting the structural model and additional analyses. The procedures for testing the structural model, the mediating effects, and the moderating effects will be presented along with their results for each research question.

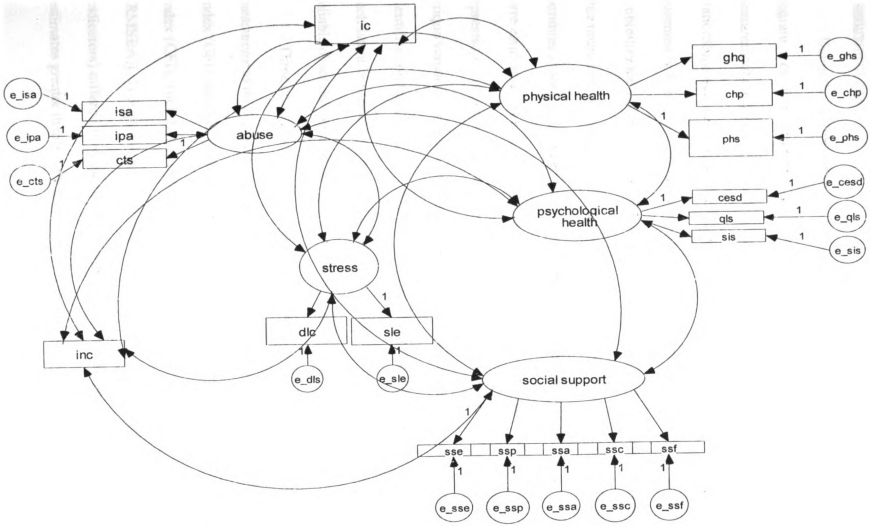


Figure 2. Measurement Model

Measurement model

Using the AMOS version 3.6 (Arbuckle, 1997) Structural Equation Modeling program, a confirmatory factor analysis of the latent constructs was performed to test the measurement model of hypothesized relationships among the observed variables. The relationships between the observed variables and their respective latent constructs are presented in Figure 2. Note that all of the latent constructs were allowed to covary (i.e., double-headed arrows leading from each construct to all other constructs in the model). This restriction was placed on the model so that the relationships among the observed variables as well as the relationships between observed variables and the latent constructs were estimated. The primary ellipses represent the latent constructs, the rectangles represent the observed variables, and the small circular shapes represent error terms (i.e., unique variance) associated with each observed variable. To help ensure model identification (see *Amos User's Guide, Version 3.6*), one of the observed variables for each latent construct was constrained (i.e, set to unity; "1"). The most empirically reliable observed variable for each construct was selected.

Three criteria were used to evaluate the results of the CFA: 1) overall fit of each measurement model using Goodness of Fit Statistics [chi-square ($\chi^2$), goodness of fit index (GFI), adjusted goodness of fit (AGFI), normed fit index (NFI), comparative fit index (CFI), Tuck-Lewis Index (TFI) and the root mean-square error of approximation (RMSEA)], 2) degree to which the sample covariances (observed relationships among indicators) differed from the implied covariances (standardized residual covariance estimates greater than $\pm$ 1.96 indicated that the differences were significant), and 3)

statistically significant factor loadings for each indicator on its respective latent construct (critical ratio values less than $\pm 1.96$ indicated that the factor loadings were not significant).

Although the $\chi^2$ was not expected to be significant, the large sample size and model complexity (degrees of freedom) may have increased the likelihood of detecting significant differences between the implied variance/covariance matrix and the observed matrix. Therefore, determination of model fit was based on a comprehensive assessment of the other fit indices. Good model fit was achieved when the values of these fit indices exceeded .90(GFI), .80(AGFI), .90(NFI), .90(CFI), .90 (TLI) and when the value for RMSEA was less than .05. Modifications to the measurement model were guided by the standardized residual covariances. Values greater than $\pm$ 1.96 indicated that there was a significant relationship between the unique variance of two indicators representing different constructs. Hence, the indicator lacked discriminate validity when compared with indicators of a different construct. Indicators that consistently shared unique variance with dissimilar indicators were considered problematic and dropped from the model.

Assessment of measurement model. At first glance, the proposed measurement model did appear to provide an adequate fit to the data. While the chi-square statistic suggested poor fit ($\chi^2 = 260$, df (116), $p < .05$), the other goodness of fit indices yielded more favorable results; the GFI (.93), AGFI (.90), CFI (.95), and TLI (.94) were at or above the accepted value .90, and the RMSEA (.06) was slightly above the acceptable

range .05. Despite these findings, the modification indices and standardized residual coefficients provided support for some modifications to the measurement model.

Several observed variables had standardized residual covariance estimates greater than +1.96. This meant that the unique variance (i.e., the variance not shared by the other observed variables of the same construct) associated with the observed variables could be shared by indicators of a different construct. Hence, these observed variables' discriminate validity could not be assumed. The variables with standardized residual covariance estimates greater than + 1.96 included: (1) the relationship between financial support (SSF) and physical health symptoms (PHS), stressful life events (SLE), and psychological abuse (IPA) (significant difference values were -2.148, 2.776, and -2.185, respectively); (2) the relationship between chronic health symptoms (CHP) and emotional support (SSE), practical assistance (SSA), and sexual abuse (ISA) (significant difference values of 3.039, 2.582, and -2.428, respectively); and (3) the relationship between quality of life (QLS) and companionship (SSC) revealed a significant difference value of -2.644.

Based on the concerns noted above and the lack of a strong theoretical argument for creating additional latent constructs, three key modifications were performed: (1) the scale for financial social support (SSF) was dropped from the model, (2) the measure for chronic health problems (CHP) was dropped, and (3) the scale for companion social support (SSC) was dropped. Each modification was conducted independently, and after each modification, the model was again assessed for fit. The results of these modifications are presented in Table 15. Corresponding standardized residual covariance matrices are provided in Appendix G.

Table 15. Maximum-Likelihood (ML) Estimates for Measurement Models 1, 2, 3 and 4

| Estimates | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| **Abuse** | | | | |
| CTS loading | .87 | .87 | .87 | .87 |
| IPA loading | .91 | .91 | .91 | .91 |
| ISA loading | .67 | .67 | .67 | .67 |
| CTS error | .035 | .035 | .035 | .035 |
| IPA error | .103 | .103 | .103 | .103 |
| ISA error | .062 | .062 | .062 | .062 |
| **Stress** | | | | |
| DLC loading | .74 | .74 | .74 | .74 |
| SLE loading | .52 | .52 | .52 | .52 |
| DLC error | 5.43 | 5.41 | 5.42 | 5.44 |
| SLE error | .455 | .456 | .455 | .455 |
| **Injuries** | NA | NA | NA | NA |
| **Psychological Health** | | | | |
| CESD loading | .84 | .84 | .84 | .85 |
| SIS loading | .52 | .52 | .52 | .52 |
| QLS loading | .83 | .83 | .83 | .82 |
| CESD error | .133 | .134 | .135 | .132 |
| SIS error | .264 | .264 | .264 | .263 |
| QLS error | .370 | .367 | .367 | .375 |
| **Physical Health** | | | | |
| GHQ loading | .69 | .69 | .70 | .70 |
| CHP loading | .58 | .58 | NA | NA |
| PHS loading | .90 | .90 | .87 | .87 |
| GHQ error | .369 | .369 | .362 | .362 |
| CHP error | 1.34 | 1.34 | NA | NA |
| PHS error | .113 | .113 | .144 | .143 |
| **Social Support** | | | | |
| SSC loading | .63 | .66 | .66 | NA |
| SSA loading | .65 | .65 | .65 | .65 |
| SSP loading | .78 | .74 | .74 | .75 |
| SSE loading | .80 | .83 | .83 | .84 |
| SSF loading | .62 | NA | NA | NA |

Table 15(cont'd).

| Estimates | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| SSC error | 1.38 | 1.31 | 1.31 | NA |
| SSA error | .856 | .857 | .856 | .858 |
| SSP error | 1.01 | 1.14 | 1.13 | 1.11 |
| SSE error | .863 | .763 | .764 | .714 |
| SSF error | 1.89 | NA | NA | NA |
| **Income** | NA | NA | NA | NA |
| | | | | |
| **Goodness of fit indices** | | | | |
| $\chi^2$ = | 259.88 | 196.88 | 167.50 | 139.71 |
| $df$ = | 116 | 100 | 85 | 71 |
| $p$ = | 0 | 0 | 0 | 0 |
| GFI = | .93 | .95 | .95 | .96 |
| AGFI = | .90 | .92 | .92 | .93 |
| NFI = | .92 | .94 | .94 | .95 |
| CFI = | .95 | .97 | .97 | .97 |
| TLI = | .94 | .96 | .96 | .96 |
| RMSEA = | .06 | .05 | .05 | .05 |

Table 16. Final Measurement Model: Indicators and Their Factor Loadings (N = 397)

| Latent Construct | Observed Variables (Indicators) | Standardized Measurement Coefficient (Factor Loading) |
|---|---|---|
| Abuse | | |
| | Physical Abuse (CTS)[a] | .87 |
| | Psychological Abuse (IPA) | .91 |
| | Sexual Abuse (ISA)[a] | .67 |
| Injuries | | |
| | Injury Checklist (IC) | NA |
| Stress | | |
| | Difficult Life Circumstances (DLC) | .74 |
| | Stressful Life Events (SLE) | .52 |
| Psychological Health | | |
| | Depression (CES-D) | .85 |
| | Quality of Life (QLS)[b] | .82 |
| | Suicide Ideation (SIS) | .52 |
| Physical Health | | |
| | General Health Question (GHQ) | .70 |
| | Physical Health Symptoms (PHS) | .87 |
| Social Support | | |
| | Advice and Information (SSA) | .65 |
| | Practical Assistance (SSP) | .75 |
| | Emotional Support (SSE) | .84 |
| Income | | |
| | Percent Poverty (INC) | NA |

[a] To correct positive skew, a log transformation was applied to the physical and sexual abuse measures.

[b] Items were reverse-scored so that a high scale score indicated high dissatisfaction with quality of life.

As noted in Table 15, the first modification – to drop the scale for financial support (SSF) – improved model fit: $\chi^2$ = 197, df (100), p= .000; GFI = .95, AGFI = .92, CFI = .97, TLI = .96, RMSEA = .05. However, significant differences still remained with respect to the standardized residual covariance estimates for the covariance estimates of chronic health problems and companion social support. The second and third modifications – to drop the measure for chronic health problems (CHP) and to drop the scale for companionship social support (SSC), respectively – yielded similar results; both modifications improved model fit and produced significant chi-square change effects. As indicated in Table 15, the final modified measurement model demonstrated good fit to the data [$\chi^2$ = 140, df (71), p= .000; GFI = .96, AGFI = .93, CFI = .97, TLI = .96, RMSEA = .05]. Table 16 presents the latent constructs, the indicators, and their corresponding factor loadings for the final measurement model.

Testing Hypothesized Relationships

After appropriate modifications were made to the measurement model, the proposed path model was tested using AMOS's (Arbuckle, 1997) Structural Equation Modeling techniques. Testing the structural model assessed the extent to which the hypothesized relationships among latent constructs 'fit' the data (i.e. the variance/covariance matrix implied by the model compared to the observed variance/covariance matrix).

Two criteria were used to evaluate the proposed model and its hypothesized relationships. First, several Goodness of Fit Statistics [chi-square ($\chi^2$), goodness of fit index (GFI), adjusted goodness of fit (AGFI), normed fit index (NFI), Tucker-Lewisindex

(TFI), and RMSEA] were examined to determine how well the proposed model 'fit' the data. The $\chi^2$ was expected to be nonsignificant, and the values of the other fit indices were expected to exceed .90, .80, .90, .90 and not to exceed .05, respectively. Second, statistically significant factor loadings for each indicator on its respective latent construct were examined to identify potential modifications to the model (critical ratio values less than $\pm$1.96 indicated that the factor loadings were not significant). Standardized residual covariance values were examined as well. Values that exceeded $\pm$1.96 indicated potential modifications to the relationships among indicators of different constructs.

Testing of Mediating Effects

The proposed path model hypothesized several mediating relationships among the latent constructs. First, number of injuries reported was hypothesized to partially mediate the relationship between abuse and physical health problems. Second, level of stress was hypothesized to partially mediate the relationship between abuse and psychological health. Finally, psychological health was hypothesized to partially mediate the relationship between stress and physical health problems.

The mediating effects were tested using structural equation modeling techniques recommended by Browne (1997). While mediation is typically assessed by employing a sequence of independent regression equations, Browne (1997) noted two advantages to using SEM. First, SEM allows investigators to account for measurement error in the mediating variable. Second, SEM allows for the modeling of nonrecursive structures (i.e., the possibility that the endogenous variable causes the mediator). A third advantage

to using SEM is that it simplifies the process of testing mediators when the model contains multiple indicators.

The process for testing mediating effects using SEM is the same as that used to construct a series of regression models. Baron and Kenny (1986) suggest that the process involve four major steps: 1) verify the significant relationship between the independent variables and the dependent variables, excluding the proposed mediator, 2) verify the significant relationship between the independent variables and respective mediators, 3) verify the significant relationship between the mediators and the dependent variables, and 4) verify a significant reduction in the direct relationship between the independent variable and the dependent variable in the presence of the mediating variable.

Each of the mediating effects was tested separately. The first three conditions were verified by setting all path parameters, except the paths linking the individual constructs of interest, to zero. The fourth condition was verified by comparing the size of the standardized path coefficient estimated in the first step with the size of the path coefficient after including the mediating variable. A significant reduction in the direct relationship between the exogenous and endogenous variables indicated a mediating effect.

Testing of Moderating Effects

The proposed path model hypothesized two moderating as well as direct relationships among the latent constructs. The moderating effects were tested using two separate hierarchical multiple-regression analyses. First, the moderating effect of income on the relationship between stress and psychological health was tested. In this analysis psychological health was regressed onto stress (i.e., dfficult life circumstances and

stressful life events) and income (i.e., percent poverty) as well as two product terms: difficult life circumstances x income, stressful life events x income. The first block of the hierarchical multiple regression equation contained each of the main effect variables, and the product terms comprised the third block.

In the second analysis, the moderating effect of social support on the relationship between stress and psychological health was tested. In this analysis psychological health was regressed onto stress and social support as well as two product terms: difficult life circumstances x social support and stressful life events x social support. The first block of the hierarchical multiple regression equation contained each of the main effect variables and the product terms comprised the third block.

Prior to computing the product terms, the scores of the main effect variables were centered (i.e., the mean score of each measure was subtracted from individual scale scores). This step was taken to reduce multicollinearity problems among the independent variables and their product terms and to improve the interpretability of the coefficients.

Assessment of the Structural Model

The structural model of the hypothesized relationships with corresponding path coefficients is presented in Figure 3 (note that the moderator effects were assessed separately, using hierarchical multiple regression techniques). The model tested was based on the modified version of the measurement model, and estimated using AMOS's (Arbuckle, 1997) Structural Equation Modeling program. When tested, the structural model demonstrated acceptable fit to the observed data (variance/covariance matrix), and accounted for a large portion of the variance in physical health problems ($R^2 = .71$) (see

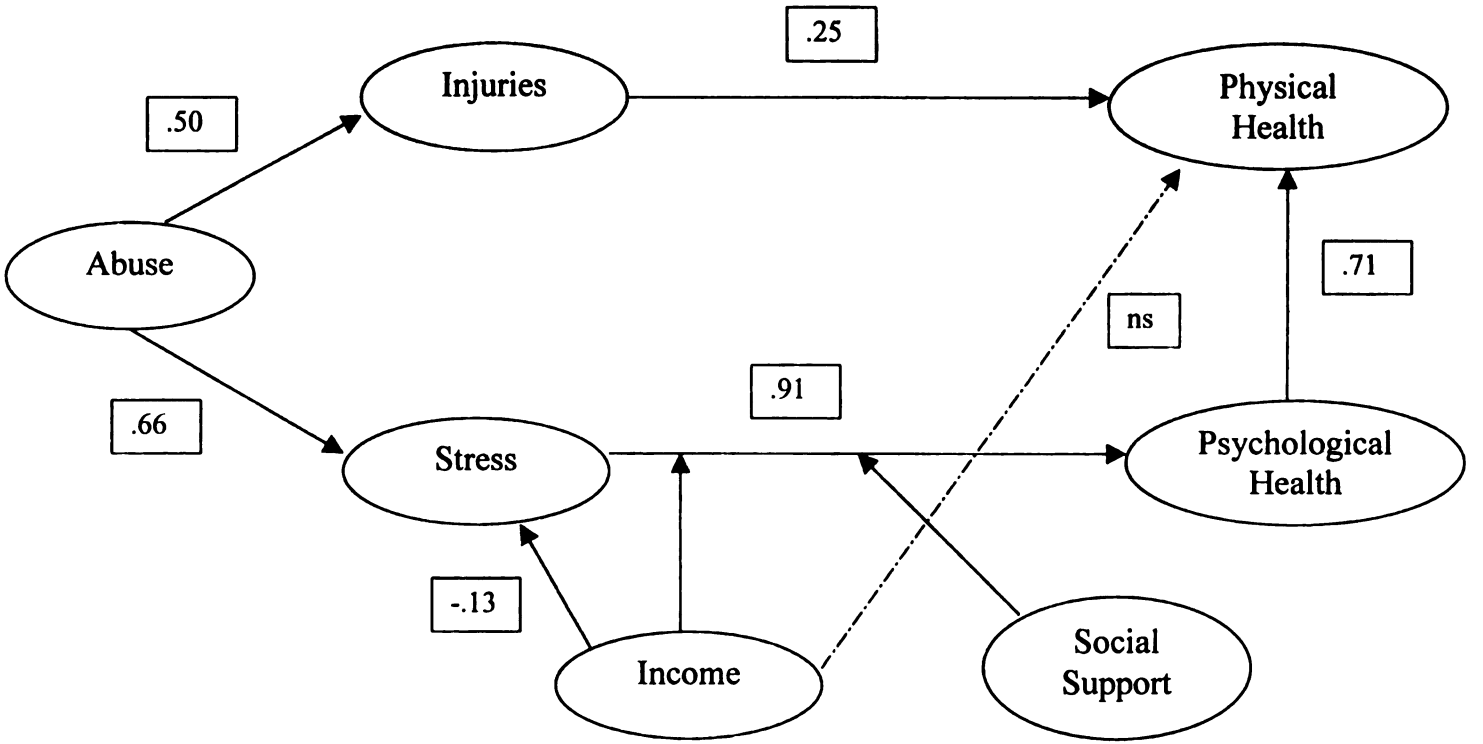


Figure 3. Structural Model of Hypothesized Relationships with Standardized Regression Coefficients

Table 17. Standardized Estimates for Structural Model

| Parameter (hypothesis) | Model Estimates | |
|---|---|---|
| | $R^2$ | β |
| **Physical Health** | .71 | |
| Injuries – physical health (1b) | | .25* |
| Psychological health – physical health (1f) | | .71* |
| Income – physical health (2b) | | -.04 |
| **Psychological Health** | .83 | |
| Stress – psychological health (1e) | | .91* |
| **Stress** | .52 | |
| Abuse – stress (1d) | | .66* |
| Income – stress (2a) | | -.13* |
| **Injuries** | .25 | |
| Abuse – injuries (1a) | | .50* |

**Goodness of fit indices:**

$\chi^2$ = 116.04
$df$ = 48
p = 0.00
GFI = .96
AGFI = .93
NFI = .95
CFI = .97
TLI = .96
RMSEA = .06

Potential Modification:
Add parameter (Income – abuse), r = -.39*

*p<.05

Table 17). The significant chi-square value [$\chi^2$ = 116, df (48), p= .000] suggested poor fit, but this finding was contradicted by other goodness of fit indices that are less influenced by sample size and model complexity. For example, RMSEA (.06), GFI (.96), AGFI (.93), CFI (.97), and TLI(.96) were well within acceptable range. Furthermore, almost all of the standardized residual covariance coefficients were less than $\pm$ 1.96. The standard residual covariance estimate for the relationship between injuries and suicide ideation (2.47) was significant, which indicated that these two variables shared a common element not accounted for by the other indicators of their respective constructs. The theoretical implication of this association and potential for model modification is presented in the Discussion Chapter.

To What Extent Does Intimate Partner's Violence Affect Women's Physical Health?

Abuse and injuries. As indicated in Table 17, abuse constituted a small portion of the variance in injuries ($R^2$ = .25). The moderate size of the path coefficient ($\beta$ = .50) was positive and significant. This indicates that although injuries may be predicted by other factors, high levels of abuse do have a positive and significant impact on the number of injuries women sustain; women with higher levels of abuse reported more injuries than did women with lower levels of abuse.

Injuries and physical health problems. The hypothesized relationship between injuries and physical health problems was significant ($\beta$ = .45). The positive sign indicated that women who reported more injuries had higher rates of physical health problems than did women who reported fewer injuries.

Mediating effect of injuries. Four sequential steps were completed to test the mediating effect of injuries on the relationship between abuse and physical health problems (as recommended by Baron & Kenny, 1986 and Browne, 1997). Structural equation modeling techniques were used to conduct the analyses. Throughout the first three steps, all other path parameters in the model were set to zero except for those of interest (i.e., the direct path linking abuse to physical health, the path between abuse and injuries, the path between injuries and physical health, respectively). The mediating relationship was tested in the fourth step by setting all other path parameters in the model to zero except for the following: 1) the direct path between abuse and physical health, 2) the direct path between abuse and injuries, and 3) the path linking injuries and health.

The results of the four steps are summarized in Table 18. The three preliminary conditions for a mediating relationship were confirmed. Significant direct relationships between abuse and physical health ($\beta = .57$, $p<.05$), abuse and physical injuries ($\beta = .49$, $p<.05$), and injuries and physical health ($\beta = .49$, $p<.05$) were verified. When the direct relationship between abuse and physical health was tested in the presence of Injuries, the magnitude of the relationship between abuse and physical health problems decreased ($\beta = .38$, $p<.05$). While the direct relationship between abuse and physical health remained significant even when accounting for the effect of injuries, the reduction indicates that injuries partially mediate the relationship. This finding suggests that the injuries explain only part of the connection between intimate partner violence and poor physical health. Injuries, alone, cannot account for battered women's high rate of physical health

Table 18. Mediating Effect of Injuries on Abuse and Physical Health

| Relationships | β | S.E. β | T | Significance of t |
|---|---|---|---|---|
| **Direct Effects:** | | | | |
| Abuse – Physical Health | .57 | .116 | 4.94 | p<.05 |
| Abuse – Injuries | .49 | .244 | 2.00 | p<.05 |
| Injuries – Physical Health | .49 | .021 | 23.14 | p<.05 |
| **Indirect Effect of Injuries:** | | | | |
| Abuse – Physical Health | .38 | .121 | 3.12 | p<.05 |

problems. Since the model contained alternate explanations for the effects of abuse on women's physical health, this finding was not surprising.

Abuse and stress. A moderate portion of variance in stress ($R^2$ = .521) was explained by the proposed model. The path coefficient from abuse to stress was significant and positive (β = .66), indicating that as abuse increases, experiences of stress increase as well. Therefore, abuse has a significant impact on women's experiences of difficult life situations and stressful life experiences.

Stress and psychological health. Slightly more than 80% of the variance in psychological health ($R^2$ = .83) was explained by the proposed model. The path between stress and psychological health was large and significant (β = .91). The strong positive relationship indicated that women who reported high stress levels were more likely to report high levels of depression, dissatisfaction with quality of life, and suicide ideation than were women who reported low stress levels.

Mediating effect of stress. Similar procedures were used to test the mediating effect of stress as those used to test the mediating effect of injuries. Throughout the first three steps, all other path parameters in the model were set to zero except for those of interest (i.e., the direct path linking abuse to psychological health, the path between abuse and stress, the path between stress and psychological health, and the mediating relationship linking abuse and stress and psychological health, respectively). The mediating relationship was tested in the fourth step by setting all other path parameters in the model to zero except for the following: 1) the direct path between abuse and psychological health, 2) the direct path between abuse and stress, and 3) the direct path linking stress and psychological health.

The three preliminary conditions for a mediating relationship were confirmed. Significant direct relationships between abuse and psychological health ($\beta = .64$, $p<.05$), abuse and stress ($\beta = .72$, $p<.05$), and stress and psychological health ($\beta = .90$, $p<.05$) were verified. When the direct relationship between abuse and psychological health was tested in the presence of stress, the magnitude of the relationship between abuse and psychological health decreased ($\beta = .10$, $p>.05$). This finding demonstrates that stress has a strong mediating effect on the relationship between abuse and psychological health. Although the direct relationship between abuse and psychological health did not reduce to zero in the presence of stress, it was no longer significant. These findings suggest that women's stress levels account for most of the effects of abuse on women's psychological health.

Table 19. Mediating Effect of Stress on Abuse and Psychological Health

| Relationships | β | S.E. β | t | Significance of t |
|---|---|---|---|---|
| **Direct Effects:** | | | | |
| Abuse – Psychological Health | .64 | .097 | 6.62 | p<.05 |
| Abuse – Stress | .72 | .106 | 6.78 | p<.05 |
| Stress – Psychological Health | .90 | .114 | 6.24 | p<.05 |
| **Indirect Effect of Stress:** | | | | |
| Abuse – Psychological Health | .10 | .214 | .444 | p>.05 |

Psychological health and physical health problems. The relationship between psychological health (i.e., depression and suicide ideation) and physical health problems was large and significant (β = .71). As women's levels of depression and suicide ideation increased and quality of life decreased, their reports of physical health problems increased.

Mediating effect of psychological health. Structural equation modeling techniques were used to test the hypothesis that psychological health mediates the relationship between stress and physical health. Similar procedures were used to test the mediating effect of psychological health as those used to test the mediating effect of injuries and stress. As noted in Table 20, significant direct relationships between stress and physical health (β = .86, p<.05), stress and psychological health (β = .92, p<.05), and psychological health and physical health (β = .85, p<.05) were verified. When the direct relationship between stress and physical health was tested in the presence of psychological health, the magnitude of the relationship between stress and physical health

Table 20. Mediating Effect of Psychological Health on Stress and Physical Health

| Relationships | β | S.E. β | t | Significance of t |
|---|---|---|---|---|
| **Direct Effects:** | | | | |
| Stress – Physical Health | .86 | .173 | 4.96 | p<.05 |
| Stress – Psychological Health | .92 | .154 | 5.99 | p<.05 |
| Psychological – Physical Health | .85 | .065 | 13.05 | p<.05 |
| **Indirect Effect of Psychological Health:** | | | | |
| Stress – Physical Health | .64 | .473 | 1.35 | p<.05 |

decreased (β = .64, p<.05), but remained significant. While the direct relationship between stress and physical health remained significant even when accounting for the effect of psychological health, the reduction indicates that psychological health partially mediates the relationship. This finding suggests that a battered woman's level of depression, suicide ideation, and dissatisfaction with her quality of life explain only some of what she experiences physically.

To What Extent Does Women's Income Impact the Relationship Between Abuse and Physical Health?

Income and stress. The path coefficient from income to stress was significant and negative (β = -.13). The small negative effect indicates that there is a weak association between income and stress, indicating that women with higher incomes report less stress than do women with lower incomes. The small beta weight suggests that even though income has a significant impact on women's stress levels, the effect on stress is not as large as what can be explained by other factors, especially levels of abuse.

Income and physical health problems. The hypothesized path between income and physical health problems ($\beta$ = -.04) was not significant. Therefore, it does not appear as though income was a significant predictor of physical health problems.

Moderating effect of income on the relationship between stress and psychological health. The moderating effect of income was tested using a series of hierarchical multiple regression analyses. Psychological health (depression, suicide ideation, and quality of life) was regressed onto three independent variables (difficult life circumstances, stressful life events, and income) and two product terms (difficult life circumstances x income and stressful life events x income) in six separate analyses. The first block of each regression equation contained one of the main effect variables: (a) stressful life events, (b) difficult life circumstances, and (c) income (percent poverty). The product terms comprised the second block of each equation: stressful life events x income and difficult life circumstances x income. Prior to computing the product terms, the scores of the main effect variables were centered (i.e., the mean score of each measure was subtracted from individual scale scores).

To plot the moderating effects, simple regression lines were calculated based on recommendations by Aiken and West (1991) and Cohen and Cohen (1983). Only significant moderating effects were plotted. First, because income was a continuous variable, three levels (high, medium, and low) of the centered income score were produced by setting the cut-off points as one standard deviation above the mean (high; 148.86), the mean (medium; 0), and one standard deviation below the mean (low; -148.86). Second, three separate equations were generated to represent the regression of

the dependent variable (i.e., depression, suicide ideation, and dissatisfaction with quality of life) on the independent variable (i.e., difficult life circumstances and stressful life events) at each income level. Finally, the restructured regression equations were used to compute the predicted dependent variable scores for each level of income. Three separate regression lines were then generated and plotted.

Stress and depression. Two separate analyses were conducted to test the moderating effect of income on the relationship between stress and depression. As indicated in Table 21, the hierarchical multiple regression analyses yielded conflicting results. While significant interaction effects of income were found for the relationship between stressful life events and depression, the interaction of income and difficult life circumstances was not significant.

The income x stressful life events product term resulted in a small yet significant $R^2$ change when entered into the second block of the equation ($R^2 = .20$) [$\Delta F$ (3, 393) = 6.80, $p < .05$; $\Delta R^2$change = .014]. Figure 4 depicts the interaction effect of income on the relationship between stressful life events and depression. As demonstrated in Figure 4, the plotted regression lines indicate that at higher levels of stress the relationship between stressful life events and depression is stronger for women with lower incomes than for women with higher incomes. These findings suggest while income may have little impact on the relationship between the number of daily hassles women experience and their level of depression, it does appear to buffer the effect of stressful life events on depression.

Table 21. Moderating Effect of Income on Stress and Depression

| | Depression Scores | | | |
|---|---|---|---|---|
| **Variables** | **r** | β | **t** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 89.56$, $p < .0001$ | | | | |
| $R^2 = .313$ | | | | |
| Income (centered) | -.29*** | -.134 | -3.04 | <.05 |
| Difficult life circumstances (centered) | .54*** | .503 | 11.45 | <.05 |
| Intercept (constant) | | | 39.87 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 59.57$, $p < .0001$ | | | | |
| $R^2 = .313$ | | | | |
| $R^2$ change = .000, p = .875 | | | | |
| Income x Difficult life circumstances | -.002 | -.007 | -.157 | .875 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 46.24$, $p < .0001$ | | | | |
| $R^2 = .191$ | | | | |
| Income (centered) | -.29*** | -.219 | -4.73 | <.05 |
| Stressful life events(centered) | .38*** | .334 | 7.21 | <.05 |
| Intercept (constant) | | | 36.75 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 33.67$, $p < .0001$ | | | | |
| $R^2 = .204$ | | | | |
| $R^2$ change = .014, p = .009 | | | | |
| Income x Stressful life events | -.01 | -.121 | -2.61 | <.05 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** $p < .001$.

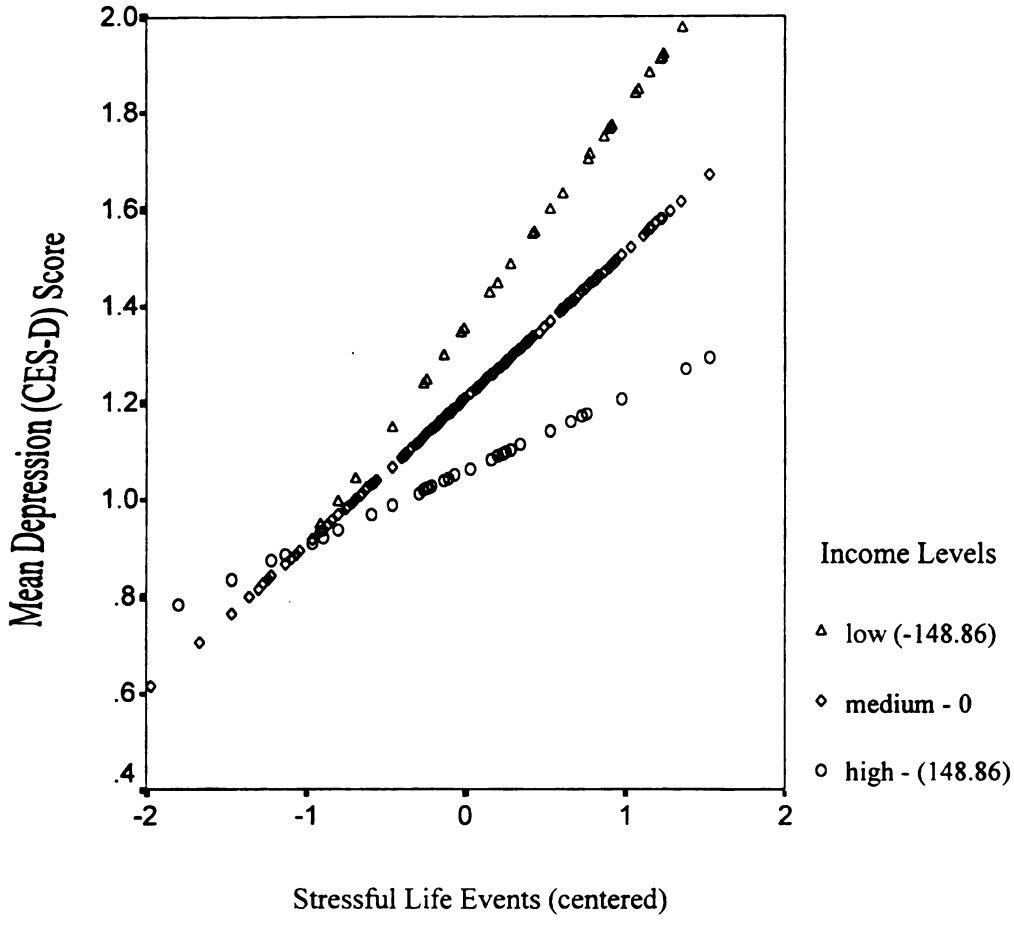


Figure 4. Regression Lines Indicating Moderating Effect of Income on Stressful Life Events and Depression

Table 22. Moderating Effect of Income on Stress and Suicide Ideation

| | Suicide Ideation Scores | | | |
|---|---|---|---|---|
| **Variables** | **r** | β | **t** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| F = 25.31, p < .0001 | | | | |
| $R^2$ = .114 | | | | |
| Income (centered) | -.22*** | -.131 | -2.62 | <.05 |
| Difficult life circumstances (centered) | .31*** | .273 | 5.47 | <.05 |
| Intercept (constant) | | | 18.22 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 17.63, p < .0001 | | | | |
| $R^2$ = .119 | | | | |
| $R^2$ change = .005, p = .147 | | | | |
| Income x Difficult life circumstances | -.044 | -.074 | -1.46 | .147 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| F = 18.66, p < .0001 | | | | |
| $R^2$ = .087 | | | | |
| Income (centered) | -.22*** | -.173 | -3.50 | <.05 |
| Stressful life events(centered) | .24*** | .205 | 4.16 | <.05 |
| Intercept (constant) | | | 17.95 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 12.47, p < .0001 | | | | |
| $R^2$ = .087 | | | | |
| $R^2$ change = .000, p = .673 | | | | |
| Income x Stressful life events | .055 | -.021 | -.422 | .673 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** p < .001.

Table 23. Moderating Effect of Income on Stress and Quality of Life

| | Quality of Life Scores | | | |
|---|---|---|---|---|
| **Variables** | **r** | **β** | **T** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| F = 92.57, p < .0001 | | | | |
| $R^2$ = .320 | | | | |
| Income (centered) | -.27*** | -.102 | -2.34 | <.05 |
| Difficult life circumstances (centered) | .56*** | .525 | 12.01 | <.05 |
| Intercept (constant) | | | 76.12 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 63.52, p < .0001 | | | | |
| $R^2$ = .327 | | | | |
| $R^2$ change = .007, p = .045 | | | | |
| Income x Difficult life circumstances | -.085 | -.089 | -2.01 | <.05 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| F = 46.79, p < .0001 | | | | |
| $R^2$ = .192 | | | | |
| Income (centered) | -.27*** | -.191 | -4.11 | <.05 |
| Stressful life events(centered) | .40*** | .356 | 7.70 | <.05 |
| Intercept (constant) | | | 70.39 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 40.60, p < .0001 | | | | |
| $R^2$ = .237 | | | | |
| $R^2$ change = .045, p < .0001 | | | | |
| Income x Stressful life events | -.10 | -.219 | -4.80 | <.05 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** p < .001.

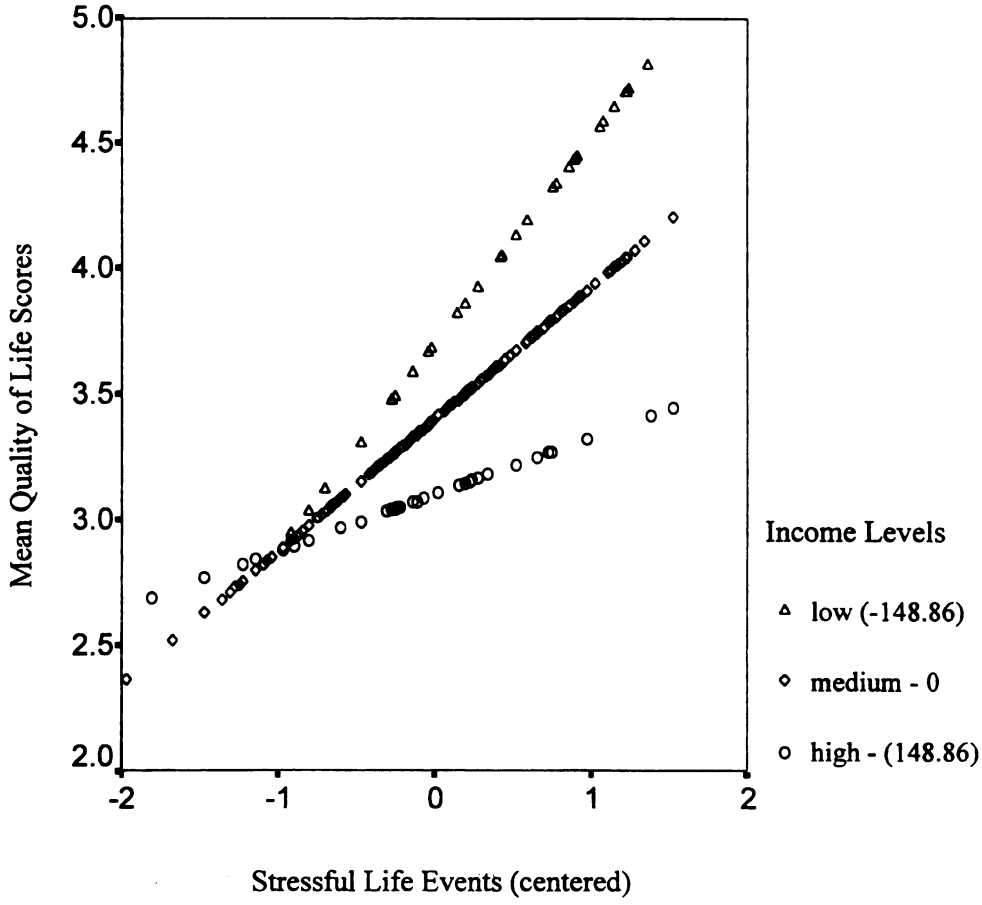


**Figure 5.** Regression Lines Indicating Moderating Effect of Income on Stressful Life Events and Quality of Life (Note: higher score equals greater dissatisfaction)

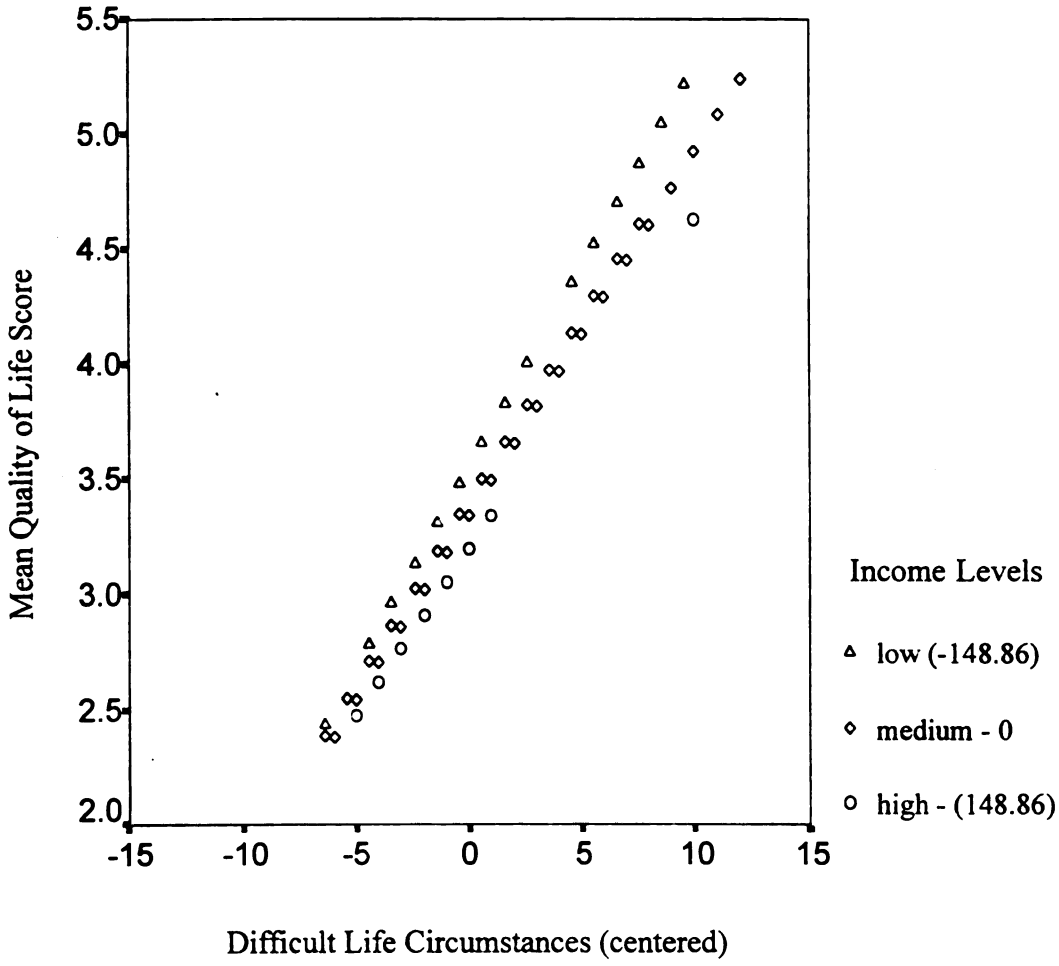


**Figure 6.** Regression Lines Indicating Moderating Effect of Income on Difficult Life Circumstances and Quality of Life (Note: higher score equals greater dissatisfaction)

Stress and suicide ideation. Two separate analyses were conducted to test the moderating effect of income on the relationship between stress and suicide ideation. As indicated in Table 22, the hierarchical multiple regression analyses indicated that women's income levels did not moderate the relationships between their stress levels and their levels of suicide ideation. Neither the product term of stressful life events and income nor the product term of difficult life circumstances and income resulted in significant $R^2$ change.

Stress and quality of life. Two separate analyses were conducted to test the moderating effect of income on the relationship between stress and quality of life. The results of the hierarchical multiple regression analyses are presented in Table 23 and indicate that while income may moderate the relationship between stressful life events and quality of life ($R^2 = .24$) [$\Delta F$ (1, 393) = 23.00, $p<.05$; $\Delta R^2$change = .045], the moderating effect of income on the relationship between difficult life circumstances and quality of life is less clear ($R^2 = .33$) [$\Delta F$ (1, 393) = 4.05, $p <.05$; $\Delta R^2$change = .007]. The interaction effect of income on stressful life events and quality of life is displayed in Figure 5. The pattern of regression lines indicates that at higher levels of stress, the relationship between stressful life events and dissatisfaction with quality of life was stronger for women with lower incomes than it was for women with higher incomes. The distinction between the low-income and the higher income groups was more pronounced when women reported high levels of stressful life events than when low levels of stressful life events were reported.

A similar, but less distinct, pattern emerged when the regression lines were plotted to present the moderating effect of income on the relationship between difficult life circumstances and dissatisfaction with quality of life (see Figure 6). Figure 6 demonstrates that the effect of difficult life circumstances on women's dissatisfaction with their quality of life was stronger for women within the low-income range than for women in the medium- or high-income ranges. Overall, these findings suggest that income buffered the extent to which stress affects women's dissatisfaction with their quality of life. In addition, they indicate that income may have a greater buffering impact on the relationship between women's experiences of stressful life events and their dissatisfaction with the quality of life than it did on the effect of daily hassles.

To summarize, the extent to which income level impacted the effect of abuse on physical and psychological health is complex. While women with lower incomes were significantly more likely to experience higher levels of stress than were women with higher incomes, they were not significantly more likely to report higher rates of physical health problems. The extent to which income moderated the relationship between stress and women's psychological health varied depending upon the kind of stress and indicator of psychological well-being. It appears that a higher level of income moderated the effects of stressful life events on women's level of depression, and dissatisfaction with the quality of their life, but not their rate of suicide ideation. Similarly, a higher level of income appeared to buffer the effects of difficult life circumstances on women's dissatisfaction with the quality of their life, but not their level of depression or rate of suicide ideation.

To what extent do women's satisfaction with their social support impact the effects of abuse on their psychological health? The moderating effect of social support was tested using a series of hierarchical multiple regression analyses. Psychological health (depression, suicide ideation, and quality of life) was regressed onto three independent variables (difficult life circumstances, stressful life events, and income) and two product terms (difficult life circumstances x social support and stressful life events x social support) in six separate analyses. The first block of each regression equation contained one of the main effect variables: (a) stressful life events, (b) difficult life circumstances, and (c) social support. The product terms comprised the second block of each equation: stressful life events x social support and difficult life circumstances x social support. Prior to computing the product terms, the scores of the main effect variables were centered (i.e., the mean score of each measure was subtracted from individual scale scores).

To plot the moderating effects of social support, simple regression lines were calculated using the same methods previously described for income. Only significant moderating effects were plotted. Because social support was a continuous variable, three levels (high, medium, and low) of the centered social support score were produced by setting the cut-off points as one standard deviation above the mean (high; 1.22), the mean (medium; 0), and one standard deviation below the mean (low; -1.22). Three restructured regression equations were used to compute the predicted dependent variable scores for each level of social support. The regression lines were then generated and plotted.

No significant interaction effects were detected using hierarchical multiple regression techniques in five of the six analyses. The results of these analyses are

Table 24. Moderating Effect of Social Support on Stress and Depression

| | Depression Scores | | | |
|---|---|---|---|---|
| **Variables** | **r** | **β** | **t** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| F = 105.25, p < .0001 | | | | |
| $R^2$ = .348 | | | | |
| Social support (centered) | -.41*** | -.244 | -5.60 | <.05 |
| Difficult life circumstances (centered) | .54*** | .457 | 10.49 | <.05 |
| Intercept (constant) | | | 40.95 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 70.12, p < .0001 | | | | |
| $R^2$ = .349 | | | | |
| $R^2$ change = .001, p = .611 | | | | |
| Social support x Difficult life circum. | -.071 | .021 | .509 | 611 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| F = 68.26, p < .0001 | | | | |
| $R^2$ = .257 | | | | |
| Income (centered) | -.41*** | -.343 | -7.73 | <.05 |
| Stressful life events(centered) | .38*** | .308 | 6.95 | <.05 |
| Intercept (constant) | | | 38.36 | <.05 |
| Block 2: Interaction Term | | | | |
| F = 45.69, p < .0001 | | | | |
| $R^2$ = .259 | | | | |
| $R^2$ change = .001, p = .411 | | | | |
| Social support x Stressful life events | -.069 | -.037 | -.823 | .411 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** p < .001.

Table 25. Moderating Effect of Social Support on Stress and Suicide Ideation

| | Depression Scores | | | |
|---|---|---|---|---|
| **Variables** | **r** | β | **t** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 28.24, p < .0001$ | | | | |
| $R^2 = .125$ | | | | |
| Social support (centered) | -.27*** | -.176 | -3.49 | <.05 |
| Difficult life circumstances (centered) | .31*** | .250 | 4.96 | <.05 |
| Intercept (constant) | | | 18.34 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 18.91, p < .0001$ | | | | |
| $R^2 = .126$ | | | | |
| $R^2$ change = .001, p = .560 | | | | |
| Social support x Difficult life circum. | -.029 | .028 | .583 | .560 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 23.51, p < .0001$ | | | | |
| $R^2 = .107$ | | | | |
| Social support (centered) | -.27*** | -.225 | -4.63 | <.05 |
| Stressful life events(centered) | .24*** | .194 | 3.98 | <.05 |
| Intercept (constant) | | | 18.15 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 15.95, p < .0001$ | | | | |
| $R^2 = .109$ | | | | |
| $R^2$ change = .002, p = .354 | | | | |
| Social support x Stressful life events | -.36 | .046 | .927 | .354 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** $p < .001$.

Table 26. Moderating Effect of Social Support on Stress and Dissatisfaction with Quality of Life

| | Quality of Life | | | |
|---|---|---|---|---|
| **Variables** | **r** | **β** | **T** | **Sign. of t** |
| **Difficult Life Circumstances** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 140.21, p < .0001$ | | | | |
| $R^2 = .416$ | | | | |
| Social support (centered) | -.50*** | -.348 | -8.44 | <.05 |
| Difficult life circumstances (centered) | .56*** | .432 | 10.47 | <.05 |
| Intercept (constant) | | | 82.78 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 95.73, p < .0001$ | | | | |
| $R^2 = .422$ | | | | |
| $R^2$ change = .006, $p < .05$ | | | | |
| Social support x Difficult life circum. | -.024 | .081 | 2.09 | <.05 |
| **Stressful Life Events** | | | | |
| Block 1: Centered Variables | | | | |
| $F = 102.35, p < .0001$ | | | | |
| $R^2 = .342$ | | | | |
| Social support (centered) | -.50*** | -.439 | -10.52 | <.05 |
| Stressful life events(centered) | .40*** | .304 | 7.28 | <.05 |
| Intercept (constant) | | | 78.00 | <.05 |
| Block 2: Interaction Term | | | | |
| $F = 68.51 < .0001$ | | | | |
| $R^2 = .343$ | | | | |
| $R^2$ change = .002, $p = .343$ | | | | |
| Social support x Stressful life events | -.02 | .040 | .949 | .343 |

[a] Standardized regression coefficients are reported for the step in which they were entered into the model.

*** $p < .001$.

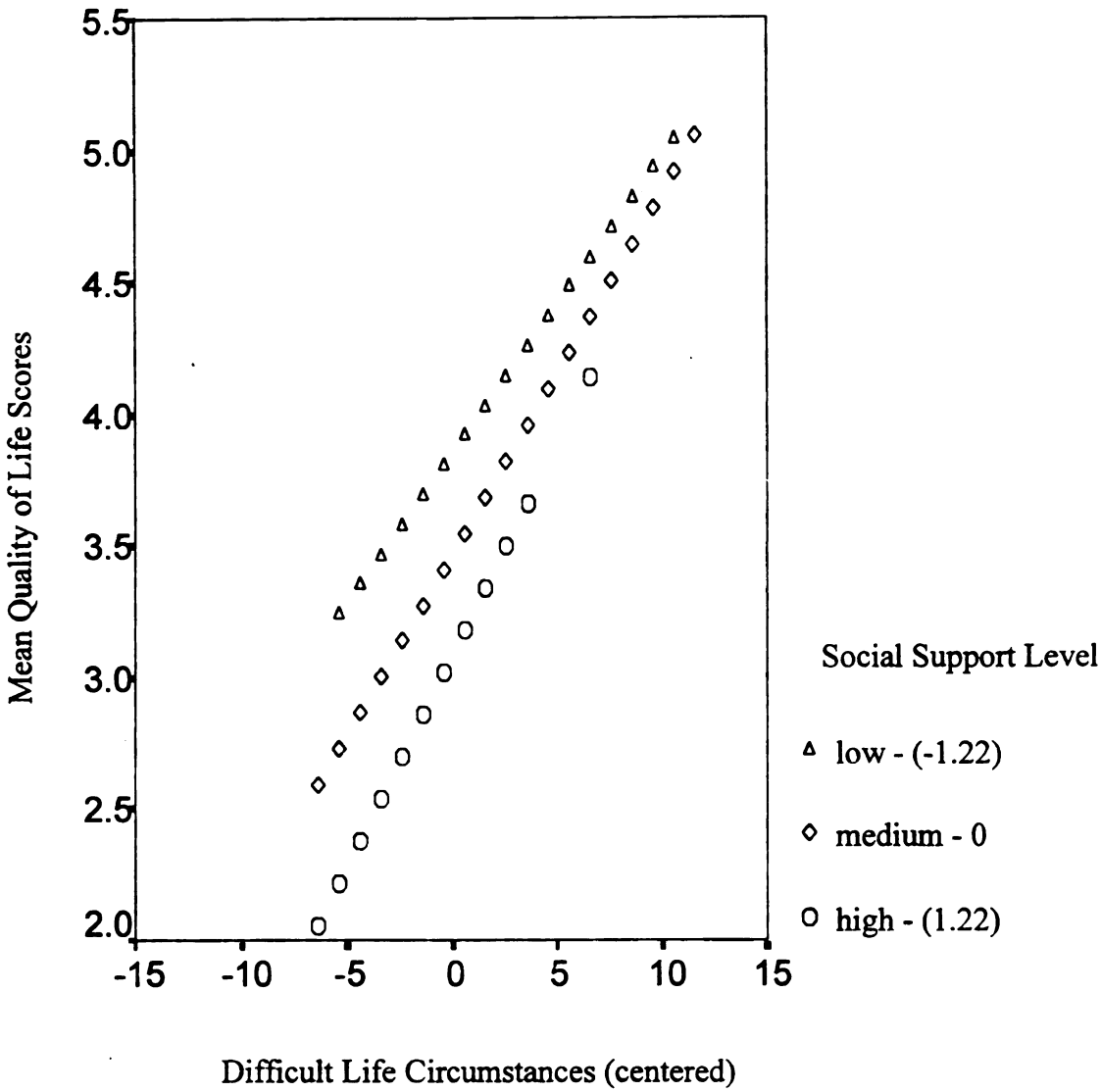


Figure 7. Regression Lines Indicating Moderating Effect of Social Support on Difficult Life Circumstances and Quality of Life (Note: higher score equals greater dissatisfaction)

presented in Tables 24-26. As indicated in the Table 26, social support did have a significant moderating effect on the relationship between difficult life circumstances and dissatisfaction with quality of life ($R^2 = .42$) [$\Delta F$ (1, 393) = 4.36, $p < .05$; $\Delta R^2$change = .006]. This interaction effect is presented in Figure 7. Although the results of the multiple regression analyses suggest that the moderating effect was relatively small, the plot of regression lines in Figure 7 yielded an interesting interaction pattern.

The pattern of the regression lines indicates that the relationship between difficult life circumstances and dissatisfaction with quality of life was stronger for women who reported high levels of social support than for women who reported low levels of social support. It also indicates that the differentiation among the three levels of social support were more pronounced at lower levels of difficult life circumstances, and less distinct when women reported a high number of difficult life circumstances. These findings suggest that women's satisfaction with the amount and quality of social support may not necessarily *buffer* the effects of daily hassles on their dissatisfaction with quality of life. Higher levels of social support may minimize the effect of difficult life circumstances on dissatisfaction with quality of life when stress levels are low, but the impact of high social support diminished at higher levels of stress.

While social support did appear to moderate the relationship between difficult life circumstances and dissatisfaction with quality of life, no other significant interactions were detected. These findings indicate that having high levels of social support did little to buffer the extent to which women's stress levels affected their psychological well-being. Furthermore, when there was evidence to support a moderating effect of social

support (i.e., on the relationship between difficult life circumstances and dissatisfaction with quality of life), the pattern of that interaction contradicted the common assertion that social support buffers the impact of high stress levels.

# CHAPTER 4

# DISCUSSION

## Summary of Results

The present study had two primary goals. The first goal was to clarify the relationship between intimate partner violence and women's psychological and physical health. The second goal was to examine the extent to which a woman's income level impacts the effect of abuse on her physical and psychological health. In addition to these two goals, the present study was designed to examine the extent to which women's satisfaction with their social support moderated the effects of stress on their psychological health. A conceptual path model of the hypothesized relationships was presented in Figure 1.

The model proposing complex direct and indirect relationships among abuse, injuries, stress, psychological health, physical health, and income was strongly supported by women's experiences. Tests of the moderating effects of income and social support yielded mixed results. The direct and mediating relationships were tested using structural equation modeling techniques, and a series of hierarchical multiple regression analyses were conducted to test moderating relationships. Structural equation modeling techniques revealed that the proposed path model of direct and mediating relationships provided an acceptable fit to the observed data (variance/covariance matrix). All except one of the ten hypothesized relationships tested were significant and accounted for 71% of the variance in physical health problems women reported.

The results of this study clearly demonstrated that intimate partner violence has a resounding impact on women's psychological and physical health. More importantly, the results of this study helped to clarify the process by which intimate partner violence jeopardizes women's psychological and physical health. Abuse was found to affect women's physical health in two ways: 1) through the injuries women experienced and 2) through the combined effects of stress and psychological health problems (depression, suicide ideation, and dissatisfaction with quality of life). While both processes contributed to women's experiences of physical health problems, the joint mediating effects of stress and psychological health problems accounted for more variance in physical health problems than did injuries. Abuse-related injuries may impact women's physical health to some extent, but the stress associated with surviving an intimate partner's violence places women at far greater risk for compromised psychological and physical health.

Another significant contribution of the present study was that it differentiated the effects of poverty on women's health from those due to abuse. The results demonstrated that income level exerted a minimal impact on the relationship between intimate partner violence and women's psychological and physical health. Women with higher levels of income reported significantly lower levels of stress ($\beta = -.13$), yet they were no more likely than women with lower levels of income to report lower levels of physical health problems. Furthermore, the direct effect of abuse on women's stress levels was five times greater than the direct effect of income. These findings suggest that the effects of abuse on women's stress and physical health supercede those due to poverty.

While the results of the present study did not support assumptions that income would have a strong direct impact on women's stress and physical health, there was some evidence to suggest that having a higher income buffers the extent to which stress affects psychological health problems. The extent to which women's income level moderated the relationship between stress and psychological health problems was complex. At high levels of stress, women with higher income levels were less likely to report dissatisfaction with their quality of life than were women with lower income levels. When reporting high levels of stressful life events, women with higher income levels were also less likely to experience high rates of depression than were women with lower income levels. However, income did not moderate the effect of stress on suicide ideation or the effect of difficult life circumstances on women's rates of depression.

Finally, the present study clarified the extent to which women's satisfaction with their social support impacts the effects of abuse on women's psychological health. It was hypothesized that social support would moderate the relationship between stress and psychological health problems. Contrary to the finding that women's income level moderated the effects of stress on psychological health, there was little evidence to support the hypothesis that women's satisfaction with their social support buffered the effects of stress on their rates of depression, suicide ideation, or dissatisfaction with their quality of life. Women's satisfaction with their social support from friends and family did not moderate the effects of stressful life events or difficult life circumstances on women's rates of depression or suicide ideation, nor did it moderate the effect of stressful life events on women's dissatisfaction with their quality of life. Social support did appear to moderate the relationship between difficult life circumstances and women's

dissatisfaction with their quality of life. However, the pattern of regression lines indicated that the benefit of social support was greater at lower levels of stress than at higher levels of stress. At high levels of difficult life circumstances, women with high rates of social support were no more likely to report less dissatisfaction with their quality of life than were women with low rates of social support.

Major Descriptive Findings

As expected, approximately half (52%) of the sample had been physically and/or sexually assaulted by an intimate partner or ex-partner within six months prior to their interview. Most "abused" women had experienced multiple forms of physical abuse. Nearly all of the women in the "abuse" group reported that a partner or ex-partner had pushed, shoved, or grabbed them, and more than half had said that they had been kicked, punched, or choked. In addition to being physically assaulted in other ways, one out of three women had been raped by her partner or ex-partner. For many women, the physical and/or sexual assaults occurred at least two or three times a month. These findings coincide with reports from previous research on the number, severity, and frequency of physical assaults by intimate partners (Cascardi & O'Leary, 1992; Eby, 1996; Sato & Heiby, 1992; Sutherland et al., 1998).

All women who indicated they were in an intimate relationship or who had been in contact with an abusive ex-partner during the previous six months were asked questions about psychological abuse. Most women said that their partners or ex-partners had used at least one form of psychological abuse, and eight forms of psychological abuse were endorsed by more than half of the women. Considering that 10% of these women had not been physically assaulted by an intimate partner or ex-partner within the

previous six months, these findings indicate that many women had experienced psychological abuse even though they had not been physically harmed. They also suggest that various forms of psychological torment often accompany physical abuse. Eby (1996) found similar results when comparing a community sample of "abused" and "non-abused" low-income women. Since previous researchers have indicated that batterers use a variety of tactics to establish power and control in a relationship, and that many of the tactics involve some form of emotional or psychological abuse that may either precede or accompany physical assaults, these findings were not surprising.

For the most part, the physical health problems women experienced were similar to those reported in previous studies (Eby, 1996; Kerouac et al., 1986; Sutherland et al., 1998). Sixty-one percent of the women in the current study rated their general health status as good or excellent, which was slightly higher than the reported 55% of women from a shelter population (Kerouac et al., 1986). Women in the current study reported an average of 16 physical health symptoms. The most common physical health symptoms experienced were low energy, sleep problems, headaches, muscle tension, back pain, and fatigue. The rate at which women experienced each symptom coincided with previous estimates from a community sample of low-income women (Eby, 1996) and a sample of women who recently left a battered women's shelter (Sutherland et al., 1998).

In addition to the physical health symptoms, women also experienced a wide range of chronic health problems such as allergies, arthritis, and repeated or long-term infections. The number of women who had chronic health problems such as allergies (45%) and arthritis (20%) was nearly four times higher than the number reported in a previous study of a shelter population (Kerouac et al., 1986). This discrepancy is most

likely an artifact of the recruiting strategy and selection bias. The newspaper advertisements described the study as research about women's health issues. It is possible that women who were suffering from chronic health problems had a special interest in the research and elected to participate. Because of the advertisement, more women with chronic health problems may have agreed to participate in this study than in other studies that were not presented as health related.

In regards to women's psychological health, rates of depression, suicide ideation, and dissatisfaction with quality of life were considerably lower than previous studies. Women in the current study indicated that they were generally satisfied with the quality of their lives. Sixty-three percent of the women were at least mildly depressed, with 19% moderately depressed, and 30% severely depressed. Previous rates of depression among shelter populations and women who recently left a shelter were slightly higher (Campbell et al., 1995; Cascardi & O'Leary, 1992; Sato & Heiby, 1992). However, Campbell et al.'s (1997) community sample of battered women (recruited through newspaper advertisements and bulletin board postings) had depression rates that were slightly lower than the current population. Their figures indicated that 40% of the sample were at least moderately depressed, whereas 49% of the women in the current study were considered moderately depressed.

Prevalence rates for depression among women in the general population are typically lower than those found in studies of battered women. For example, we would expect to see that rates of depression were higher among shelter populations because of their living situation as well as their immediate state of crisis. Most women who seek safe shelter from an abusive partner do so as a last resort. They often leave their homes

with little more than the clothes they were wearing at the time of the assault. While in the shelter, they must deal with the loss of their home and their personal possessions. They must also deal with decisions for their future, like where they are going to live. Women who are not residing in a shelter may deal with the same types of issues, but the need for resolution may not appear as imminent.

Forty-one percent of the women in the current study said they had thought about ending their lives within the six months prior their interview. Of the twenty-two women who had attempted suicide, 19(86%) had been assaulted by an intimate partner or ex-partner. The rate of suicide attempts among the "abused" group was considerably lower than rates found in previous research on battered women (Stark & Flitcraft, 1988). However, these findings do indicate that the women who had been abused by an intimate partner or ex-partner were at a much greater risk for suicide than were women who had not been assaulted.

In terms of stress, the women in the current study experienced an average of six difficult life circumstances and nine stressful life events. The most common forms of stress were related to financial issues such as long-term debts, problems with their credit rating, and having less money than usual. Eby (1996) reported similar results in her comparative study. Problems with credit rating, long-term debts, and substandard housing were the most commonly cited stressors among the low-income women in her study. While it was expected that women in the current study would report fewer or at least different types of stressors (i.e., due to the inclusion of women from higher income levels), it is also likely that women from all income levels experience financial problems. Interestingly, substandard or unaffordable housing was not one of the more common

issues for women in the current study, but it was for the low-income women in Eby's study. Inadequate housing is a common stressor for low-income women and a primary risk factor for many health problems.

Percent poverty rates for the entire sample were computed to estimate women's income level. While nearly equivalent rates of women fell within the low-income range or the middle-income range, the average monthly household income (194% poverty level) was slightly below the low-end of the middle-income range. This finding indicates that most of the women had household incomes well below what was anticipated. Unfortunately, that means that the current study did not include as broad a range of income levels as would have been needed to clearly differentiate the effects of income on women's stress and health from those attributable to experiences of abuse. There are two possible explanations for this finding.

First, it is possible that the percent poverty rates inaccurately represented women's financial status. The percent poverty rates were calculated using U.S. Census poverty threshold figures, which are derived from average household income estimates. Since the average household income estimates are heavily influenced by men's annual income (i.e., head of household), it is possible that the poverty thresholds used in calculating the sample's percent poverty rates were too high. This would mean that when compared to household estimates, the women's incomes in this study placed them at lower percent poverty levels than if compared with poverty thresholds based on annual female household incomes. For example, in 1996 the median household income earnings was $35, 492, but for female householders the median income was $16,398. Sixty-two percent of the women in the current study were considered female heads of household

(i.e., not living with or married to a partner). The median annual household for the women in this study was higher than the national population (i.e., $19,200), yet their percent poverty rates indicated they were on average slightly above low-income range. In essence, this means that the women in the current sample may in fact accurately represent women from both low-income and middle-income groups.

An alternative explanation for the apparent restricted range of incomes has to do with the recruiting strategy. All women were recruited using newspaper advertisements and flyers. It is possible that this passive recruitment strategy limited access to women from higher income levels. They may have been reluctant to participate in a study about domestic violence and health. Social stereotypes typically characterize intimate partner violence as a low-income issue. Women from higher income groups may have been unwilling to discuss their experiences because of the stigma attached to the issue. A more active approach might have been more successful in encouraging women to talk about their experiences.

Even though the income range was not as broad as expected, the current study did improve upon previous researcher's efforts to differentiate the effects of abuse from those due to poverty. Less than 40% of the sample reported incomes at or below poverty (100% poverty threshold) and approximately 40% reported incomes that were considered above low-income (>200% poverty threshold). The income range was also sufficient to detect significant moderating effects of income on the relationship between women's experiences of stress and their rates of depression and dissatisfaction with their quality of life.

Path Model of Hypothesized Relationships among Constructs

To what extent does intimate partner violence affect women's physical health?

To better understand the process by which intimate partner violence affects women's physical health, eight direct and indirect relationships were hypothesized. The first three hypotheses implied direct relationships between abuse and injuries, injuries and physical health problems, and a mediating effect of injuries on the relationship between abuse and physical health problems.

First, it was hypothesized that abuse would have a direct effect on women's experiences of injuries. The results demonstrated that abuse did have a moderate impact on the number of injuries women reported. Women who reported high levels of abuse had more injuries than did women who reported lower levels of abuse. Subsequently, the number of injuries women reported was positively related to their rate of physical health problems. Women who reported higher numbers of injuries reported higher rates of physical health problems than did women with fewer injuries. Finally, the number of injuries women sustained was found to partially mediate the impact of abuse on women's health problems. This finding suggests that the extent to which women experience abuse-related health problems depends, in part, on the number of injuries they sustain when physically assaulted. Women who sustained fewer injuries were less likely to report high rates of physical health problems than were women who sustained greater numbers of injuries. These findings seem to support previous assumptions about the effect of injuries on battered women's physical health (Alpert, 1995; Berrios & Grady, 1991; Council on Scientific Affairs, AMA, 1992; Eby et al., 1995; Goldberg & Tomlanovich, 1985; Haber & Roos, 1985; McCauley, et al., 1995; Randall, 1990; Sutherland et al, 1998). However,

it is important to note that injuries had a small mediating effect on the relationship between abuse and physical health problems. Abuse-related injuries, alone, did not adequately account for women's physical health problems. This finding was not surprising; the model contained an alternate explanation for the relationship.

Interestingly, when the structural model was tested, the residual covariance estimates indicated a unique relationship between the number of injuries women sustained and their rate of suicide ideation. It is possible that some other factor common to both variables, such as a reduced ability to escape the violence, could account for their relationship. Women who reported high rates of injuries would have less physical ability to escape a partner's violence or to protect themselves. Similarly, women who sustained greater numbers of injuries may have felt that suicide was the only escape option available to them. Another possibility may be that women who scored higher on the measure of suicide ideation had attempted suicide at least once and therefore, may have had greater likelihood of sustaining injury from the suicide attempt. In both cases, the cross-sectional nature of the research design precludes us from drawing any conclusions about the direction of the relationship – i.e. that women's rates of injuries were caused by their suicide attempts or that women's thoughts and attempts of suicide were due to the number (and/or severity) of injuries they sustained. Therefore, it would be premature at this point to assert a theoretical significance to the relationship.

The remaining five hypotheses proposed relationships between abuse and physical health that were mediated by women's levels of stress and psychological health. The first of these hypotheses suggested a direct relationship between women's experiences of abuse and their levels of stress. The results demonstrated a strong positive relationship

between abuse and stress, indicating that women who experienced high levels of abuse reported higher rates of stress than did women whom experienced lower levels of abuse. Commensurate with Eby's (1996) study results, this finding clearly demonstrates that intimate partner violence is stressful for women. Previous researchers have assumed that the physical violence would be stressful in itself. The descriptive findings of the current study suggest that an intimate partner's violence may exacerbate or even cause other sources of stress such as financial insecurity, housing instability, problems with employment, and arguments with neighbors, friends, and family members. When responding to questions about difficult life circumstances and stressful life events, less than one third of the entire sample reported that they had been victims of a violent crime such as rape or assault, and 31% said they had experienced regular arguments with their partner. These proportions were much lower than would be expected since more than half the sample had been physically assaulted within the six months prior to the interview. These findings suggest that while some women identified with the stressfulness of the violence they experienced, other abuse-related factors may have been more salient stressors for the majority of survivors.

The extent to which battered women's experiences of specific stressors differ from women who have not survived intimate partner violence is not clear and deserves further investigation. However, we do know that the dynamics of intimate partner violence extend beyond the physical assaults, and the results of the current study clearly demonstrate that a violent partner's determination to assert power and control in a relationship strongly impacts survivor's stress levels.

The second hypothesis, that women with high levels of stress would report higher rates of psychological health problems, was confirmed as well. The results of structural equation modeling techniques demonstrated a strong positive relationship between stress and psychological health. Concomitant stress levels explained an estimated 83% of the variance in women's rates of psychological health problems (i.e., depression, dissatisfaction with quality of life, and suicide ideation). These findings suggest that women's levels of stress have a considerable impact on their psychological health. Similar results have emerged in previous research not specifically related to intimate partner violence (Kendler et al., 1995; USDHHS, 1993a, 1993b; Vilhjalmsson, 1993) and in studies specifically addressing the health effects of abuse (Campbell et al., 1997; Eby, 1996).

A third hypothesis was examined to determine the extent to which women's levels of stress mediated the relationship between abuse and psychological health. The results indicated that stress had a strong mediating effect on the direct relationship between abuse and psychological health (i.e, when including women's stress levels in the model, the relationship between abuse and psychological health problems was no longer significant). That women's stress levels significantly mediated the relationship between abuse and their rates of depression, suicide ideation, and dissatisfaction with their quality of life is an important finding for a couple of reasons. First, it confirms previous researcher's contentions that it is the stress of surviving intimate partner violence that places women at risk for psychological health problems. Several researchers have proposed a stress-response theory to explain the long-term residual impact of abuse on women's psychological health (Browne, 1992; Campbell et al., 1997; Eby, 1996; Jaffe et

al., 1986; Koss, 1990), yet few have empirically tested this assumption. Finding a significant mediating effect is a key first step toward empirically substantiating the stress-response theory.

Second, women's responses on the stress measures demonstrated that intimate partner violence wreaks havoc in women's lives beyond what they experience physically. Much of what women identified as stressful did not specifically relate to the violence they experienced, but did relate to financial, relationship, and employment issues. This strongly suggests that a survivor's psychological health is jeopardized by the detrimental impact the violence has on other parts of her life – her financial security; her relationship with neighbors, friends, and family members; and her ability to secure employment. Demonstrating that the mediating effect of abuse-related stress on women's psychological health encompasses much more than the violence itself is another key step toward fully understanding the extent to which intimate partner violence compromises women's livelihood.

Two final hypotheses were examined to determine the effect of abuse-related stress on women's physical health. The first hypothesis suggested a direct relationship between women's psychological and physical health. The second hypothesis indicated that women's psychological health mediated the relationship between women's stress levels and their rates of physical health problems. That is, women's stress-related levels of depression, dissatisfaction with quality of life, and suicide ideation would explain the high rates of physical health problems women experienced when assaulted by an intimate partner.

The results demonstrated a strong positive relationship between women's psychological and physical health. Similar findings have been documented well in previous research (Betrus et al., 1995; Hays et al., 1995; Judd et al., 1996; Leino & Magni, 1993; Lewinsohn et al., 1996; Sutherland et al., 1998; Von Korff et al., 1993; Von Korff & Simon, 1996). In addition, women's psychological health was found to partially mediate the relationship between stress and physical health. These findings suggest two things. First, while women's stress levels affect their experiences of physical health problems, concomitant rates of psychological health problems impact the strength of the relationship between stress and physical health. The stress associated with surviving intimate partner violence has been shown to have a resounding impact on women's levels of depression, suicide ideation, and dissatisfaction with their quality of life (Eby, 1996). Since previous research has demonstrated that there is a strong connection between psychological and physical health, it was not surprising to find that the impact of abuse-related stress on women's physical health was partially explained by the psychological health problems they also reported.

On the other hand, these findings also indicated that women's rates of depression, suicide ideation, and dissatisfaction with their quality of life did not fully account for the relationship between abuse-related stress and physical health problems. This means that the relationship between stress and women's physical health is more complex than was initially proposed. For example, it is possible that women's stress had a direct impact on their physical health as well as an indirect effect. Health psychologists and medical researchers have shown that individuals with elevated stress levels are more susceptible to cardiovascular heart disease (CHD) and various infectious diseases even when

controlling for psychological health problems (Adler & Matthews, 1994). Research on the physiological mechanisms that directly link stress to diseases is still relatively new, yet there is evidence to suggest that for some people, stress increases blood pressure and heart rate and may even decrease their immune system's ability to fight infectious diseases (see Adler & Matthews, 1994). Subsequently, these physiologic responses to stress have been linked with long-term health problems such as myocardial ischemia, angina, and upper respiratory infections.

Determining whether or not the variance in women's rates of physical health symptoms and general health status were due to specific physiological mechanisms was beyond the scope of the current study. However, exploratory ad hoc analyses were performed to examine whether including a direct path between stress and physical health problems would improve model fit. The assumption was that a significant direct relationship between stress and physical health, even when controlling for the mediating effect of psychological health problems, would provide some evidence of a physiologic response to stress. The results of the ad hoc analyses indicated that including a direct path between stress and physical health did not significantly improve the model's fit to the data. While women's stress levels may have increased their susceptibility to health problems, the results of the ad hoc analyses provided little evidence to indicate that physiologic responses accounted for a significant portion of the variance in their rates of physical health symptoms and general health status. Perhaps other factors such as health-related behaviors (e.g., smoking, diet, exercise, and alcohol use) played a more crucial role in determining the physical health outcomes of stress. Clearly, the relationship

between stress and women's physical health is a complex issue that warrants further investigation.

To what extent does women's income impact the relationship between abuse and their physical health? Three hypotheses were tested to examine the extent to which a woman's income impacted the relationship between abuse and physical health. First, it was hypothesized that income would have a direct negative effect on women's stress levels; women with lower income levels (percent poverty levels) would report higher levels of stress than would women with higher income levels. Second, it was hypothesized that income level would have a direct negative effect on women's rates of physical health problems; women with lower income levels would report higher rates of physical health problems than would women with higher income levels. Third, the model suggested that women's income levels would buffer the impact of stress on their psychological health.

The results indicated that income did have a negative effect on women's stress levels; women with higher incomes reported significantly less stress than did women with lower incomes. This finding is consistent with previous research about the effects of income on stress (Belle, 1990; Fuller et al., 1993; Mcleod & Kessler, 1990; Thoits, 1982) and suggests that women's financial status determined somewhat the extent to which they experienced stressful life events and daily hassles. However, the small magnitude of the direct relationship between income and stress ($\beta = -.13$) also indicates that the variance in women's stress levels was not fully explained by their financial status.

Interestingly, while living in poverty seems to have predisposed women to higher levels of stress, it did not directly impact the extent to which they reported physical health problems. Previous researchers have postulated that living in poverty increases individual's susceptibility to various infectious diseases, chronic health problems, and other illnesses through substandard and crowded housing conditions and exposure to toxic substances. Furthermore, low-income women have limited access to quality health care and preventive services, often receive delayed treatment for illnesses, and rarely have a regular sources of medical care (Bindman et al., 1995; Kington & Smith, 1997; Weissman et al., 1991). Combined, these factors have led researchers to assume a direct relationship between poverty and compromised physical health. Contrary to this assumption, the results of the current study indicated that low-income women were no more likely to report higher rates of physical health symptoms or lower general health status than were women with higher incomes. This contradiction with previous research may be due to several factors.

First, it is possible that there wasn't sufficient variance in women's income levels to detect significant association between income and physical health problems. As noted earlier, most of the women's annual household incomes were within low- and middle-income ranges. Only two-percent of the women reported incomes above the middle-income range. The overrepresentation of women living in poverty or at the low-end of the middle-income range might have reduced the likelihood of finding a significant relationship. However, while there was a higher proportion of women who reported low- and middle-incomes as compared to those who reported higher incomes, there was sufficient variance to detect a significant correlation between income and general health

status (r = -.29) as well as income and physical health symptoms (r = -.27) (see Table 14. Uncorrected Correlation Matrix of Observed Variables).

Another possible explanation for the lack of corroboration between the current study's findings and those of previous research might have to do with differences in the way income level is operationalized. In the current study, income level was operationalized as a measure of women's annual household income and weighted according to the number of people it supported. Previous researchers commonly used multiple indicators to ascertain participant's income level (i.e., socioeconomic status): education level, employment status, housing stability, occupation, access to a car, and health insurance (Stronks et al., 1997). While researchers have established a significant correlation between income and these other indicators of socioeconomic status (e.g., Stronks et al., 1997), there is a possibility that a woman's household income, alone, does not sufficiently account for the health problems she experiences.

Other income-related factors such as having a job, owning a house, and having a higher level of education may have a greater impact on women's health than their actual household income. For example, Stronks et al. (1997) found that the high rates of unemployment among low-income individuals explained a large portion of the variance in their perceived general health and number of chronic health problems. Since these same factors have been commonly used by previous researchers to differentiate income levels, perhaps the socioeconomic inequalities of health status were due to a variety of issues strongly related to a participant's household income, but not to the actual income itself. Perhaps using a broader conceptualization of income level – one that incorporated

factors such as employment status, education level, and housing stability – would have yielded findings more consistent with those of previous research.

The extent to which women's income levels moderated the effect of stress on their psychological health remains unclear. The results indicated that a woman's income level buffers the effect of stressful life events on levels of depression and dissatisfaction with their quality of life. The patterns of the interaction effects were as expected; the effect of stress on women's levels of depression and dissatisfaction with their quality of life were much greater for women with lower income levels than for women with higher income levels. A similar pattern emerged between women's experiences of difficult life circumstances and dissatisfaction with their quality of life. Having greater income appeared to minimize the effect of stress on women's psychological well-being – at least with respect to their experiences of depression and dissatisfaction with their quality of life. Intuitively, these findings make sense. Having a greater income may not prevent stressful events from happening, but it may provide women with access to resources needed to resolve the stressful situation. Knowing that resources are available, or perceiving the stressful event as a temporary occurrence may protect women from the negative effects of stress. Conversely, living on poverty-level incomes not only restricts women's options for resolving stressful situations, but it may also negatively influence the way women perceive their quality of life during periods of high stress – especially if the situation is considered long-term.

A woman's income level did not appear to buffer the extent to which stress impacts her thoughts or attempts of suicide. No significant interaction effects were found

when the moderating effect of income on the relationship between stressful life events or difficult life circumstances and suicide ideation was assessed.

To summarize, income level appeared to have little direct impact on the relationship between abuse and women's physical and psychological health. Women's experiences of abuse accounted for more of the variance in stress levels than did percent poverty rates, and women with higher income levels were no more likely to report lower rates of physical health problems than were women with poverty-level incomes. There was some evidence to suggest that having a higher income buffers the relationship between stressful life events and women's rates of depression and dissatisfaction with their quality of life. Combined, these findings suggest that income may serve a more indirect function than a direct one.

Six separate regression equations were examined to determine the moderating effect of social support on the relationship between stress and psychological health. Of the six analyses, only the interaction between social support and difficult life circumstances revealed a significant moderating effect on the relationship between difficult life circumstances and women's dissatisfaction with their quality of life. The pattern of regression lines indicated a negative buffering effect; the impact of high social support was stronger at low levels of stress than it was at high levels of stress. Although this finding contradicts the traditional conceptualization of a buffering effect, similar "negative effects" have been found in previous research related to chronic strain (Cummins, 1988) and job-related stress (Ganster, Fusilier & Mayes, 1986; Kaufman and Beehr, 1986). Perhaps the emotional and tangible support friends and family can provide to women when they are dealing with fewer daily hassles (e.g., long-term debts, problems

with credit rating, not enough privacy, frequent illnesses, etc.) isn't enough to address women's needs when they are dealing with many daily hassles. This may be particularly relevant for women who are surviving intimate partner violence.

The results of the present study demonstrated that surviving intimate partner violence is very stressful for women, and that the dynamics surrounding a partner's violence extend beyond the violence itself to other factors in women's lives – especially their relationships with family and friends. Having social resources available to address some of the issues associated with daily circumstances may alleviate the effects of those hassles on women's perceptions of their quality of life, but may not be sufficient to nullify the detrimental effects their partner's violence. Furthermore, survivors often noted that while they could "lean on" friends and family for emotional and tangible support to address daily problems, they were less likely to receive the kind of support they needed if they sought assistance regarding their partner's violence. Sometimes emotional and financial support would be provided on a conditional basis (i.e., only if they left the assailant) or in a judgmental fashion (e.g., "I don't know why you put-up with it.").

Overall, the present study provided little empirical evidence to support a buffering theory of social support. Instead, the findings seemed to suggest that the alternative "main effects" theory more adequately represented this sample's experiences; social support exerted a significant direct inverse effect on rates of depression, suicide ideation, and dissatisfaction with quality of life regardless of stress levels in all but one of the six analyses. Similar findings were reported in Eby's (1996) study on low-income women; she found no evidence to support a buffering role of social support, but did reveal a direct

effect. Therefore, while it appears that having satisfactory social support may be beneficial to women's psychological well-being, more research is needed to clarify the extent to which having adequate social support addresses the complex issues faced by survivors of intimate partner violence.

Methodological Limitations

The present study helped to clarify the relationship between intimate partner violence and women's psychological and physical health. First, the results demonstrated that stress is a key factor determining the extent to which abuse impacts women's health outcomes. Women who had been assaulted by an intimate partner or ex-partner reported significantly more injuries than did "non-abused" women, but those injuries provided little explanation for the health problems women experienced. Second, the results indicated that while a woman's low-income status may contribute to her level of stress and subsequent health problems, having higher levels of income does little to buffer the consequences of violence. These findings seem to confirm previous assumptions about the process by which intimate partner violence compromises women's psychological and physical health. However, several methodological issues limit the interpretation and generalizability of the results.

One methodological limitation of the current study was the restricted range of income. One goal of the present research was to examine the extent to which women's income level impacts the effect of intimate partner violence on psychological and physical health. To achieve this goal, specific strategies were employed to recruit women from various income levels. Women from both low-income and middle-income groups were successfully recruited to participate in the study. However, the actual range of

household incomes (i.e., percent poverty) within the middle-income group was much lower than originally anticipated. Most of the women representing the middle-income group had incomes at the low end of the income range for that group. This methodological flaw limits the interpretability and generalizability of the results for two reasons. First, the lack of variability in income levels created a skewed distribution in the data. The existence of a non-normal distribution may have reduced the likelihood of detecting a significant relationship between income and physical health. On the other hand, the zero-order correlation matrix (see Table 14, Uncorrected Correlation Matrix of Observed Variables) revealed significant relationships between income and all three physical health indicators. These relationships disappeared when combined with other relationships in the structural model. Therefore, the extent to which the skewed distribution impacted the likelihood of detecting a relationship between income and physical health outcomes, once the full model was tested, remains unclear.

Second, the restricted range of income may limit the generalizability of the research findings. A key criticism of previous research was that much of what we know about the effects of abuse on women's health has been derived from studies of low-income women. One could not assume that similar concerns existed for middle or high-income women. While this study substantially improves our understanding about the effects of poverty on the relationship between abuse and women's health, it provides limited information about the experiences of women in the higher income ranges.

The recruitment strategy represents another potential methodological limitation of the current study. The strategy used to recruit participants limited both the interpretation and generalizability of results in two ways. First, while the newspaper advertisements

were a successful tool for encouraging women to participate in the study, this strategy limited random selection of study participants. Only those women who saw the advertisements and were willing to discuss their health issues and/or experiences of abuse were likely to participate in the study. This means that the generalizability of results may be limited to those women who had access to a newspaper and who wanted to talk about their experiences. While it is difficult to ascertain the degree to which their experiences of abuse or health problems differ from women who didn't participate, it would be short-sighted to assume that the results of this study can be generalized to all battered women.

Second, the newspaper advertisements may have been more effective in recruiting women from higher income levels than women from high-income levels. Although researchers and advocates note that intimate partner violence affects women from all income levels, social stereotypes suggest that domestic violence is predominately a low-income problem. The stigma associated with intimate partner violence may deter women with higher incomes from publicly disclosing their experiences. Newspaper advertisements may have been too passive an approach to encourage these women to talk about their partner's violence. A more effective strategy may be to actively recruit women through physician's offices or other less public settings.

A third methodological limitation was the cross-sectional nature of the research design. Although the cross-sectional design clarified the process by which intimate partner violence effects women's health problems, it also restricts our ability to assert causal direction among the relationships. The results demonstrated that abuse had a strong impact on women's stress levels and that stress was highly associated with both psychological and physical health problems. However, the extent to which intimate

partner violence resulted in elevated stress levels or that abuse-related stress caused the health problems remains unclear. For example, it is possible that women's stress levels were exacerbated by their health problems. It is also difficult to ascertain the extent to which women's experiences of stress were directly caused by a partner's violence, indirectly associated with abusive episodes, and/or exacerbated by the abuse. Clarification of these issues would require a longitudinal design.

Implications for Intervention, Policy, and Future Research

Intervention and Policy. Despite the methodological limitations, the results of the current study did highlight several implications for intervention, policy, and future research. One key finding of the current study was that women's stress levels were a substantial link determining the effects of abuse on women's psychological and physical health. This finding indicates that one way to reduce the deleterious health effects of intimate partner violence is to alleviate related stressors. Eliminating the violence from women's lives would be the best way to alleviate ongoing stressors and subsequent health problems. In addition, domestic violence survivors may benefit from proactive community-based interventions that are designed to identify and address their unmet needs.

Mobilizing community resources to fulfill women's unmet needs in addition to reducing the violence in their lives may effectively reduce levels of depression, suicide and other psychological health concerns and prevent the onset of various physical health problems. Increasing the amount and quality of women's social support may directly impact their psychological well-being to some extent, but there was little evidence to suggest that friends and family provided the kind of support survivors needed when

dealing with their partner's violence. Further research is needed to fully understand the complex dynamics of intimate partner violence and how both formal and informal support systems can effectively reduce the detrimental effects of abuse on women's psychological and physical health. However, the results of the present study do strongly support a comprehensive community response.

Injuries were found to mediate the effect of abuse on physical health problems, however the impact of those injuries as less pronounced than the impact of stress. This finding has strong implications for health care practitioners who rely on visible injuries identify and treat domestic violence survivors. Battered women often seek medical attention for numerous health problems that appear unrelated to any specific injury or predisposing health condition. In many cases, a physician may be the only person women feel comfortable talking to about their partner's violence. This provides health care providers with an opportunity to identify domestic violence survivors and to provide information about helpful community resources. If physicians rely on the presence of injuries to question women about violence, they may miss the chance to provide valuable assistance. As important, they may misdiagnose the underlying cause of the health problems or provide treatment options that could actually jeopardize women's physical and psychological well-being.

Health care providers can increase the likelihood of early identification and intervention by utilizing a more comprehensive screening procedure for all female patients. Such a procedure would entail sensitively asking women about experiences of domestic violence on a routine basis, but especially in cases where women present multiple health complaints in lieu of injuries. Similarly, health care providers can

improve their response to domestic violence survivors by educating themselves on the dynamics of abuse as well as on relevant resources available in their communities.

Future research. Although the current study expanded our understanding about the process by which abuse effects women's psychological and physical health, there are several areas that need further exploration. First, the extent to which women's income level impacts the stress battered women experience remains unclear. A broader range of incomes was included in the current study to address this issue, but it may have been insufficient to fully differentiate the effects of poverty from those of intimate partner violence. This may have been due to the recruitment strategy. Future researchers may elect to use more proactive methods of recruiting women from higher income levels.

Second, more longitudinal research is needed to fully understand how the dynamics of an abusive relationship leads to elevated stress levels in women's lives. It seems logical to assume that repeated assaults would be stressful for women. However, other factors indirectly related to the violence may exacerbate the stress already present in women's lives.

Third, further research is needed to determine the long-term impacts of abuse-related stress on women's health. While the present study demonstrated that high levels of stress associated with intimate partner violence was the primary factor determining women's psychological and physical health outcomes (i.e., compared to injuries), the cross-sectional nature of the research design limits our ability to fully understand how these relationships change over time. It is clear that higher levels of abuse were associated with higher levels of stress and that high levels of stress were associated with higher rates of depression, suicide ideation, and dissatisfaction with quality of life. The

use of structural equation modeling techniques rather than straight correlational analyses strengthened the directional interpretation of these relationships. However, they also highlighted the complex nature of these relationships, particularly with respect to the mediating effect of stress; for example, do women's stress levels increase in response to the increased rate of their partner's violence or does it increase in a cumulative fashion? Does the abuse cause the increase in daily hassles, exacerbate already stressful living circumstances, or both? To what extent is the relationship between psychological well-being and women's stress levels reciprocal? Will reducing the stress in women's lives counteract the impact of violence on her health? Examining how these relationships change over time would provide a more comprehensive understanding about the effects of intimate partner violence on women's health.

Finally, further research examining the reciprocal nature of the relationship between physical and psychological health outcomes would enhance our understanding about the resounding impact of intimate partner violence on women's overall health. For example, it is possible that a reciprocal relationship exists between the physical and psychological health outcomes or that physical health outcomes may mediate the effects of stress on women's levels of depression, suicide ideation, and dissatisfaction with their quality of life. The findings of the current study do suggest that community-based response initiatives should include interventions that address the psychological well-being of battered women as well as those that focus on their physical health. In addition, longitudinal research may help to explicate the complex relationships among abuse-related stress, physical health outcomes, and psychological well-being.

# APPENDICES

# APPENDIX A

Flyer and Newspaper Advertisements

# ATTENTION WOMEN!!

## We May Need Your Help!

The MSU Women's Health Project is looking for women who are between 18 and 45 years old.

We need women who are willing to take part in a ***confidential*** interview about numerous aspects of their health and life circumstances. By participating in this confidential interview, you will help our efforts to make Lansing more responsive to your needs as well as the needs of other women in your community.

Women who qualify will be paid for their valuable time and information

***For more information on how you can help,***
***call 353-8867***

*We are available Monday - Friday from* 9:00am to 7:00pm.

*Your participation is completely confidential.*

# HAVE YOU BEEN HURT BY SOMEONE YOU LOVE?

## We May Need Your Help!

**IF** you are a woman between 18 and 45 years old

*AND*

**IF** you've been pushed or grabbed or slapped or hit or kicked (or worse) in the last 6 months, even if only once, by someone you've dated or been in a relationship with,

Please call the MSU Women's Health Study to take part in a ***confidential*** interview about your life and health. Please help us make your community more responsive to your needs as well as the needs of other women in your community.

Women who participate will be paid for their time.

***For more information on how you can help, call 353-8867***

*We are available* Monday - Friday *from* 9:00am to 7:00pm.
*Your participation is completely confidential.*

# HAVE YOU BEEN HURT IN A RELATIONSHIP?

**Violence affects the lives of women from ALL income levels. YOUR experiences are important to us!**

- **IF** you have an annual household income that is greater than $16,500

- **IF** you are a woman between 18 and 45 years old

- **IF** you've been pushed or grabbed or slapped or hit or kicked (or worse) in the last 6 months, even if only once, by someone you've dated or been in a relationship with,

Please call the MSU Women's Health Study to take part in a ***confidential*** interview about your life and health. Please help us make your community more responsive to your needs as well as the needs of other women in your community. Women who participate will be paid for their time.

*We are available Monday - Friday from* 9:00am to 7:00pm.
*Your participation is* ***completely confidential***.

***For more information on how you can help,***
***call 353-8867 OR 1-800-500-2416***

# M.S.U. WOMEN'S STUDY
# Wishes to Talk with You!

We would like to talk with middle income women who are 45 years or younger. We want to learn about various aspects of your life including your health, relationships, and stress.

The interview lasts approximately 1 and a 1/2 hours and is ***absolutely confidential***. You will be compensated for your time.

**Your unique experiences are important.**

Call us Monday through Friday from
9:00 am to 7:00 pm so that we can schedule a convenient time to talk.

We can be reached at **432-3673**.

# M.S.U. WOMEN'S STUDY
# Wishes to Talk with You!

We want to learn about various aspects of your life including your health, relationships, and stress. We would like to speak with women who:

- are between the ages of 18 and 45
- have an annual household income of $12,00 or less

The interview lasts approximately 1 and a 1/2 hours and is ***absolutely confidential***. You will be compensated for your time.

**Your unique experiences are important!**

Please call us Monday through Friday from 9:00 am to 7:00 pm so that we can schedule a convenient time to talk.

We can be reached at:
**432-3673** or **1-800-500-2416**

# APPENDIX B

## Recruitment Script and Screening Form

# Women's Health Project

Flyer/Advertisement Recruitment

**WHEN A WOMAN TELEPHONES INQUIRING ABOUT THE STUDY:**
Allow me to tell you a little about the project. As you may know, Michigan State University conducts much of its research in the Lansing community in an effort to address key local issues. The Women's Health Project is following this tradition by talking with Lansing women about their health and life circumstances. For example, one of the things that we would like to better understand is the general health of women who have been physically harmed by an intimate partner or ex-partner. Would it be possible for me to ask you a couple of questions in order to determine if you can participate in this study?

1. **Could you tell me where you found out about us?**

*(Please read these questions slowly and record all responses on a Personal Contact Form)*

2. **What is your current relationship status?**
   (IF SHE IS CURRENTLY IN A RELATIONSHIP OR IS DATING SOMEONE GO TO QUESTION 4. IF SHE INDICATES THAT SHE IS CURRENTLY NOT IN A RELATIONSHIP OR IS NOT DATING ANYONE GO TO QUESTION 3.)

3. **Have you been involved in a relationship or dated someone in the last six months?**

4. **We are interviewing women between 18 and 45 years old, do you fall within this age range?** (YES/NO)

(IF SHE RESPONDS, "**NO**," SHE IS NOT ELIGIBLE/QUALIFIED FOR THIS STUDY):
I'm sorry but at this time we are only accepting women who have been physically harmed by a partner or ex-partner within the past six months and who are between the ages of 18 and 45. We want you to know, though, that we really appreciate your interest in our project. Thanks for giving us a call.

(IF SHE SAYS, "**YES**," CONTINUE WITH SCRIPT)

5. **Have you been physically harmed by a partner, ex-partner or someone you have dated in the past six months? By this I mean, anytime in the past six months when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained or any other physical act that may have harmed you?** (YES/NO)

(IF THE WOMAN RESPONDS, "**NO**,")

- ASK IF SHE HAS EXPERIENCED ANY OTHER TYPE OF PHYSICAL HARM THAT WAS NOT LISTED.
- ASK IF SHE HAS HAD ANY CONTACT WITH HER EX-PARTNER IN THE PAST 6 MONTHS - IF SHE SAYS "**YES,**" ASK IF HE/SHE EVER GRABBED, PUSHED, SHOVED, OR USED SOME OTHER PHYSICAL FORCE AGAINST HER DURING THAT TIME
- ASK HER HOW LONG IT HAS BEEN SINCE HE PARTNER OR EX-PARTNER HAS PHYSICALLY HARMED HER

(IF SHE REPORTS THAT SHE HAS NOT HAD ANY TYPE OF PHYSICAL ABUSE, SHE IS NOT ELIGIBLE/QUALIFIED FOR THIS STUDY):

I'm sorry but at this time we are only accepting women who have been physically harmed by a partner or ex-partner, or someone they have dated within the past six months and who are between the ages of 18 and 45. We want you to know, though, that we really appreciate your interest in our project. Thanks for giving us a call.

(IF THE WOMAN RESPONDS, "**YES**," GO TO #6)

6. **Are you experiencing any harm now?** YES NO→**[When did your partner or ex-partner physically harm you last: _____(date)]**

(IF **"YES"** OR DATE IS WITHIN LAST SIX MONTHS, SHE IS ELIGIBLE FOR THIS STUDY):

I'd like to give you a little more information about the study and how your participation can benefit women throughout the Lansing area. As I mentioned earlier, the Women's Health Project was developed so that we could better understand how specific life circumstances affect women's health and well-being. There has been a lot of research on women's health issues over the past 20 years, yet very few health studies exist where women have been asked about their unique life circumstances and experiences. We think this is an important step toward effectively addressing the health needs and concerns of women. Before we can begin to improve the way women's health issues are being addressed in the Lansing area, we need to know what affects women's health. This is why we are asking women to talk with us about their unique experiences. Your experiences can help us to understand how certain life circumstances affect women's health. Do you have any questions so far?

We are asking women to schedule a convenient time for us to ask several questions about their health and life circumstances. The interview is *completely confidential,* and will take approximately two hours to complete. It may be more or less depending on your own unique circumstance. Every woman who is interviewed will be reimbursed $30.00 for her time. We feel that your time is valuable and we would like to compensate you in

some way for taking the time to talk with us. And by agreeing to participate in this confidential interview, we think that you can help us make Lansing more responsive to your needs as well as the needs of other women in the community.

Does this sound like something you would be interested in doing?

(IF SHE SAYS THAT SHE IS INTERESTED, SCHEDULE THE INTERVIEW. IF SHE SAYS THAT SHE IS NO LONGER INTERESTED, ASK HER IF SHE COULD TELL YOU HER REASONS FOR DECLINING. THANK HER FOR HER TIME AND CONSIDERATION)

## PARTICIPANT CONTACT FORM

1. **How did you find out about us?** News Ad *(Be specific)*: _____
   Other:_____

2. **What is your current relationship status?**

3. **Have you been involved in a relationship or dated someone in the past 6 months?**
   YES NO

4. **We are interviewing women between 18 and 45. Do fall within this age range?**
   YES NO

**(ONLY if she is ELIGIBLE)**
Let's go ahead and schedule the interview at a time and location that works best for you.
Day/Date: _____ Time: _____ AM PM

Since you will be asked several personal questions about your health and life circumstances, the location should be a place that is **private and where you will feel comfortable**. We conduct interviews at a variety of locations. Most of our interviews are done at the American Red Cross. They provide space for us weekday mornings and evenings as well as on the weekends. If the American Red Cross does not work for you, it is possible to meet on campus or at your home.

Location: _____

Your interviewer's name is _____, and she will contact you within 24 hours before your interview just to confirm the time and location, if that's okay with you.

Could I have your name and phone number?

Name: _____ Phone Number: _____

When is the best time of day to get hold of you? AM (hours) _____ PM (hours) _____

Is there a time when it is inconvenient for her to call you at this number? _____

If she cannot reach you at the number you gave, is there another number or way for her to get hold of you?

*(write as much information as you can about getting in touch with her - use back)*

The project number is **(517) 432-3673**. You're welcome to leave a message at any time if someone is not here when you call. Thank you so much, _____, for calling us.

# APPENDIX C

## Interviewer Training Syllabus and Training Schedule

**Syllabus:**

PSY 490: Independent Study with The Women's Health Project

SUPERVISOR:

Cheryl Sutherland
104 Baker Hall
353-8867(w); 337-3248(h)
Office Hours: by appointment

COURSE PURPOSE:

This course is the first in a two semester sequence of conducting field research. The overall course sequence was designed to broaden your knowledge about the relationship between stressful life circumstances and women's health issues; to provide you with the necessary skills in recruitment and interviewing techniques, data collection, data coding, and computer data entry; and to give you general experience in conducting research in community settings.

The first semester of the course sequence is an introduction to the Women's Health Project. We will explore women's psychological and physical well-being within the context of topics such as Women in the Workforce, Social Role Conflicts, Women and Personal Safety, and Stress: Effects on Women's Health. More importantly, students will receive extensive training in recruiting and interviewing skills, and will be expected to complete several case interviews. The second semester of the sequence will focus on completion of interviews along with further discussion of stress, social support, women's health, and issues related to conducting community research.

FORMAT:

This course will involve several components. These components include: weekly training, readings, and discussion of relevant concepts; homework; interview case responsibility; and weekly supervision of interview progress. We will meet twice a week for about a total of 3 hours throughout the first semester. We will meet once a week throughout the second semester. There will be no midterm or final for this course, however, we will meet both registration and finals weeks.

Weekly training, readings, and discussion. Readings have been assigned for the first seven weeks of training. Students are expected to do the readings each week prior to class and come to class prepared to ask questions and discuss what they've read. Part of your grade will be based on your class participation. Because we will soon be out in the community interviewing women, it is important that we know you have prepared each week. Please feel free to ask any and all questions that you may have, no question is too silly or too small to be discussed.

Case responsibility. Your cases are the women you are interviewing each week. These will be assigned on an as needed basis approximately halfway through the first semester. Efforts will be made to equalize the workload and number of cases that each student will have, although obviously students who have signed up for more credits will be conducting more interviews. It is hoped that you will receive an average of two interviews per week. No student will receive a case until the supervisors have determined that you are ready to begin interviewing. Case responsibility will constitute the most significant part of your grade after training has ended. Several components of case responsibility will be evaluated. These include:

1) Maintaining confidentiality
2) Contacting the interviewee and screening for her eligibility for the study
3) Conducting the interviews correctly and on time
4) Coding the interviews correctly and on time
5) Reporting your case to your supervisory group and handing in all materials on time

Homework. There will be weekly homework assignments for this class. During training, homework assignments will include weekly readings, discussion topics, thought papers, practice interviews and screening procedures, and current events. After training, homework assignments will simply be your case responsibility and current events. Your homework is important because it was designed to better help you master the material. You must complete your homework assignments on time and in full. Assignments not turned in on time or complete will not be given full credit.

Weekly supervision. Once you have been assigned a case, class will consist of current events and weekly supervision. Attendance is mandatory and participation a must. All interview materials should be brought to class completely coded, with any questions you may have had clearly documented. In this way, your supervisory group will be able to help you in the most efficient way. Supervision may include any or all of the following components: listening to and coding other students' interviews, discussing issues surrounding interviewing and woman battering, brainstorming additional recruitment strategies and efforts, making decisions about coding rules, and reviewing and role-playing various scenarios. Our group is designed so that everyone can give each other feedback and suggestions, we would like it to be interesting and fun, as well as instructive.

GRADING CRITERIA:

Due to the unique nature of this two semester course, the grading criteria may be different from those of other classes you have taken. Please be sure that you fully understand the grading criteria as outlined, as no exceptions will be made.

Attendance and Class participation. During training, 50% of your grade will be based on your attendance in class and your class participation. Attendance is critical in a class such as this because we only meet twice a week, and each week we will discuss a new topic and learn another aspect of the interviewing process. Therefore, attendance is mandatory. If you miss more than one class, you will fail the course. If you must miss class, it is imperative that you contact your supervisor within one day of class so that I can meet with you to make up what you missed. Failing to do so will earn you zero credit for that week. It is also imperative that you come to class on time and do not make plans to leave class early. Tardiness will also result in a grade reduction for that week. Class participation will be expected every week and includes sharing current events, asking questions, discussing the readings, discussing other issues or concepts, and actively listening and providing feedback to your colleagues. After training is completed, 30% of your grade will be based on your attendance and your class participation.

Homework. During training, the other 50% of your grade will be based on your homework assignments. This includes doing the weekly readings, your discussion topics, thought papers, bringing in current events articles to share, and turning in practice interviews on time and in full.

Case responsibility. After training is over, 70% of your grade will be based on your case responsibility for each of the cases to which you are assigned. Please see Criteria for Calculating Case Responsibility. This includes completion of interviews by the agreed upon date and promptness of handing in data. Case responsibility further includes correctly coding the interviews before coming to class. In addition, interviewers must demonstrate a reasonable amount of diligence and flexibility in attempting to contact interviewees and setting up interviews. Grades will be reduced if the entire interview packet is not turned in at the designated class meeting.

All interviewers are expected to conduct themselves in a professional manner with all women. This includes keeping scheduled appointments, being on time to appointments, conducting quality interviews, and treating all women with respect and courtesy.

**Please Note: Random checks will be done with the women to verify that they received their money, that you were on time for your appointment, and that you conducted the interview in an appropriate manner.

If circumstances arise that prevent the accomplishment of any of the above-mentioned criteria, it is the interviewer's responsibility to keep her supervisor informed and up-to-date on any problems that may exist. This should be done as soon as the problem arises, and not when the interview is past due.

EXCEPTIONS TO THE GRADING CRITERIA:

1) Anyone violating confidentiality during the course of the semesters will automatically be terminated as an interviewer and will receive a 0.0 for each term of participation. This means not discussing your case with anyone, including family, roommates, and partners. Even if you share information without revealing the woman's name, this is still considered a violation of confidentiality. This also means not having anyone accompany you to the woman's house, even if it is to drop you off. Please be sure to keep your interview folders out of sight of everyone. Also please conduct phone conversations with women from a private location. The only people you can discuss cases with are those in your supervisory group.

2) Your grade for the first semester will be recorded as "incomplete" on your report card. You will receive separate grades at the end of your second semester, not one averaged grade. Should you drop out or be terminated before your commitment date, you will receive a 0.0 for each semester of participation. If you need documentation of your grade for a job, graduate school, or financial aid, just ask and we will provide this to you.

3) We reserve the right to not assign cases to interviewers whom we feel have not demonstrated an adequate grasp of the interviewing techniques or the interviewing process. Should this occur, you will be terminated from the project and will receive a 0.0 for each semester of participation. We will not take such action without making every effort on our part to resolve the problem(s) first.

CRITERIA FOR CALCULATING CASE RESPONSIBILITY

As indicated earlier, a percentage of your weekly grade is comprised of case responsibility. This encompasses the following components: 1) making a diligent effort to complete your interview on time; 2) filling out your tape, progress report, and interview correctly and completely; and 3) following project guidelines when conducting and completing your interviews. Case responsibility grades will be calculated in the following way:

4.0: Interview is completed on time or the most diligent effort was made to do so. Cassette tape, progress report, and interviews are filled out with no errors. Interview was completed with no errors. (If you have coding questions that you ask in class, your grade will not be reduced)

3.0: Interview is completed on time or a diligent effort was made to do so. Cassette tape, progress report, and interviews are filled out with less than 3 minor errors. Interview was completed with fewer than 2 errors.

2.0: Interview is either not completed on time due to a lack of diligent effort on the part of the interviewer, and/or cassette tape, progress report, and interviews are filled out with 3-6 minor errors, and/or interview was completed with 2-5 errors.

1.0: Interview is either not completed on time due to negligence on the part of the interviewer, and/or cassette tape, progress report, and interviews are filled out with 7-8 minor errors, and/or interview was completed with 6-7 errors.

0.0: Interview is either not completed on time due to lack of any effort on the part of the interviewer, and/or cassette tape, progress report, and interviews are filled out with 9 or more minor errors, and/or interview was completed with 8 or more errors.

# Introduction

***Week 1***

Welcome

Overview of the Women's Health Project and the role of the interviewer

Review Syllabus and Training schedule

Agreement to Interview for the Project

Review homework for next week

**READINGS FOR NEXT WEEK (Women in the Workforce):**

1) Nelson, D.L., Quick, J.C., Hitt, M.S., and Moesel, D. (1990). Politics, lack of career progress, and work/home conflict: Stress and strain for working women. Sex Roles, 23(3/4), 169-185.

2) Matthews, K.A. and Rodin, J. (1989). Women's changing work roles: Impact on health, family, and public policy. American Psychologist, 44(11), 1389-1393.

3) Amatea, E.S. & Fong, M.L. (1991). The impact of role stressors and personal resources on the stress experience of professional women. Psychology of Women Quarterly, 15, 419-430.

4) Reifman, A., Biernat, M., & Lang, E.L. (1991). Stress, social support, and health in married professional women with small children. Psychology of Women Quarterly, 15, 431-445.

5) Garcia, S.A. (1989). My sister's keeper: Negative effects of social welfare and affirmative action programs on black women. Sex Roles, 21(1&2), 25-43.

6) Spaights, E. & Whitaker, A. (1995). Black women in the workforce: A new look at an old problem, Journal of Black Studies, 25(3), 283-296.

**HOMEWORK:**

1) Bring in one article/current events on women in the workforce.
2) Thought paper: 2 pages typed (no more or less please) on the readings
3) Interview one woman from community about work experiences as related to the readings
4) Prepare discussion of readings

# Women in the Workforce

***Week 2***

Current Events

Talk about Readings and thought papers

Review homework for next week

**READINGS FOR NEXT WEEK (Social Role Conflict):**

1) Barnett R.C. and Baruch, G.K. (1985). Women's involvement in multiple roles and psychological distress. Journal of Personality and Social Psychology, 49(1), 135-145.

2) Barnett, R.C., Havidson, H., & Marshall, N.L. (1991). Physical symptoms and the interplay of work and family roles. Health Psychology, 10(2), 94-101.

3) Katz, M.H. and Piotrkowski, C.S. (1983). Correlates of family role strain among employed black women. Family Relations, 32(3), 331-339.

4) McBride, A.B. (1990). Mental health effects of women's multiple roles. American Psychologist, 45(3), 381-384.

5) Pugliesi, K. (1989). Social support and self-esteem as intervening variables in the relationship between social roles and women's well-being. Community Mental Health Journal, 25(2), 87-100.

6) Hays, P.A. and Zouari, J. (1995). Stress, coping, and mental health among rural, village, and urban women in Tunisia. International Journal of Psychology, 30(1), 69-90.

**HOMEWORK:**

1) Bring in at least one article/current events on a women and social (multiple) roles.
2) Thought paper: 2 pages typed on the readings
3) Prepared discussion of readings
4) Interview one woman about social (multiple) role issues

# Women and Multiple Roles

## *Week 3*

Current Events

Talk about Readings and thought papers

Discuss interview

Review homework for next week

**READINGS FOR NEXT WEEK (Women and the Global Economy):**

1) Discrimination Against Women in the Global Economy (1992). WIN, 18(1), 9-10.

2) Corcoran, M., Duncan, G. J., & Hill, M. S. (1984). The economic fortunes of women and children: Lessons from the panel study of income dynamics. Signs: Journal of Women in Culture and Society, 10(2), 232-248.

3) Heath, J.A. & Ciscel, D.H. (1988). Patriarchy, family structure and the exploitation of women's labor. Journal of Economic Issues, 22(5), 781-794.

4) Amott, T. & Matthaei, J. (1988). The promise of comparable worth: A socialist-feminist perspective. Socialist Review, 18(2), 101-116.

5) Zambrana, R.E. (1988). A research agenda on issues affecting poor and minority women: A model for understanding their health needs. 137-160.

6) Belle, D. (1990). Poverty and women's mental health. American Psychologist, 45(3), 385-389.

**HOMEWORK:**

1) Bring in one article/current events on women and finances or economy.
2) Thought paper: 2 pages typed on the readings
3) Prepare discussion of readings
4) Interview one woman about financial issues

# Women and the Global Economy

***Week 4***

Current Events

Talk about Readings and thought papers

Discuss Interview

Review homework for next week

**READINGS FOR NEXT WEEK (Women and Personal Safety)**

1) Browne, A. (1993). Violence against women by male partners: Prevalence, outcomes, & policy implications. American Psychologist, 48(10), 1077-1087.

2) Heise, L. (1993). Violence against women: The missing agenda. In M. Koblinsky, J. Timyan, & J. Gay (Eds.), The Health of Women: A Global Perspective, pp. 171-187.

3) Okun, L. (1986). History. In Woman Abuse: Facts Replacing Myths, pp.1-10.

4) Finkelhor, D. & Yllo, K. (1985). The myth and reality of marital rape. In License to Rape: The Sexual Abuse of Wives, pp. 13-36.

5) Gondolf, E. (1988). The survivor theory. In Battered Women as Survivors, 11-25.

6) Goodman, L. A., Koss, M. P., & Russo, N. F. (1993). Violence against women: Physical and mental health effects. Part I: Research findings. Applied and Preventive Psychology, 2, 79-89.

**HOMEWORK:**

1) Bring in one article/current events on a women and personal safety.
2) Thought paper on the readings
3) Prepare discussion of readings
4) Interview one woman about personal safety issues

# Women and Personal Safety

***Week 5***

Current Events

Talk about readings and thought papers

Discuss interview

Discuss homework assignment

**READINGS FOR NEXT WEEK (Women's Health Status)**

1) Elliot, S.J. (1995). Psychosocial stress, women and heart health: A critical review. Social Science and Medicine, 40(1), 105-115.

2) Lempert, L. B. (1986). Women's health problems: A review of the literature. Health Care for Women International, 7, 255-275.

3) Woods, N.F., Lentz, M., & Mitchell, E. (1993). The new woman: Health-promoting and health-damaging behaviors. Health Care for Women International, 14, 389-405.

4) Driscoll, M., Cohen, M., Kelly, P., Taylor, D., Williamson, M., & Nicks, G. (1994). Women and HIV. In Alice J. Dan's (ed.), Reframing Women's Health: Multidisciplinary Research and Practice. Sage Publications: Thousand Oaks, CA., 175-186.

**HOMEWORK:**

1) Bring in one article/current events on the effects of stress on women's health.
2) Thought paper on the readings
3) Prepare discussion of readings

# Stress: Effects on Women's Health

***Week 6***

Current Events

Talk about readings and thought papers

Discuss how practicing Eligibility/Screening and phone calls went

Review first 1/3 (up through Social Support Section) of the WHP Questionnaire - please take detailed notes

Practice asking questions in-class

Review homework for next week (tape screening for eligibility; fill-out worksheet)(practice and tape first 1/3 of the interview)

**READINGS FOR NEXT WEEK (Women's Health Care - Faulty Systems?):**

1) Dahl, R.W. (1992). Women's mental health care - into the '90s. Perspectives in Psychiatric Care, 28(4), 29-31.

2) Davis, K. (1995). Editorial: The federal budget and women's health. American Journal of Public Health, 85(8), 1051-1052.

3) Hawkins, J.W. and Aber, C.S. (1988). The content of advertisements in medical journals: Distorting the image of women. Women & Health, 14(2), 43-59.

4) Patient-doctor relationship

5) Women and their physicians

6) Mongella, G. (1995). Global approaches to the promotion of women's health. Science, 269(11), 789-790.

**HOMEWORK:**

1) Thought paper (same as always) on the readings.
2) Practice with someone different from class and turn in interviews and tape next week. Write down any and all questions and bring to class.

# Women's Health Issues

*Week 7*

Current Events

Talk about Readings and thought papers

Discuss how practicing first 1/3 of interview went

Review second 1/3 (up through Stress Section) of the WHP Questionnaire - please take detailed notes

Practice asking questions in-class

Review homework for next week (tape screening for eligibility; fill-out worksheet)(practice and tape second 1/3 of the interview with a different student from class)

**READINGS FOR NEXT WEEK (Cultural Sensitivity: Women of Color)**

1) Ehrenreich, B. (1991). Two, three, many husbands. In G. Kaufman (Ed.), In Stitches: A Patchwork of Feminist Humor and Satire, pp. 27-31.

2) Gordon-Bradshaw, R. H. (1987). A social essay on special issues facing women of color. Women and Health, 12, 243-259.

3) Helms, J. E. (1992). Various selections from A Race is a Nice Thing to Have.

4) Lockhart, L. & White, B. W. (1989). Understanding marital violence in the black community. Journal of Interpersonal Violence, 4(4), 421-436.

5) McIntosh, P. (1989). White priviledge: Unpacking the invisible knapsack. Peace and Freedom, 10-12.

**HOMEWORK:**

1) No thought papers or discussion questions
2) Current Event article on cross-cultural issues
3) Complete reading assignment & prepare questions for class
4) Practice second 1/3 (Health & Stress section) of WHP interview with a different person from class
5) Turn in interview and tape during class next week. Write down all questions and comments about interview to discuss during class.

# Cultural Sensitivity/Women of Color

***Week 8***

Guest Speaker - workshop on cultural sensitivity

Current Events

Discuss reading assignments

Talk about how practice of second 1/3 of interview went

Review final 1/3 of the interview - take detailed notes

Discuss homework assignment - practice entire interview with a different person from class. Turn in interviews and tape next week; written summary of course so far.

(LAST WEEK OF READINGS!!) Values, empathy, effective communication skills packet

**HOMEWORK:**

1) This time entire interview will be practiced from beginning to end. Turn in tape, interview, and additional forms next class period, with any questions that may have come up.
2) 1-2 page summary about your thoughts on the course so far
3) Current Event on any topic related to women's health

# Empathy and Values

***Week 9***

Current Events

Discuss Readings

Class exercises and discussion: values, empathy, effective communication skills

Review additional paperwork to be filled out: consent form, reimbursement voucher

Discuss mock project interview homework

Schedule 30 minute conferences with your supervisors to review progress, strengths, and weaknesses before class the next week.

**HOMEWORK:**

1) Bring in current events articles related to the project
2) Meet with your supervisor

# Week 10

Discuss and review major issues for mock-interviews

Review general issues of interviewer's responsibilities, What To Do If?....

Review tracking techniques

**HOMEWORK:**

1) Bring in article for current events
2) First interviews or tasks related to recruitment

# Week 11

Case supervision
Discuss interviews

**HOMEWORK:**

** Bring in article for current events
** Interviews and recruitment as needed

**Weeks 12 – 16 > case supervision; interviews to be turned-in Friday prior to class so we can get feedback to you in a timely fashion.**

# APPENDIX D

## Participant Agreement Form

**PARTICIPANT AGREEMENT**
**MSU WOMEN'S HEALTH PROJECT**

The Women's Health Project is a research study conducted through Michigan State University designed to better understand the different aspects of women's physical and emotional health. You will be interviewed one time, for which you will be paid $30.00. It is expected that the interview will take approximately two hours. We feel it is important to know exactly what you are agreeing to, so it is outlined below:

1. My involvement in this research study has been fully explained to me and I am volunteering to participate. I realize that I may discontinue my participation at any time without penalty.

2. I agree to be interviewed by the Women's Health Project. I understand that I will be paid $30.00 for completing the interview. I understand that I will be asked questions about the social support I receive, abuse experienced (if applicable), and my physical health, including questions about drug and alcohol use and at-risk sexual behavior. I understand I may choose not to answer certain questions without penalty.

3. I understand that any information I provide to anyone involved with The Women's Health Project will be held in the **strictest confidence** and that my anonymity will be protected. I understand this to mean that anyone involved with the project may not disclose my participation in the project in any way.

4. I understand that I may receive results of this project, if I desire, after its completion by calling or writing the Women's Health Project (whose business card I've received).

OPTIONAL:

I agree to have the interview tape recorded to ensure accuracy of information. I understand that I can request that the tape recording be stopped at any time. I also understand that this cassette tape will be held in the strictest of confidence, that my name or any identifying information will not be recorded or marked on the tape, and that it will be destroyed after the completion of the research study.

YES___ NO ____

| _____ | _____ | _____ |
|---|---|---|
| Participant Signature | Project Staff | Date |

# APPENDIX E

## Women's Health Study Interview

Respondent ID# _____

1

# Women's Health Project

Interview

Name_____

Okay, we're almost ready to start. I just want you to know that all of the information that you have given me that has any identifying information on it, such as your name, phone number, and address, will be filed in a separate folder with only your identification number on it. This top page of the interview will also be filed in that folder. The actual interview, that has all of the information that you are about to tell me, has no identifying information on it at all. The only thing on the interview is your identification number. So, there is no way that if someone were to look at this interview, that they would be able to tell who you were from the information here. Okay?

The Women's Health Project is a research study that is interested in talking with women about their health. Despite the recent increase in research related to women's health, we know little about the relationship between specific life circumstances and women's overall well-being. In order for us to effectively address the health needs of Lansing Area Women, we need your help. The information you provide is crucial to our understanding of women's health issues. Therefore, we will be asking you about various health concerns that you have right now, in addition to asking you about other aspects of your life that may be affecting your health.

Do you have any questions before we get started?

Respondent ID# _____
2

Interviewer ID# _____
Time Interview Started _____

First, I'd just like to ask you some general questions about yourself. Later, I'll be asking several questions about events that may have occurred within the past six months or since_____.

1. How would you describe your current marital/relationship status?

DO NOT READ OPTIONS UNLESS NEEDED FOR CLARIFICATION

MARRIED, LIVING TOGETHER ..... 1
MARRIED, SEPARATED ..... 2
**(GO TO #1a)**
DIVORCED ..... 3
**(GO TO #1a)**
GIRLFRIEND/BOYFRIEND, LIVING TOGETHER ..... 4
GIRLFRIEND/BOYFRIEND, NOT LIVING TOGETHER ..... 5
DATING, NOT GIRLFRIEND/BOYFRIEND ..... 6
NOT CURRENTLY DATING ANYONE ..... 7
OTHER (_____) ..... 0

1a. Are you in a relationship with someone new now?

YES (explain:_____) ..... 1
NO ..... 2
(not applicable) ..... 8

2. How many children do you have? (INCLUDES CHILDREN BY BIRTH, ADOPTION, GUARDIANSHIP, AND REMARRIAGE OR LIVE-IN RELATIONSHIP) _____
**(IF NO CHILDREN, GO TO #3)**

2a. What are their ages? (INDICATE NUMBER IN EACH AGE RANGE: NO CHILDREN = 88)

_____ UNDER FIVE YEARS OLD
_____ 5 TO 12 YEARS OLD
_____ 13 TO 18 YEARS OLD
_____ OVER 18 YEARS OLD

**(IF ALL CHILDREN ARE GROWN, GO TO #2c)**

2b. What type of custody do you currently have of your children?

(IN COURT PROCESS)
(DIVORCED: EQUAL CUSTODY)
(NO CUSTODY)

FULL ..... 1
TEMPORARY ..... 2
JOINT ..... 3
NONE ..... 4
(CHILDREN ARE GROWN) ..... 5
OTHER (_____) ..... 6
NO CHILDREN ..... 8

2c. How many of your children are currently living with you?_____
(SHE HAS NO CHILDREN) ..... 88

**(IF NO CHILDREN LIVING AT HOME, GO TO #3)**

**(ASK ONLY IF #2C IS LESS THAN #2)**

2c1. How old are the children who are currently living with you?

_____ UNDER FIVE YEARS OLD
_____ 5 TO 12 YEARS OLD
_____ 13 TO 18 YEARS OLD
_____ OVER 18 YEARS OLD

2d. Raising children is a large responsibility. In the very least, caregiving may involve preparing meals, arranging doctor appointments, assisting with homework, and providing adult supervision. In some families several people pitch in to take care of 100% of the responsibilities. In other families, only one person does it all. In your family, what percent of the childraising duties do you take care of?

_____%

(IF LESS THAN 100%) Who takes care of the other percent of childcare responsibilities?

_____ _____%

_____ _____%

_____ _____%

3. In the last six months, have you been employed?

**(GO TO #3a)** YES ..... 1
**(GO TO #3d)** NO ..... 2

3a. **(IF YES)** Are you employed right now?

YES ..... 1
NO ..... 2
(not applicable) ..... 8

3b. What type of work do/did you do? (IF EMPLOYED IN PAST 6 MONTHS)

_____

(NOT EMPLOYED IN PAST SIX MONTHS = 8)

3c. Do/did you work full-time, part-time or temporarily (seasonal, off and on)?
(FULL TIME = 35 HOURS PER WEEK OR MORE)

FULL-TIME ..... 1
PART-TIME ..... 2
TEMPORARY ..... 3
(not applicable) ..... 8

3d. Do you receive any of the following benefits?

| | OWN | ELSE | NONE | DK | N/A |
|---|---|---|---|---|---|
| MEDICAL INSURANCE ..... | 1 | 2 | 3 | 7 | |
| DENTAL INSURANCE ..... | 1 | 2 | 3 | 7 | |
| EYE CARE ..... | 1 | 2 | 3 | 7 | |
| SICK LEAVE ..... | 1 | 2 | 3 | 7 | 8 |
| MATERNAL LEAVE ..... | 1 | 2 | 3 | 7 | 8 |
| OTHER (_____) ..... | 1 | 2 | 3 | 7 | 8 |

4. Are you currently a student?

**(GO TO #4a)** YES ..... 1
**(GO TO #5)** NO ..... 2

4a. Part-time or full-time?

PART-TIME ..... 1
FULL-TIME ..... 2
(not applicable) ..... 8

5. What's your current educational level?

LESS THAN HIGH SCHOOL ..... 1
HIGH SCHOOL GRAD/ GED ..... 2
SOME COLLEGE ..... 3
VOCATIONAL/TRADE SCHOOL ..... 4
BACHELOR'S DEGREE ..... 5
POST-BACHELOR'S DEGREE ..... 6
OTHER (_____) ..... 0

Respondent ID# _____
5

6. I know a lot of people don't like to talk about the amount of money they make, but it can be related to their health status. Would you mind telling me your current *gross* household monthly income? **(MAKE SURE THIS INCLUDES ANY GOVERNMENT ASSISTANCE, CHILD SUPPORT, JOB EARNINGS, DIVIDENDS, AND INCOME OF HER PARTNER - IF APPLICABLE)**

JOB EARNINGS _____/ MONTH

OTHER INCOME _____/ MONTH

AVERAGE MONTHLY INCOME = _____/ MONTH

6a. How many people does this monthly income support? _____

7. How much of this income do you directly bring into the home rather than another adult (INCLUDE CHILD SUPPORT AS HER INCOME)?

PROBE TO ENSURE ACCURACY OF RESPONSE

NONE OF THE INCOME ..... 1
1/4 OF THE INCOME OR LESS ..... 2
BETWEEN 1/4 AND 1/2 OF THE INCOME ..... 3
1/2 OF THE INCOME ..... 4
BETWEEN 1/2 AND 3/4 OF THE INCOME ..... 5
3/4 OR MORE OF THE INCOME BUT NOT ALL .. 6
ALL OF THE INCOME ..... 7

**(IF NOT INVOLVED IN A RELATIONSHIP RIGHT NOW, GO TO #9)**

8. How much of this income does your (husband/boyfriend/partner) contribute? (IF SHE BROUGHT IN ALL OF THE INCOME, MARK "1")

NONE OF THE INCOME ..... 1
1/4 OF THE INCOME OR LESS ..... 2
BETWEEN 1/4 AND 1/2 OF THE INCOME ..... 3
1/2 OF THE INCOME ..... 4
BETWEEN 1/2 AND 3/4 OF THE INCOME ..... 5
3/4 OR MORE OF THE INCOME BUT NOT ALL .. 6
ALL OF THE INCOME ..... 7
(not applicable - No Partner) ..... 8

9. Do you have regular access to a car?

YES ..... 1
NO ..... 2

Respondent ID# _____

6

10. As for your current living situation, do you rent, own your home, or have some other living arrangements?

RENTING APT. OR HOME ..... 1
RENTING A ROOM ..... 2
OWN/BUYING YOUR HOME ..... 3
STAYING W/FRIENDS/RELATIVES ..... 4
OTHER(_____) ..... 5

11. How many other adults live in the same home you're in? ____
(HOMELESS.....88)

12. How many children live in the same home you're in? _____
(HOMELESS.....88)

13. What is your date of birth? ___/__/__

14. What is your race or ethnic background? _____

Respondent ID# _____

7

Quality of Life Questionnarire

In this section of the interview, I want to find out how you feel about various parts of your life. Please tell me the feelings you have now, taking into account what has happened in the past six months, and what you expect in the near future. (HAND PARTICIPANT GREEN CARD #1)

On this card are the answers that I'd like you to give me. I'll be asking you about a list of things. After I ask you each question, please tell me what answer on this card gives the best summary of how you feel: either "EXTREMELY PLEASED", "PLEASED", "MOSTLY SATISFIED", "EQUALLY SATISFIED AND DISSATISFIED", "MOSTLY DISSATISFIED", "UNHAPPY", or "TERRIBLE", depending on how you feel about that part of your life. If you feel that a question doesn't apply to you, just let me know.

1 = EXTREMELY PLEASED
2 = PLEASED
3 = MOSTLY SATISFIED
4 = EQUALLY SATISFIED AND DISSATISFIED
5 = MOSTLY DISSATISFIED
6 = UNHAPPY
7 = TERRIBLE
9 = refused to answer

15. First, a very general question. How do you feel about your life overall? ..... ____

16. In general, how do you feel about yourself? ..... ____

17. How do you feel about your personal safety? ..... ____

18. How do you feel about the amount of fun and enjoyment you have? ..... ____

19. How do you feel about the responsibilities you have for members of your family? . ____

20. How do you feel about what you're accomplishing in your life? ..... ____

21. How do you feel about your independence or freedom, that is, how free you feel to live the kind of life you want? ..... ____

22. How do you feel about your emotional and psychological well-being? ..... ____

23. How do you feel about the way you spend your spare time? ..... ____

Social Support Section

Now I'm going to ask you some questions about how you feel about the kind of support and how you feel about the amount of support that you get from friends and family. (GREEN CARD #1)

Again, for each of the questions in the following section I'd like you to use the GREEN CARD #1. If you feel like a question doesn't apply, just let me know.

1 = EXTREMELY PLEASED
2 = PLEASED
3 = MOSTLY SATISFIED
4 = EQUALLY SATISFIED AND DISSATISFIED
5 = MOSTLY DISSATISFIED
6 = UNHAPPY
7 = TERRIBLE
9 = refused to answer

The first couple of questions have to do with companionship.

24. In general, how do you feel about the amount of companionship that you have? ... ____

25. In general, how do you feel about the quality of companionship that you have? ... ____

Okay, thanks. Now I'm going to ask you about a different kind of help that you may receive from others called "advice and information". This means being able to count on folks to provide you with advice and information about personal matters, such as problems with your children, spouse, or dealing with a personal situation. It can also be getting advice or information about resources, such as finding a job or a place to stay, where to find furniture or other material goods, and things like that.

26. In general, how do you feel about the amount of advice and information that you receive? ..... ____

27. In general, how do you feel about the quality of advice and information that you receive? ..... ____

The next couple of questions have to do with another type of support called "practical assistance," for example, people you can count on to help you get things or do things. These are people that you can count on to be dependable when you need help, or that you can count on to do a favor for you, like take you someplace you need to go, watch your kids, loan or give you small amounts of money or something you need.

28. In general, how do you feel about the amount of practical assistance that you receive? ..... ____

29. In general, how do you feel about the quality of practical assistance that you receive? ..... ____

1 = EXTREMELY PLEASED
2 = PLEASED
3 = MOSTLY SATISFIED
4 = EQUALLY SATISFIED AND DISSATISFIED
5 = MOSTLY DISSATISFIED
6 = UNHAPPY
7 = TERRIBLE
9 = refused to answer

Now I'd like to ask you about the "emotional support" that you receive. This can mean being able to count on someone to listen to you when you want to talk about something personal, or feeling that there are people in your life who really care about you.

30. In general, how do you feel about the amount of emotional support that you receive? ..... ____

31. In general, how do you feel about the quality of emotional support that you receive? ..... ____

This last group of questions have to do with the "financial assistance" you may receive or have available to you. This can mean being able to count on someone to loan or give you large amounts of money when you need it. For example, these would be people who could help you pay monthly bills if you were to lose part or all of your income.

32. In general, how do you feel about the amount of financial assisance that is available to you? ..... ____

33. Sometimes, people may provide financial assistance when you need it, and they do it in a way that makes you feel good. Other times, people may provide financial assistance in a way that makes you feel inadequate or bad. In general, how do you feel about the quality or appropriateness of financial assistance that is available to you? ..... ____

34. Now, for the last question about social support, how do you feel, overall, about the amount and quality of the support and help you receive from others? ... ____

Health Questionnaire

These next series of questions are meant to find out more about your physical health. First, I will ask several questions about your general health status. Then, I will ask if you have experienced a variety of physical health problems at some point during your lifetime. If you don't feel that a question applies to you, please just let me know.

35. Okay, let's begin with a few questions about your general health. How would you describe your general state of health right now? Would you say it is:

EXCELLENT ..... 1
GOOD ..... 2
FAIR ..... 3
POOR ..... 4

36. Many women may experience a variety of physical health problems at some point during their lifetime. Some problems last a long time (several years), others occur for a short period of time (few weeks), then either disappear or recur. Please tell me if you ever had any of the following health problems, even if you aren't having the problem anymore?

| | YES, NOW | YES, IN PAST ONLY | NO |
|---|---|---|---|
| High Blood Pressure ..... | 1 | 2 | 3 |
| Heart/Circulation Problems ..... | 1 | 2 | 3 |
| Arthritis ..... | 1 | 2 | 3 |
| Allergies ..... | 1 | 2 | 3 |
| Diabetes ..... | 1 | 2 | 3 |
| Excessive Weight Gain or Loss ..... (2-3 lbs/wk for 3 months) | 1 | 2 | 3 |
| Eating Disorder ..... | 1 | 2 | 3 |
| Cancer (specify: _____) .. (duration: _____) | 1 | 2 | 3 |
| Repeated or Long-term Infections (specify: _____) .. (duration most recent: _____) | 1 | 2 | 3 |
| Have you had any other health problems .. that I did not mention? _____ | 1 | 2 | 3 |

37. Do you currently have a physical health problem or disability that makes it difficult for you to do the things you want or need to do?

**(GO TO #37a)** YES ..... 1
**(GO TO #38)** NO ..... 2

37a. What is the physical health problem or disability? _____
_____

38. Now I have a list of specific symptoms and would like you to answer how much you have experienced these **in the last six months**, or since_____:

(USE **PINK** CARD #3 AND MARK ALL RESPONSES IN COLUMN A)

1=NEVER
2 = ONCE A MONTH OR LESS
3 = 2 OR 3 TIMES A MONTH
4 = ONCE OR TWICE A WEEK
5 = 3 OR 4 TIMES A WEEK
6 = MORE THAN 4 TIMES A WEEK

FOR COLUMN B:
**(Ex-Partner)**
1 = YES
2 = NO
8 = not applicable
9 = no answer
(explain why)
**(# 57)**

FOR COLUMN C:
**(Partner)**
1 = YES
2 = NO
8 = not applicable
9 = no answer
(explain why)
**(#70)**

| | A | B | C |
|---|---|---|---|
| Sleep problems (can't fall asleep, wake up in the middle of the night or early in the morning) | _____ | _____ | _____ |
| Nightmares | _____ | _____ | _____ |
| Back pain | _____ | _____ | _____ |
| Constipation | _____ | _____ | _____ |
| Dizziness | _____ | _____ | _____ |
| Diarrhea | _____ | _____ | _____ |
| Faintness | _____ | _____ | _____ |
| Constant fatigue | _____ | _____ | _____ |
| Migraine headache | _____ | _____ | _____ |
| Headache | _____ | _____ | _____ |
| Nausea and/or vomiting | _____ | _____ | _____ |
| Acid stomach or indigestion | _____ | _____ | _____ |
| Stomach pain | _____ | _____ | _____ |
| Ulcers | _____ | _____ | _____ |
| Hot or cold spells | _____ | _____ | _____ |
| Hands trembling | _____ | _____ | _____ |
| Heart pounding or racing | _____ | _____ | _____ |
| Poor appetite | _____ | _____ | _____ |
| Shortness of breath when not exercising or working hard | _____ | _____ | _____ |
| Numbness/tingling in parts of your body | _____ | _____ | _____ |
| Choking sensations | _____ | _____ | _____ |

Respondent ID# _____



1 = NEVER
2 = ONCE A MONTH OR LESS
3 = 2 OR 3 TIMES A MONTH
4 = ONCE OR TWICE A WEEK
5 = 3 OR 4 TIMES A WEEK
6 = MORE THAN 4 TIMES A WEEK

| FOR COLUMN B: (Ex-partner) 1 = YES 2 = NO 8 = not applicable 9 = no answer (explain why) | FOR COLUMN C: (Partner) 1 = YES 2 = NO 8 = not applicable 9 = no answer (explain why) |
|---|---|

| | A | B | C |
|---|---|---|---|
| Feeling weak all over | _____ | _____ | _____ |
| Pains in your heart or chest | _____ | _____ | _____ |
| Feeling low in energy | _____ | _____ | _____ |
| Blurred vision | _____ | _____ | _____ |
| Muscle tension or soreness | _____ | _____ | _____ |
| Muscle cramps | _____ | _____ | _____ |
| Severe aches and pains | _____ | _____ | _____ |
| Ringing in your ears | _____ | _____ | _____ |
| Pelvic pain | _____ | _____ | _____ |
| Vaginal bleeding or discharge (other than your period) | _____ | _____ | _____ |
| Painful intercourse | _____ | _____ | _____ |
| Rectal bleeding | _____ | _____ | _____ |
| Bladder infections | _____ | _____ | _____ |
| Painful urination (passing water) | _____ | _____ | _____ |

39. Now I'm going to go through a list of common types of injuries people may experience. I would like you to answer how much you have experienced these **in the last six months**, or since_____:

(USE **PINK** CARD #3 AND MARK ALL RESPONSES IN COLUMN A)

1=NEVER
2 = ONCE A MONTH OR LESS
3 = 2 OR 3 TIMES A MONTH
4 = ONCE OR TWICE A WEEK
5 = 3 OR 4 TIMES A WEEK
6 = MORE THAN 4 TIMES A WEEK

| FOR COLUMN B: (Ex-Partner) | FOR COLUMN C: (Partner) |
|---|---|
| 1 = YES | 1 = YES |
| 2 = NO | 2 = NO |
| 8 = not applicable | 8 = not applicable |
| 9 = no answer (explain why) | 9 = no answer (explain why) |

| | | A | B | C |
|---|---|---|---|---|
| A. | Cuts, scrapes, or bruises ..... | _____ | _____ | _____ |
| B. | Soreness without bruises ..... | _____ | _____ | _____ |
| C. | Burns, including rug burns ..... | _____ | _____ | _____ |
| D. | Loose or broken teeth ..... | _____ | _____ | _____ |
| E. | Broken bones or fractures ..... | _____ | _____ | _____ |
| F. | Internal injuries ..... | _____ | _____ | _____ |
| G. | Strains or sprains ..... | _____ | _____ | _____ |
| H. | Dislocated joints ..... | _____ | _____ | _____ |
| I. | Pregnancy complications/miscarriage ..... (NO PREGNANCY in last 6 months = "8") | _____ | _____ | _____ |
| J. | Knife or gunshot wound ..... | _____ | _____ | _____ |
| K. | Permanent scarring ..... | _____ | _____ | _____ |
| L. | Any other injuries not mentioned (_____) ..... | _____ | _____ | _____ |

Respondent ID# _____



In this next set of questions I will ask you about your use of alcohol and drugs, including prescription drugs. It is not uncommon for people to use alcohol or drugs as a way of coping when situations become very stressful or as a form of recreation. Please remember that all of your answers will be kept strictly confidential and answer as truthfully as possible.

40. First, I have a list of substances and would like you to answer about how often you have used each of the following substances **in the last six months**, or since about _____

(USE **PINK** CARD #3, AND MARK ALL RESPONSES IN COLUMN A)

1 = NEVER
2 = ONCE A MONTH OR LESS
3 = 2 OR 3 TIMES A MONTH
4 = ONCE OR TWICE A WEEK
5 = 3 OR 4 TIMES A WEEK
6 = MORE THAN 4 TIMES A WEEK
9 = refused to answer

COLUMN B:
1 = YES
2 = NO
8 = not applicable
9 = no answer
**(#44)**

COLUMN C:
**(Ex-Partner)**
1 = INCREASED
2 = STAYED SAME
3 = DECREASED
8 = not applicable
9 = no answer
**(#59)**

COLUMN D:
**(Partner)**
1 = INCREASED
2 = STAYED SAME
3 = DECREASED
8 = not applicable
9 = no answer
**(#71)**

| | A | B | C | D |
|---|---|---|---|---|
| A. Nicotine (i.e. cigarettes) ..... | _____ / _____ | / _____ | / _____ | / _____ |
| B. Alcohol (any use at all) ..... | _____ / _____ | / _____ | / _____ | / _____ |
| C. Marijuana ..... | _____ / _____ | / _____ | / _____ | / _____ |
| D. Non-prescribed or street drugs. such as cocaine, crack, speed. uppers, heroin, LSD ..... | _____ / _____ | / _____ | / _____ | / _____ |
| E. Sedatives, hypnotics, tranquilizers, or painkillers ..... | _____ / _____ | / _____ | / _____ | / _____ |
| F. Anti-depressants ..... | _____ / _____ | / _____ | / _____ | / _____ |
| G. Inhalants, such as asthma relievers . | _____ / _____ | / _____ | / _____ | / _____ |

41. **(IF SHE HAS USED SEDATIVES, HYPNOTICS, TRANQUILIZERS, or PAINKILLERS)**
Were the sedatives, hypnotics, tranquilizers, or painkillers prescribed by a doctor?

YES ..... 1
NO ..... 2
(not applicable) ..... 8

42.**(IF SHE HAS USED ANTI-DEPRESSANTS)**
Were the anti-depressants prescribed by a doctor?
YES ..... 1
NO ..... 2
(not applicable) ..... 8

43.**(IF SHE HAS USED INHALANTS)**
Were the inhalants prescribed by a doctor?
YES ..... 1
NO ..... 2
(not applicable) ..... 8

**IF ALL OF THE SUBSTANCES (40A-G) EQUAL 1, GO TO #45, AND MARK '8' IN COLUMN B.**

**IF SHE HAS USED ANY OF THE SUBSTANCES, CONTINUE WITH #44, AND MARK ANSWERS IN COLUMN B:**
INTRODUCE THE QUESTION BY SAYING:

44. Some people turn to the types of substances I just mentioned when situations become very stressful for them. Now I will go back to the list of substances I mentioned earlier, and ask if you have used any of them to relieve stress in the **past six months.**

**(GO BACK TO THE BEGINNING OF THE LIST.** FOR EACH ITEM THAT SHE REPORTED USING, **ANY USE AT ALL,** ASK HER IF **SHE HAS USED THAT SUBSTANCE TO RELIEVE STRESS IN THE PAST SIX MONTHS.** MARK ALL OF THESE **ANSWERS IN COLUMN B. IF SHE HAS NOT USED** A PARTICULAR SUBSTANCE **IN THE PAST SIX MONTHS, MARK "8" IN COLUMN B.)**

45. Would you consider yourself to be an:

ASK EACH

ALCOHOLIC ..... 4
HEAVY/ PROBLEM DRINKER ..... 3
RECOVERING ALCOHOLIC ..... 2
NO PROBLEMS WITH ALCOHOL ..... 1 **(GO TO #47)**

46. Have you ever received treatment for alcohol abuse in the past six months?

**(GO TO #46a)** YES ..... 1
**(GO TO #47)** NO ..... 2
(not applicable) ..... 8

46a. What type of treatment have you received?

INPATIENT ..... 1
OUTPATIENT ..... 2
ALCOHOLICS ANONYMOUS ..... 3
(not applicable) ..... 8

47. Would you consider yourself to be:

ASK EACH

ADDICTED TO DRUGS ..... 4
HEAVY/PROBLEM DRUG USER ..... 3
RECOVERING FROM AN ADDICTION TO DRUGS .. 2
NO PROBLEMS WITH DRUGS ..... 1 **(GO TO #49)**

48. Have you ever received treatment for drug abuse in the past six months?

**(GO TO #48a)** YES ..... 1
**(GO TO #49)** NO ..... 2
(not applicable) ..... 8

48a. What type of treatment have you received?

INPATIENT ..... 1
OUTPATIENT ..... 2
NARCOTICS ANONYMOUS ..... 3
(not applicable) ..... 8

49. It is not unusual for some people to think about suicide when life becomes very difficult for them. Because this is one aspect of your overall health and well-being, I'm going to ask a few questions about suicidal thoughts and feelings you may have experienced in the last six months.

How often have you thought about ending your life in the past six months?
(USE **PINK** CARD #3)

NEVER ..... 1 **(IF "NEVER", GO TO #50)**
ONCE A MONTH OR LESS ..... 2
2 OR 3 TIMES A MONTH ..... 3
ONCE OR TWICE A WEEK ..... 4
3 OR 4 TIMES A WEEK ..... 5
MORE THAN 4 TIMES A WEEK ..... 6

49a. Have you told someone else you wanted to end your life in the past six months?

YES ..... 1 ——> HOW MANY TIMES?_____
NO ..... 2 (888 if NO or not applicable)
(not applicable) ..... 8

49b. Have you tried to end your life in the past six months?

YES ..... 1 ——> HOW MANY TIMES? _____
NO ..... 2 (888 if NO or not applicable)
(not applicable) ..... 8

Stress Questionnaire

50. Now I'd like to ask you about a list of problems that can be common for some women. These are difficult situations or circumstances that may make your life more troublesome. For each question I ask, I'd like you to decide if it is a problem for you. You can simply tell me "YES" or "NO". Some of these may not apply to you, but to be consistent, we need to ask them of everyone. If any of these questions make you uncomfortable, or don't apply to you, just let me know.

*IF NOT CURRENTLY IN A RELATIONSHIP, SKIP ITEMS WITH ASTERISK AND MARK '8'

| | | YES | NO | N/A |
|---|---|---|---|---|
| A. | Does your work or school interfere with your family life? .... (IF NOT WORKING OR IN SCHOOL = 8) | 1 | 2 | 8 |
| * B. | Does your partner's work or school interfere with your family life? ..... | 1 | 2 | 8 |
| C. | Have you been hospitalized in the past year for any reason -- accident or illness? ..... | 1 | 2 | 8 |
| * D. | Is your partner away from the home more than half of the time because of a job or other reason? ..... | 1 | 2 | 8 |
| E. | Do you have long-term debts, i.e. more than 2 years? ..... | 1 | 2 | 8 |
| F. | Do you have problems with your credit rating? ..... | 1 | 2 | 8 |
| G. | Do you get hassled by bill collectors or collection agencies? ..... | 1 | 2 | 8 |
| H. | Have you been looking for a job and have not been able to find one? ..... | 1 | 2 | 8 |
| * I. | Are you having regular arguments or conflicts with your present partner or steady girl/boy-friend? ..... | 1 | 2 | 8 |

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| | | YES | NO | N/A |
|---|---|---|---|---|
| J. | Are you having some sort of problem with any one of your former spouses or partners | 1 | 2 | 8 |
| K. | Do you have trouble with your landlord? (IF NOT RENTING = 8) | 1 | 2 | 8 |
| L. | Have you had frequent illnesses this past year? | 1 | 2 | 8 |
| M. | Do you feel you do not have enough privacy? | 1 | 2 | 8 |
| N. | Do you have people living with you, relatives or friends, that you wish weren't there? | 1 | 2 | 8 |
| O. | Do you have neighbors who are unfriendly or are giving you problems? | 1 | 2 | 8 |
| P. | Do you or someone in your household have a longterm illness? | 1 | 2 | 8 |
| Q. | Would you say that you are living in a place that is unsatisfactory or more than you can afford? | 1 | 2 | 8 |
| *R. | Does your partner have a problem with alcohol or drugs? | 1 | 2 | 8 |
| S. | Does someone in your household other than you (or your partner) have a problem with alcohol or drugs? | 1 | 2 | 8 |
| T. | Is someone (other than a current partner) abusing you in any way? | 1 | 2 | 8 |
| * U. | Is your partner in jail? | 1 | 2 | 8 |
| V. | Are you without a phone at your present home? | 1 | 2 | 8 |
| W. | Are any of your children experiencing learning problems or other school problems that require you to consult with the teacher or other school officials? | 1 | 2 | 8 |
| X. | Are any of your children having serious emotional or behavioral problems at home, such as repeated nightmares, tantrums, or outbursts? | 1 | 2 | 8 |

51. Now, I'd like to ask you about different events that may have happened to you in the last six months. Sometimes our current stress level can influence the way we think and feel about an event that happened a while ago. To help you remember how you felt at the time the event occurred, I'd like you to tell me when it occurred. Then, thinking back to that date, tell me how upsetting or stressful the event was for you. (HAND PARTICIPANT ORANGE CARD #5) These are the answers I'd like you to use. Again, some of these may not apply to you, but to be consistent, we need to ask them of everyone. If they do not apply to you, please let me know.

IF THERE WAS MORE THAN ONE OCCURRENCE OF AN EVENT, RECORD THE MOST RECENT ONE. IF THE PARTICIPANT DID NOT EXPERIENCE AN EVENT, LEAVE THE DATE COLUMN BLANK AND MARK "8". IF A WOMAN CANNOT REMEMBER THE EXACT DATE, ASK HER TO ESTIMATE.

1 = NOT AT ALL STRESSFUL
2 = A LITTLE STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL
8 = not applicable

| | | MO/YR | STRESS RATING |
|---|---|---|---|
| I'd like to start with a few questions about your serious relationships. In the last six months have you: | | | |
| A. | Started a steady dating relationship? ..... | __/__ | _____ |
| B. | Ended a steady dating relationship? ..... | __/__ | _____ |
| C. | Married or started a long-term committed relationship? ..... | __/__ | _____ |
| D. | Separated or ended a long-term committed relationship? ..... | __/__ | _____ |
| E. | Reconciled a marital or romantic relationship? ..... | __/__ | _____ |
| F. | Had increased arguments with your spouse or partner? ..... | __/__ | _____ |
| G. | Moved to a new town or neighborhood? ..... | __/__ | _____ |
| H. | Learned that your partner or spouse was unfaithful to you (i.e. was having an affair)? ..... | __/__ | _____ |

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IF THERE WAS MORE THAN ONE OCCURRENCE OF AN EVENT, RECORD THE MOST RECENT ONE. IF THE PARTICIPANT DID NOT EXPERIENCE AN EVENT, LEAVE THE DATE COLUMN BLANK AND MARK "8".

1 = NOT AT ALL STRESSFUL
2 = A LITTLE STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL
8 = not applicable

| | | MO/YR | STRESS RATING |
|---|---|---|---|
| In the last six months have you: | | | |
| I. | Had an affair? | __/__ | _____ |
| J. | Had a serious argument with a friend or neighbor? | __/__ | _____ |
| K. | Started any kinds of classes at school? This includes adult learning, community education, community college, etc. | __/__ | _____ |
| L. | Stopped attending school? | __/__ | _____ |
| M. | Started a new job or experienced a big change in your current job? | __/__ | _____ |
| N. | Has your partner or spouse start a new job or experienced a big change in their current job? | __/__ | _____ |
| O. | Been fired or laid off from your job? | __/__ | _____ |
| P. | Had your partner or spouse been fired, laid off or quit their job? | __/__ | _____ |
| Q. | Had new troubles with your boss or other people at work? | __/__ | _____ |
| R. | Retired? | __/__ | _____ |
| S. | Had your partner or spouse retire? | __/__ | _____ |

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IF THERE WAS MORE THAN ONE OCCURRENCE OF AN EVENT, RECORD THE MOST RECENT ONE. IF THE PARTICIPANT DID NOT EXPERIENCE AN EVENT, LEAVE THE DATE COLUMN BLANK AND MARK "8".

1 = NOT AT ALL STRESSFUL
2 = A LITTLE STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL
8 = not applicable

| | | MO/YR | STRESS RATING? |
|---|---|---|---|
| In the last six months have you: | | | |
| T. | Quit your job? ..... | __/__ | _____ |
| Okay, let's talk a bit about your family. In the last six months have you: | | | |
| U. | Had or adopted a child? ..... | __/__ | _____ |
| V. | Had trouble with your partner's or spouse's family members? ..... | __/__ | _____ |
| W. | Had trouble with one of your family members? (not your partner or spouse) ..... | __/__ | _____ |
| X. | Had a new person move into your home? ..... | __/__ | _____ |
| Y. | Had any serious illness or injuries? ..... | __/__ | _____ |
| Z. | Had any serious illness or injuries happen to your partner or spouse? ..... | __/__ | _____ |
| AA. | Had any serious illness or injuries happen to one of your children? ..... | __/__ | _____ |
| BB. | Had any serious illness or injuries happen to any other family members? ..... | __/__ | _____ |

Respondent ID# _____

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IF THERE WAS MORE THAN ONE OCCURRENCE OF AN EVENT, RECORD THE MOST RECENT ONE. IF THE PARTICIPANT DID NOT EXPERIENCE AN EVENT, LEAVE THE DATE COLUMN BLANK AND MARK "8".

1 = NOT AT ALL STRESSFUL
2 = A LITTLE STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL
8 = not applicable

| | MO/YR | STRESS RATING |
|---|---|---|
| In the last six months have you: | | |
| CC. Had a miscarriage or stillbirth? | __/__ | _____ |
| DD. Found out that you're unable to have children? | __/__ | _____ |
| EE. Started menopause? | __/__ | _____ |
| FF. Had any sexual difficulties? | __/__ | _____ |
| GG. Experienced the death of a child? | __/__ | _____ |
| HH. Experienced the death of a partner or spouse? | __/__ | _____ |
| II. Experienced the death of an other close family member? | __/__ | _____ |
| JJ. Experienced the death of a close friend? | __/__ | _____ |
| KK. Experienced the death of a pet? | __/__ | _____ |
| These next questions have to do with your finances. In the last six months have you: | | |
| LL. Had less money than usual? | __/__ | _____ |
| MM. Taken on a major purchase? | __/__ | _____ |
| NN. Started receiving public assistance? | __/__ | _____ |
| OO. Had your utilities shut off? | __/__ | _____ |

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IF THERE WAS MORE THAN ONE OCCURRENCE OF AN EVENT, RECORD THE MOST RECENT ONE. IF THE PARTICIPANT DID NOT EXPERIENCE AN EVENT, LEAVE THE DATE COLUMN BLANK AND MARK "8".

1 = NOT AT ALL STRESSFUL
2 = A LITTLE STRESSFUL
3 = MODERATELY STRESSFUL
4 = VERY STRESSFUL
5 = EXTREMELY STRESSFUL
8 = not applicable

| | MO/YR | STRESS RATING |
|---|---|---|
| PP. Been without phone service | __/__ | _____ |

Finally, let's talk about your legal status.
In the past six months have you:

| | | |
|---|---|---|
| QQ. Been involved in a law suit or any legal action? | __/__ | _____ |
| RR. Had your driver's license taken away by the police or court? | __/__ | _____ |
| SS. Been a victim of property damage or theft? | __/__ | _____ |
| TT. Been a victim of violent crime, such as rape or assault? | __/__ | _____ |
| UU. Been arrested or convicted of a serious crime? | __/__ | _____ |
| VV. Received a jail sentence or probation? | __/__ | _____ |
| WW. Been released from jail? | __/__ | _____ |
| XX. Had your children taken away from you or been threatened with having your children removed from your home? | __/__ | _____ |

52. Life Circumstances

In this next section of the interview, I will be asking several questions about specific experiences or circumstances you may have had during your **life-time**. We are interested in learning more about how these circumstances affect women's health status, and your experiences are very important to us. Some of these questions may not apply to you, but to be consistent, we need to ask them of everyone. If any of these questions make you feel uncomfortable, or don't apply to you, just let me know.

The first couple of questions refer to specific life circumstances that may have occurred during your **adulthood**.

52A. During your adult life, have you ever taken care of a friend or family member who suffer(s) a terminal or long-term illness (e.g., cancer)?

YES ..... 1
NO ..... 2 **(GO TO #52B)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, EMPLOYMENT, HOUSING ARRANGEMENTS; WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED)**

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☐ relationship to person ☐ duration (when & for how long) ☐ other relationships ☐ employment
☐ housing ☐ support from family & friends ☐ community resources

52B. During your adult life, have you ever gone through an extended period of time when you didn't have enough money to buy food or pay your bills?

YES ..... 1
NO ..... 2 **(GO TO #52C)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **WHO WAS INVOLVED, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, EMPLOYMENT, HOUSING ARRANGEMENTS; COULD SHE RELY ON FRIENDS AND FAMILY FOR HELP; WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED**)

☐ duration (when & for how long) ☐ who was involved ☐ other relationships ☐ employment
☐ housing ☐ support from family & friends ☐ community resources

52C. During your adult life, have you ever been threatened, physically harmed, or sexually assaulted by a partner or ex-partner? This includes any time when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained, or any other physical act that could have harmed you. This can also be any time when sexual activity may have been forced, that is, any sexual activity by a partner or ex-partner that you did not want to happen, but did.

YES ..... 1
NO ..... 2 **(GO TO #52D)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, FEELINGS OF PERSONAL SAFETY, EMPLOYMENT, HOUSING ARRANGEMENTS; COULD SHE RELY ON FRIENDS AND FAMILY FOR HELP; WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED)**

☐ relationship to person ☐ duration (when & for how long) ☐ in last six months ☐ other relationships
☐ personal safety ☐ employment ☐ housing ☐ support from family & friends ☐ comm. resources

52D. During your adult life, have you ever been threatened, physically harmed, or sexually assaulted by a friend or acquaintance? This includes any time when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained, or any other physical act that could have harmed you. This can also be any time when sexual activity may have been forced, that is, any sexual activity by a friend or acquaintance that you did not want to happen, but did.

YES ..... 1
NO ..... 2 **(GO TO #52E)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, FEELINGS OF PERSONAL SAFETY, EMPLOYMENT, HOUSING ARRANGEMENTS; COULD SHE RELY ON FRIENDS AND FAMILY FOR HELP;WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED)**

☐ relationship to person ☐ duration (when & for how long) ☐ in last six months ☐ other relationships
☐ personal safety ☐ employment ☐ housing ☐ support from family & friends ☐ comm. resources

52E. During your adult life, have you ever been threatened, physically harmed, or sexually assaulted by a stranger? This includes any time when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained, or any other physical act that could have harmed you. This can also be any time when sexual activity may have been forced, that is, any sexual activity by a stranger that you did not want to happen, but did.

YES ..... 1
NO ..... 2 **(GO TO #52F)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, FEELINGS OF PERSONAL SAFETY, EMPLOYMENT, HOUSING ARRANGEMENTS; COULD SHE RELY ON FRIENDS AND FAMILY FOR HELP;WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED)**

_____
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_____

☐ relationship to person ☐ duration (when & for how long) ☐ in last six months ☐ other relationships
☐ personal safety ☐ employment ☐ housing ☐ support from family & friends ☐ comm. resources

Now I'd like to shift the focus from your adulthood experiences to a specific circumstance that may have happened when you were a child, or before your 18th birthday.

52F. During your childhood had you ever been sexually harmed by a close family member, relative, or close family friend? That is, did someone you trust ever ask or force you to do any sexual activities. By sexual activity, I mean anything that would involve sexual parts of your body. This would include any kind of sexual exposure, touching, or intercourse that someone you trusted invited or forced (i.e., any sexual activity that you did not want to happen, but did).

YES .....1
NO .....2 **(GO TO #52G)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, AGE IT FIRST HAPPENED, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, FEELINGS OF PERSONAL SAFETY; DID SHE FEEL SAFE TELLING ANYONE ABOUT IT? COULD SHE RELY ON FAMILY AND FRIENDS FOR HELP? WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED**)

☐ relationship to person ☐ age-time it first occured ☐ duration (how long it last) ☐ other relationships
☐ personal safety ☐ tell anyone ☐ support from family & friends ☐ comm. resources

52G. During your childhood had you ever been sexually harmed by someone other than a close family member, relative, or close family friend? That is, did someone else ever ask or force you to do any sexual activities. By sexual activity, again I mean anything that would involve sexual parts of your body. This would include any kind of sexual exposure, touching, or intercourse that someone else invited or forced (i.e., any sexual activity that you did not want to happen, but did).

YES ..... 1
NO ..... 2 **(GO TO #53)**

Can you tell me more about this experience and how it has affected your life?
(PROBE: **RELATIONSHIP TO PERSON, AGE IT FIRST HAPPENED, DURATION; HOW AFFECTED OTHER RELATIONSHIPS, FEELINGS OF PERSONAL SAFETY; DID SHE FEEL SAFE TELLING ANYONE ABOUT IT? COULD SHE RELY ON FAMILY AND FRIENDS FOR HELP? WERE THERE RESOURCES IN THE COMMUNITY SHE COULD RELY ON FOR HELP; DID SHE GET THE HELP SHE NEEDED/WANTED)**

☐ relationship to person ☐ age-time it first occured ☐ duration (how long it last) ☐ other relationships
☐ personal safety ☐ tell anyone ☐ support from family & friends ☐ comm. resources

**[IF SHE HAS HAD ANY CONTACT WITH AN ABUSIVE EX-PARTNER DURING THE PAST SIX MONTHS** (Check #52C) ASK QUESTIONS **#53 THRU # 59]**

**[IF SHE HAS NOT BEEN ABUSED BY AN EX-PARTNER DURING THE PAST 6 MONTHS** (Check #52C) SKIP TO QUESTION **#60, page 36]**

53. You said before that an **ex-partner** (spouse) had been threatening or abusing you in the last six months. I'd like to ask you a few more specific questions about that experience. Is this okay?

I have a list of some things some people do to annoy or hurt their ex-partners. These are emotional kinds of things that can happen in any relationship. Using this card (SHOW **YELLOW** CARD #2), could you tell me how often in the **last 6 months** _____ did any of these things to annoy or hurt you?

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

A. How often has he/she accused you of having or wanting other sexual relationships ..... _____

B. Told you about other sexual relationships he/she wanted or was having in order to hurt you ..... _____

C. Tried to control your money ..... _____

D. Tried to control your activities ..... _____

E. Lied to you or deliberately misled you ..... _____

F. Called you names ..... _____

G. Ignored or made light of your anger ..... _____

H. Ridiculed or criticized you in public ..... _____

I. Criticized your family or friends to you ..... _____

J. Harassed your family or friends in some way ..... _____

K. Discouraged your contact with family or friends ..... _____

L. Threatened to hurt your family or friends ..... _____

M. Used threats to try and have sex with you ..... _____

N. Broken or destroyed something important to you ..... _____

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

O. Abused or threatened to abuse pets to hurt you ..... _____
(NO PETS = "8")

P. Punished or deprived the children when he/she was angry with you ..... _____

Q. Threatened to take the children away from you ..... _____

R. Left you somewhere with no way to get home ..... _____

S. Threatened to end the relationship if you didn't do what he/she wanted .... _____

T. Tried to force you to leave your home ..... _____

U. Threatened to commit suicide when he/she was angry with you ..... _____

54. Has _____ ever physically harmed you in the **last 6 months,** or since _____? This includes any time when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained, or any other physical act that could have harmed you. This can also be any time when sexual activity may have been forced, that is, any sexual activity you did not want to happen, but did.

| | | |
|---|---|---|
| **(GO TO #54a)** | YES | 1 |
| **(GO TO #57)** | NO | 2 |
| | (not applicable) | 8 |

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54a. Now I have list of different types of violence women have experienced from their ex-partners. I wonder if you could tell me, as best as you can remember, how many times in the last six months _____ did any of the following things to you: (USING PINK CARD #3)

| | |
|---|---|
| NEVER | 1 |
| ONCE A MONTH OR LESS | 2 |
| 2 OR 3 TIMES A MONTH | 3 |
| ONCE OR TWICE A WEEK | 4 |
| 3 OR 4 TIMES A WEEK | 5 |
| MORE THAN 4 TIMES A WEEK | 6 |
| (not applicable) | 8 |
| (refused to answer) | 9 |

A. How often did he/she break your glasses or tear your clothing ..... _____

B. Pushed or shoved you ..... _____

C. Grabbed you ..... _____

D. Slapped you with an open hand ..... _____

E. Hit you with a fist ..... _____

F. Kicked you ..... _____

G. Threw something at you ..... _____

H. Aside from throwing, how often did he/she hit you with an object ..... _____

I. Tried to hit you with an object ..... _____

J. Drove recklessly, so that you felt scared or endangered ..... _____

K. Choked you ..... _____

L. Burned you ..... _____

M. Tied you up or physically restrained you in some way ..... _____

N. Beat you up ..... _____

O. Forced any sexual activity you didn't want to happen ..... _____

P. Threatened you with a gun or knife ..... _____

Q. Used a gun or knife against you ..... _____

55. Have you ever become pregnant in the last six months _____?
(GO TO #55a) YES ..... 1
(GO TO #56) NO ..... 2
not applicable ..... 8

55a. (IF YES) Did _____ ever physically harm you during this pregnancy?
YES ..... 1
NO ..... 2
not applicable ..... 8

56. For some people, when someone has been violent, it can change the way they behave. Using the **WHITE CARD** again, do you think that _____'s violence has made you more likely to:

| (USE **WHITE CARD #4**) | NO/ NONE | A LITTLE | SOME | VERY MUCH | N/A |
|---|---|---|---|---|---|
| A. Try to keep him/her from getting mad ..... | 1 | 2 | 3 | 4 | 8 |
| B. Try to keep him/her happy ..... | 1 | 2 | 3 | 4 | 8 |
| C. Let him/her have his/her own way ..... | 1 | 2 | 3 | 4 | 8 |
| D. Avoid him/her at certain times (when drinking, after work) ..... | 1 | 2 | 3 | 4 | 8 |
| E. Avoid disagreeing with him/her ..... | 1 | 2 | 3 | 4 | 8 |
| F. Anything else?_____ ..... | 1 | 2 | 3 | 4 | 8 |

**NOW YOU WILL BE GOING BACK TO THE HEALTH SECTION, page 11, TO COMPLETE COLUMN B**: INTRODUCE THIS QUESTION BY SAYING:

57. Now I'd like to ask you how you think the harm you've experienced has affected your health. This is still something that we don't know very much about, and you can help us by telling us how you think your health has been affected. I'm going to go back to the physical health symptoms and injuries I asked you about earlier. I simply want to know which physical health problems and injuries you think are a result of your abuse. You can say "YES" or "NO".

**(GO BACK TO PAGE 11, WHICH IS THE BEGINNING OF THE HEALTH QUESTIONS. FOR EACH ITEM SHE REPORTED IN COLUMN A, ASK HER IF SHE FEELS IT WAS** A RESULT OF THE ABUSE SHE EXPERIENCED. **IF SHE REPORTS *"YES"*, MARK "1" IN COLUMN B, IF SHE SAYS *"NO"*, MARK "2" IN COLUMN B. IF SHE HAS NOT BEEN BOTHERED AT ALL** BY A SYMPTOM OR INJURY , **MARK "8"** IN COLUMN B FOR N/A.)

58. How many times in the past six months did you seek medical treatment because of injuries from _____?
(INDICATE EXACT NUMBER)_____
(not applicable.....888)

58a. How many times in that time period do you think you required medical attention because of such injuries but didn't receive it?
(INDICATE EXACT NUMBER) ... _____
(not applicable ..... 888)

**GO BACK TO THE ALCOHOL AND DRUGS SECTION, page 14, TO MARK ANSWERS IN COLUMN C:** INTRODUCE THe/she QUESTION BY SAYING:

59. Now I'd like to ask you how you think the abuse you've experienced has affected your use of the substances you mentioned earlier. For example, you may feel that the abuse you've experienced has caused you to smoke more. Or, you may feel that the amount you smoke has not changed as a result of the abuse you've experienced. Please remember that there are no right or wrong answers, we are just interested in what you think. For this next question, I would like you to tell me whether you think your use of each of the above substances has increased, decreased, or stayed about the same as a result of the abuse you've experienced.

**(GO TO PAGE 14,** WHICH IS THE BEGINNING OF THE ALCOHOL/DRUG LIST. FOR EACH ITEM THAT SHE REPORTED USING, ANY USE AT ALL, ASK HER IF SHE FEELS **HER USE OF THAT SUBSTANCE HAS INCREASED, DECREASED, OR STAYED ABOUT THE SAME** AS A RESULT OF THE ABUSE THAT SHE HAS EXPERIENCED. **MARK ALL OF THESE ANSWERS IN COLUMN C.** IF SHE **HAS NOT USED** A PARTICULAR SUBSTANCE **IN THE PAST SIX MONTHS, MARK "8" IN COLUMN C.)**

Thanks for answering those questions about your ex-partner. Now I'd like to shift our focus to talk about your **current** relationship.

60. Just to make sure I'm clear about your current relationship status, you said that you are_____.

**(IF MARRIED, LIVING TOGETHER,GIRLFRIEND/BOYFRIEND, OR DATING ONLY ONE PERSON GO TO # 60a)**

**(IF CASUALLY DATING MORE THAN ONE PERSON, GO TO #60b)**

**(IF NOT DATING ANYONE, GO TO #72, page 44)**

Relationships can have both positive and negative effects on women's health. In order for me to understand, fully, your health issues, I will need to gather more information about your personal life. I'd like to start by asking you some questions about your relationship(s) in the **past six months.**

60a. I will be asking a series of personal questions about your current (spouse, partner, boyfriend, girlfriend, dating partner). Because these are personal questions, it may seem less awkward for me to refer to this person by name. What would you like me to call this person? Is there a real or fake name I can use? _____ (NAME) **(GO TO #61)**

**(ASK ONLY IF SHE MENTIONS MORE THAN DATING PARTNER)**

60b. I'm going to ask a series of personal questions about the (dating) relationship that is, or has been, the most important to you. Because these are personal questions, it may seem less awkward for me to refer to this person by name. What would you like me to call this person? Is there a real or fake name I can use? _____. **(GO TO #61)**

61. How long have you known _____?

(WRITE EXACT NUMBER OF MONTHS) _____
(not applicable = "888")

61a. How long were you/have you been in a (dating) relationship with _____?

(WRITE EXACT NUMBER OF MONTHS) _____
(not applicable = "888")

(IF **IN DATING RELATIONSHIP**, GO TO **#62**)

61b. How many separations, if any, have you had from _____since your relationship began? (IT IS DEFINED BY AT LEAST AN OVERNIGHT SEPARATION WHERE YOU THOUGHT THE RELATIONSHIP WAS OVER OR ENDING)

(ACTUAL NUMBER) ..... _____
(not applicable = "888")
(IF NO SEPARATIONS, **GO TO #62**)

61c. **(IF SEPARATIONS)** How long did your most recent separation last?
(ACTUAL NUMBER OF DAYS) ..... _____
(not applicable = "88888")

61d. **(IF SEPARATIONS)** Women have different reasons for going back to partners they've separated from. The last time you got back together, what influenced your decision?

Using this WHITE CARD, how much of a role, if any, did the following play in your decision: (USE **WHITE CARD #4**)

ASK EACH

| | NONE | A LITTLE | SOME | VERY MUCH | NA |
|---|---|---|---|---|---|
| A. Love ..... | 1 | 2 | 3 | 4 | 8 |
| B. Fear of him/her ..... | 1 | 2 | 3 | 4 | 8 |
| C. Financial issues ..... | 1 | 2 | 3 | 4 | 8 |
| D. For the kids ..... | 1 | 2 | 3 | 4 | 8 |
| E. Believing s/he'd change | 1 | 2 | 3 | 4 | 8 |
| F. Feeling lonely ..... | 1 | 2 | 3 | 4 | 8 |
| G. Other _____ .. | 1 | 2 | 3 | 4 | 8 |

Okay, now that I know a little more about your relationship status, I'd like to ask some questions about the relationship itself. Let's begin with some general questions about your involvement with _____.

62. I have a list of some things people do to make us feel better about ourselves and our (dating) relationships. Using this card (SHOW **YELLOW** CARD #2), could you tell me how often in the last six months or since_____(date), _____(name) did any of these things to make you feel good about yourself?

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

A. How often has he/she complimented your intelligence ..... _____
B. How often has he/she spoken kindly of your friends ..... _____
C. How often has he/she encouraged you to spend time with your friends ... _____
D. Wanted to know how your day went ..... _____
E. Spent quality time with your children ..... _____
F. Complimented your physical appearance or sexual attractiveness ..... _____
G. Listened to your side of an argument or discussion ..... _____
H. Asked for your opinion about personal matters ..... _____

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

I. Asked for your opinion about finances ..... _____
J. Spoken kindly about your relatives ..... _____
K. Asked about your feelings or needs ..... _____

Now, I'm going to ask some questions about things partners do to harm us or make us feel bad about ourselves. As you may know, (dating) relationships often have both positive and negative qualities to them. In order for us to better understand how relationships affect women's health, we need to explore the negative as well as positive aspects of your (dating) relationship.

63. I have a list of some things some people do to annoy or hurt their intimate or dating partners. These are emotional kinds of things that can happen in any relationship. Using this card (SHOW **YELLOW** CARD #2), could you tell me how often in the last 6 months _____ did any of these things to annoy or hurt you?

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

A. How often has he/she accused you of having or wanting other sexual relationships ..... _____
B. Told you about other sexual relationships he/she wanted or was having in order to hurt you ..... _____
C. Tried to control your money ..... _____
D. Tried to control your activities ..... _____
E. Lied to you or deliberately misled you ..... _____
F. Called you names ..... _____
G. Ignored or made light of your anger ..... _____
H. Ridiculed or criticized you in public ..... _____
I. Criticized your family or friends to you ..... _____
J. Harassed your family or friends in some way ..... _____

1 = NEVER
2 = RARELY
3 = SOMETIMES
4 = OFTEN
8 = not applicable
9 = (refused to answer)

K. Discouraged your contact with family or friends ..... _____
L. Threatened to hurt your family or friends ..... _____
M. Used threats to try and have sex with you ..... _____
N. Broken or destroyed something important to you ..... _____
O. Abused or threatened to abuse pets to hurt you ..... _____
(NO PETS = "8")
P. Punished or deprived the children when he/she was angry with you ..... _____
Q. Threatened to take the children away from you ..... _____
R. Left you somewhere with no way to get home ..... _____
S. Threatened to end the relationship if you didn't do what he/she wanted .... _____
T. Tried to force you to leave your home ..... _____
U. Threatened to commit suicide when he/she was angry with you ..... _____

64. Have you ever been threatened by _____ in any way? By that I mean any time he/she may have said or did things that made you feel scared or in danger, whether in person, over the phone, through the mail, or through other people.

YES ..... 1
NO ..... 2
(not applicable) ..... 8

65. Have you ever been physically harmed by _____? This includes any time when you might have been grabbed, pushed or shoved, slapped, kicked, physically restrained, or any other physical act that could have harmed you. This can also be any time when sexual activity may have been forced, that is, any sexual activity you did not want to happen, but did.

**(GO TO #65a)** YES ..... 1
**(GO TO #72)** NO ..... 2
(not applicable) ..... 8

65a. How long after you became involved with _____ did he/she first physically harm you?
(ACTUAL NUMBER OF DAYS) ..... _____
(not applicable = "8888")

Respondent ID # _____

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**FOR WOMEN WHO HAVE EXPERIENCED NO THREATS AND NO ABUSE BY CURRENT PARTNER, GO TO #72, page 44.**

**FOR WOMEN WHO HAVE BEEN THREATENED AND/OR PHYSICALLY HARMED BY CURRENT PARTNER, CONTINUE WITH #66.**

66. (SHOW **PINK** CARD #3) Now let's talk only about the past 6 months, or since _____. How many times in the last six months has _____ threatened you in any way? Using the definition I read earlier, that means said or did things that made you feel scared or in danger, whether in person, over the phone, through the mail, or through other people.

| | |
|---|---|
| NEVER | 1 |
| ONCE A MONTH OR LESS | 2 |
| 2 OR 3 TIMES A MONTH | 3 |
| ONCE OR TWICE A WEEK | 4 |
| 3 OR 4 TIMES A WEEK | 5 |
| MORE THAN 4 TIMES A WEEK | 6 |
| (not applicable) | 8 |
| (refused to answer) | 9 |

67. Now I have list of different types of violence women have experienced from their partners. I wonder if you could tell me, as best as you can remember, how many times in the last six months _____ did any of the following things to you:
(USING **PINK** CARD #3)

| | |
|---|---|
| NEVER | 1 |
| ONCE A MONTH OR LESS | 2 |
| 2 OR 3 TIMES A MONTH | 3 |
| ONCE OR TWICE A WEEK | 4 |
| 3 OR 4 TIMES A WEEK | 5 |
| MORE THAN 4 TIMES AWEEK | 6 |
| (not applicable) | 8 |
| (refused to answer) | 9 |

A. How often did he/she break your glasses or tear your clothing ..... _____

B. Pushed or shoved you ..... _____

C. Grabbed you ..... _____

D. Slapped you with an open hand ..... _____

E. Hit you with a fist ..... _____

F. Kicked you ..... _____

G. Threw something at you ..... _____

NEVER ..... 1
ONCE A MONTH OR LESS ..... 2
2 OR 3 TIMES A MONTH ..... 3
ONCE OR TWICE A WEEK ..... 4
3 OR 4 TIMES A WEEK ..... 5
MORE THAN 4 TIMES AWEEK .. 6
(not applicable) ..... 8
(refused to answer) ..... 9

H. Aside from throwing, how often did he/she hit you with an object ..... _____

I. Tried to hit you with an object ..... _____

J. Drove recklessly, so that you felt scared or endangered ..... _____

K. Choked you ..... _____

L. Burned you ..... _____

M. Tied you up or physically restrained you in some way ..... _____

N. Beat you up ..... _____

O. Forced any sexual activity you didn't want to happen ..... _____

P. Threatened you with a gun or knife ..... _____

Q. Used a gun or knife against you ..... _____

**(IF SHE HAS NOT BEEN PHYSICALLY HARMED, EVER, GO TO #70)**

67. Have you ever become pregnant since knowing _____?

**(GO TO #67a)** YES ..... 1
**(GO TO #68)** NO ..... 2
not applicable ..... 8

67a. (IF YES) Did he/she ever physically harm you when you were pregnant?

YES ..... 1
NO ..... 2
not applicable ..... 8

68. **(IF SHE HAS BEEN HARMED, EVER)** When an intimate partner is first violent, sometimes it's a surprise, sometimes it isn't, sometimes you're more angry than you are scared, sometimes you're more scared than angry. I want to talk to you about what your response was. Using the WHITE CARD can you tell me were you:

| (USE **WHITE CARD #4**) | NO/ NONE | A LITTLE | SOME | VERY MUCH | N/A |
|---|---|---|---|---|---|
| A. Angry | 1 | 2 | 3 | 4 | 8 |
| B. Scared | 1 | 2 | 3 | 4 | 8 |
| C. Worried it would happen again | 1 | 2 | 3 | 4 | 8 |
| D. Convinced it wouldn't happen again | 1 | 2 | 3 | 4 | 8 |
| E. Surprised | 1 | 2 | 3 | 4 | 8 |
| F. Other_____ | 1 | 2 | 3 | 4 | 8 |

69. **(IF SHE HAS BEEN HARMED, EVER)** For some people, when someone has been violent, it can change the way they behave. Using the WHITE CARD again, do you think that _____'s violence has made you more likely to:

| (USE **WHITE CARD #4**) | NO/ NONE | A LITTLE | SOME | VERY MUCH | N/A |
|---|---|---|---|---|---|
| A. Try to keep him/her from getting mad | 1 | 2 | 3 | 4 | 8 |
| B. Try to keep him/her happy | 1 | 2 | 3 | 4 | 8 |
| C. Let him/her have his/her own way | 1 | 2 | 3 | 4 | 8 |
| D. Avoid him/her at certain times (when drinking, after work) | 1 | 2 | 3 | 4 | 8 |
| E. Avoid disagreeing with him/her | 1 | 2 | 3 | 4 | 8 |
| F. Anything else?_____ | 1 | 2 | 3 | 4 | 8 |

**NOW YOU WILL BE GOING BACK TO THE HEALTH SECTION, page 11, TO COMPLETE COLUMN C:** INTRODUCE THIS QUESTION BY SAYING:

70. Now I'd like to ask you how you think the harm you've experienced has affected your health. This is still something that we don't know very much about, and you can help us by telling us how you think your health has been affected. I'm going to go back to the physical health symptoms and injuries I asked you about earlier. I simply want to know which physical health problems and injuries you think are a result of your abuse. You can say "YES" or "NO".

**(GO BACK TO PAGE 11,** WHICH IS THE BEGINNING OF THE HEALTH QUESTIONS. **FOR EACH ITEM SHE REPORTED IN COLUMN A,** ASK HER IF SHE FEELS IT WAS A RESULT OF THE ABUSE SHE EXPERIENCED BY HER PARTNER. **IF SHE REPORTS *"YES"*, MARK "1" IN COLUMN C, IF SHE SAYS *"NO"*, MARK "2" IN COLUMN C.** IF SHE HAS **NOT BEEN BOTHERED AT ALL** BY A SYMPTOM OR INJURY , **MARK "8"** IN COLUMN C FOR N/A.)

70a. How many times in the past six months did you seek medical treatment because of injuries from _____?
(INDICATE EXACT NUMBER)_____
(not applicable.....888)

70b. How many times in that time period do you think you required medical attention because of such injuries but didn't receive it?
(INDICATE EXACT NUMBER)_____
(not applicable.....888)

**GO BACK TO THE ALCOHOL AND DRUGS SECTION, page 14, TO MARK ANSWERS IN COLUMN D**: INTRODUCE THE QUESTION BY SAYING:

71. Now I'd like to ask you how you think the abuse you've experienced has affected your use of the substances you mentioned earlier. For example, you may feel that the abuse you've experienced has caused you to smoke more. Or, you may feel that the amount you smoke has not changed as a result of the abuse you've experienced. Please remember that there are no right or wrong answers, we are just interested in what you think. For this next question, I would like you to tell me whether you think your use of each of the above substances has increased, decreased, or stayed about the same as a result of the abuse you've experienced.

**(GO TO PAGE 14, WHICH IS THE BEGINNING OF THE ALCOHOL/DRUG LIST. FOR** EACH ITEM THAT SHE REPORTED USING, **ANY USE AT ALL, ASK HER IF SHE FEELS HER USE OF THAT SUBSTANCE HAS INCREASED, DECREASED, OR STAYED ABOUT THE SAME** AS A RESULT OF THE ABUSE THAT SHE HAS EXPERIENCED. **MARK ALL OF THESE ANSWERS IN COLUMN D. IF SHE HAS NOT USED** A PARTICULAR SUBSTANCE **IN THE PAST SIX MONTHS, MARK "8" IN COLUMN D.)**

In this next section, I would like to ask you some questions about how often you receive medical care.

72. Have you visited an emergency ward in a hospital for yourself in the past six months?

**(GO TO #72a)**YES ..... 1 —> HOW MANY TIMES?____
**(GO TO #73)** NO ..... 2 **(88 IF NO)**

72a. (IF YES **AND** WOMAN HAS BEEN ABUSED IN PAST 6 MONTHS) How many of these visits would you say were related to any abuse you may have experienced?
(INDICATE EXACT AMOUNT.....____
(not applicable).....= **"888"**

73. Have you visited a medical doctor for an emergency for yourself in the past six months?

**(GO TO #73a)**YES ..... 1 —> HOW MANY TIMES?____
**(GO TO #74)** NO ..... 2 **(88 IF NO)**

73a. (IF YES **AND** WOMAN HAS BEEN ABUSED IN PAST 6 MONTHS) How many of these visits would you say were related to any abuse you may have experienced?
(INDICATE EXACT AMOUNT.....____
(not applicable).....= **"888"**

74. Have you visited a medical doctor for a routine check-up or appointment for yourself in the past six months?

(GO TO #74a)YES ..... 1 —> HOW MANY TIMES?____
(GO TO #75) NO ..... 2 (88 IF NO)

74a. (IF YES AND WOMAN HAS BEEN ABUSED IN PAST 6 MONTHS) How many of these visits would you say were related to any abuse you may have experienced?
(INDICATE EXACT AMOUNT.....____
(not applicable).....= "888"

75. Have you visited a psychologist, therapist, or psychiatrist in the past six months?

(GO TO #75a)YES ..... 1 —> HOW MANY TIMES?____
(GO TO #76) NO ..... 2 (88 IF NO)

75a. (IF YES) Who referred you to this person?

YOURSELF ..... 1
FRIEND/FAMILY ..... 2
SHELTER WORKER ..... 3
MEDICAL DOCTOR ..... 4
EMERGENCY WARD DOCTOR ..... 5
COURT ORDER (JUDGE) ..... 6
OTHER(_____) ..... 7
not applicable ..... 8

75b. (IF YES AND WOMAN HAS BEEN ABUSED IN PAST 6 MONTHS) How many of these visits would you say were related to any abuse you may have experienced?
(INDICATE EXACT AMOUNT.....____
(not applicable).....= "888"

76. What type of medical insurance do you currently have?

PRIVATE INSURANCE ..... 1
MEDICAID/MEDICARE ..... 2
NONE ..... 3

Respondent ID # _____

46

Thank you so much for taking the time to answer the questions for this part of the interview. We appreciate all of your input. Is there anything in the interview that you had questions about or would like to ask me about, or other things you wanted to talk about that I didn't ask?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Thank you, these are very important issues to address.)

For the next part of the interview, I would like you to take some time to complete several questions on your own. (IF INVOLVED WITH A MAN, HAND HER THE ORANGE; IF INVOLVED WITH A WOMAN, HAND HER THE GREEN SECTION OF THE INTERVIEW) Again, I want to remind you that everything you report on this section of the interview is completely confidential. Your answers will, in no way, be attached to any identifying information about you.

While you are completing this section of the interview, I will scan through the section we just finished to be sure that I have asked every question and that I have accurately coded your answers. When you finish with the written section, I will do the same thing.

AFTER SHE HAS COMPLETED WRITTEN SECTION OF THE INTERVIEW, MAKE SURE THAT YOU HAVE THOROUGHLY ADDRESSED ALL OF HER CONCERNS.

Time interview ended_____

Length of oral interview_____

Respondent ID # _____

1

# Women's Health Project

Interview - Written Section

Thank you for completing the first part of the interview. The information you gave is very important to us. In this section we'd like to know some things that may be more difficult to talk about. Just like the first part of the interview, the answers you give will help us understand more about women's health issues. To help you feel more comfortable about answering these questions, I will give you a form that you can fill out on your own. While you are answering the questions on this form, I will check the part we just finished to make sure that I asked every question and coded your answers correctly.

If you have any questions about this section of the interview, please feel free to ask. Do you have any questions before you start?

Respondent ID # _____



Thank you for answering all of those questions and sharing that information with us. Now we have a list of the ways you might have felt or behaved in the last week. We would like to know how often you have felt any of these ways in the past week. Please circle the number that best describes how often you felt this way.

1 = RARELY OR NEVER (LESS THAN ONE DAY)
2 = SOME OR A LITTLE (1-2 DAYS)
3 = OCCASIONALLY (3-4 DAYS)
4 = MOST OR ALL THE TIME (5-7 DAYS)

During the past week:

| | | | | | |
|---|---|---|---|---|---|
| A. | You were bothered by things that usually don't bother you | 1 | 2 | 3 | 4 |
| B. | You did not feel like eating; your appetite was poor | 1 | 2 | 3 | 4 |
| C. | You felt that you could not shake off the blues even with help from your family or friends | 1 | 2 | 3 | 4 |
| D. | You felt that you were just as good as other people | 1 | 2 | 3 | 4 |
| E. | You had trouble keeping your mind on what you were doing | 1 | 2 | 3 | 4 |
| F. | You felt depressed | 1 | 2 | 3 | 4 |
| G. | You felt that everything you did was an effort | 1 | 2 | 3 | 4 |
| H. | You felt hopeful about the future | 1 | 2 | 3 | 4 |
| I. | You thought your life had been a failure | 1 | 2 | 3 | 4 |
| J. | You felt fearful | 1 | 2 | 3 | 4 |
| K. | Your sleep was restless | 1 | 2 | 3 | 4 |
| L. | You were happy | 1 | 2 | 3 | 4 |
| M. | You talked less than usual | 1 | 2 | 3 | 4 |
| N. | You felt lonely | 1 | 2 | 3 | 4 |
| O. | People were unfriendly | 1 | 2 | 3 | 4 |
| P. | You enjoyed life | 1 | 2 | 3 | 4 |
| Q. | You had crying spells | 1 | 2 | 3 | 4 |
| R. | You felt sad | 1 | 2 | 3 | 4 |
| S. | You felt that people dislike you | 1 | 2 | 3 | 4 |
| T. | You could not "get going" | 1 | 2 | 3 | 4 |

These questions will help us better understand more about at-risk sexual behavior. Some women may be at-risk for sexually transmitted diseases or the AIDS virus, and we need to know how this might affect their overall health. We know that some of the questions may not be easy to answer, but in order to understand all of the health risks that women may face, we need to ask everyone to try to answer them as accurately as possible.

1. Have you been sexually active in the past six months?

| | | |
|---|---|---|
| YES | 1 | (PLEASE GO TO QUESTION #2) |
| NO | 2 | (IF NO, PLEASE SKIP TO QUESTION #9) |

2. How many sexual partners, including your current partner and any others, have you had in the last six months?

PLEASE WRITE EXACT NUMBER HERE _____

3. Who has been included in your list of sexual partners in the past six months? (PLEASE CIRCLE "YES" OR "NO" FOR EACH)

| | YES | NO |
|---|---|---|
| SEX WITH MY LOVER/SPOUSE | 1 | 2 |
| CASUAL SEX PARTNER(S) | 1 | 2 |
| ONE TIME ANONYMOUS SEX PARTNERS | 1 | 2 |

4. Have you paid money or received money for sex in the past six months?

| | |
|---|---|
| YES | 1 |
| NO | 2 |

5. How often have any of your partner(s) ever used threats to try and have sex with you in the past six months?

| | |
|---|---|
| NEVER | 1 |
| ONCE | 2 |
| TWICE | 3 |
| 3-10 TIMES | 4 |
| 11-20 TIMES | 5 |
| MORE THAN 20 TIMES | 6 |

6. How often have any of your partner(s) used physical force to have sex with you in the past six months?

| | |
|---|---|
| NEVER | 1 |
| ONCE | 2 |
| TWICE | 3 |
| 3-10 TIMES | 4 |
| 11-20 TIMES | 5 |
| MORE THAN 20 TIMES | 6 |

7. Has your partner engaged in high-risk behaviors (such as unprotected sexual intercourse, oral sex, and/or sharing needles) with a person who is HIV-positive or has the AIDS virus in the past six months?

YES . . . . . 1
NO . . . . . 2
DON'T KNOW . . . . . 7

8. Have you engaged in high-risk behaviors (such as unprotected sexual intercourse, oral sex, and/or sharing needles) with a person who is HIV-positive or has the AIDS virus in the past six months?

YES . . . . . 1
NO . . . . . 2
DON'T KNOW . . . . . 7

9. Have you ever been tested for the HIV-virus?

(GO TO #9a) YES . . . . . 1
(IF NO, STOP INTERVIEW HERE. THANK YOU) NO . . . . . 2

9a. What led to your decision to be tested: PLEASE BE SPECIFIC.

_____

_____

_____

_____

9b. Have you been tested for the HIV-virus in the past six months?

YES . . . . . 1

NO . . . . . 2

Thank you for answering these very personal questions. If you have any questions about why we're asking these questions, or if you'd like any more information, please just ask.

# APPENDIX F

## Guide to Community Resources

# Women's Health Project

## *Guide to Community Resources*

### CHILDREN AND FAMILY SERVICES

**Black Child and Family Institute** — **487-3775**
Wide range of opportunities for children of all races and ethnic backgrounds, no fee required

**Boys and Girls Club** — **394-0455**
Anyone 7-17 can become a member for $5.00 a year - provides positive experiences for kids; dinner provided Tuesday through Friday - some transportation is available

**Family Growth Center** — **371-4350** (Downtown Lansing)

Child care in two and a half hour sessions, — 371-1347 (Mt. Hope Center)

Parent support groups, and education classes — 351-6641 (East Lansing)

### FOOD AND SHELTER SERVICES

**Department of Social Services** — **887-9400**

**Economic Crisis Center (ECC)** — **337-2731**

**Greater Lansing Food Bank** — **887-4314**
Must be in need of emergency help, provides one week of emergency food

**Harvest House** — **487-3090**
No restrictions or limitations; food baskets,

personal hygiene items, emergency shelter referral, rent assistance, adult educational programs, children's enrichment and tutoring programs, day shelter, and counseling

**Housing Resource Center** **487-6051**
Helps homeless and nonhomeless people who have problems with their landlord

**Lansing Rescue Mission (shelter)** **485-0145**

**New Hope Center**
Daytime Shelter **484-0176**
Overnight Shelter **484-1985**

## HEALTH CARE SERVICES

**American Red Cross Emergency Services** **484-7461**
Shelter services, food, diapers, disaster services; Medical Access Program and prescription services

**CADA (Council Against Domestic Assault)** **372-5572**

**Capital Area Community Service** **482-6281**

**Cristo Rey Community Center** **372-4700**
Community kitchen, direct assistance (provides groceries, personal needs, payments for medicine, bus fare, and partial rent), medical health clinic, health services, employment and training services, and substance abuse programs

**Dental Referral Network** **321-1991**

**Gateway Community Services** — **351-4000** (Abbott Rd.)

Health clinic; runaway services; family and youth services including substance abuse services and counseling services; crisis intervention hotline; student assistance program — 355-1106 (Spartan Village)

**Horizon Center**

| | |
|---|---|
| Inpatient | 332-1144 |
| Outpatient | 332-2180 |

**Ingham County Health Department** — **887-4311**

| | |
|---|---|
| Adult Health Clinic | 887-4302 |
| Child Health Services | 887-4305 |
| Food Bank | 887-4314 |
| STD Clinic | 887-4302 |
| Women Infants & Children (WIC) | 887-4326 |

Services include an immunization clinic operated on a walk-in basis; cost for routine immunizations is free, also available are pediatric services and women's health services (including PAP, pelvic and breast exams, STD testing and treatment and nutritional counseling) where pay is determined by income.

**Listening Ear Hotline** — **337-1717**
(has sexual assault counseling)

**Sexual Abuse Hotline (24 hour)** — **1-800-234-0038**

**Sexual Assault Info Network (SAIN)** — **372-6666**

## LEGAL SERVICES

| | |
|---|---|
| **Friend of the Court** | **676-8429** |
| **Legal Aid of Central Michigan** | **485-5411** |
| **Michigan Coalition Against Domestic Violence** | **372-4960** |
| **National Domestic Violence Hotline (7233)** | **1-800-333-SAFE** |
| **Police:** Lansing | **332-1911** |
| State | **332-2521** |

## RESOURCES FOR AIDS AND SUBSTANCE ABUSE

**CADA (Council Against Domestic Assault)** **372-5572**
Questions about AIDS/HIV infection or substance abuse (or anything)

**Ingham County Adult Health Clinic** **887-4302**
Questions about HIV infection/AIDS
Anonymous Counseling/Testing
Questions about STD's/Venereal Disease

**Hotline Telephone Number for AIDS Information** **1-800-872-AIDS (2437)**
This is the Wellness Network, Inc.
Spanish is available

**Southland Counseling Center for Substance Abuse** **393-0150**
Questions about substance abuse
Referrals
Treatment

**Hotline Telephone Number for Substance Abuse Information** **1-800-342-0349**
also the number for the Capital Area Substance Abuse Commission (CASAC) line

## ADDITIONAL RESOURCES

**Gateway Community Services**

| | |
|---|---|
| **Family Violence Prevention Helpline**<br>**(1-800-99-NO ABUSE)**<br>**Anonymous 24-hour hotline** | **1-800-996-6228** |
| **Parent Helpline**<br>**Anonymous assistance to parents**<br>**For child abuse prevention** | **1-800-942-4357** |
| **Runaway Assistance Program ("RAP" Line)**<br>**Help for youth at risk *and for their family and friends***<br>**who need assistance** | **1-800-292-4517** |

# APPENDIX G

## Standardized Residual Covariance Matrices for Measurement Models

*Table 27.* Standardized Residual Covariance Matrix of Observed Variables (Indicators) (N = 397): Model 1

| | CTS | IPA | ISA | IC | SLE | DLC | GHQ | CHP | PHS | CES | QLS | SIS | SSC | SSA | SSP | SSE | SSF | INC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTS | - | | | | | | | | | | | | | | | | | |
| IPA | -.05 | - | | | | | | | | | | | | | | | | |
| ISA | .22 | .01 | - | | | | | | | | | | | | | | | |
| IC | .54 | -.51 | .62 | - | | | | | | | | | | | | | | |
| SLE | -.29 | .38 | -.46 | .01 | - | | | | | | | | | | | | | |
| DLC | -.80 | .68 | -.70 | -.003 | .00 | - | | | | | | | | | | | | |
| GHQ | 1.18 | .06 | -.70 | -1.26 | -.46 | .78 | - | | | | | | | | | | | |
| CHP | -.90 | -.65 | -2.43* | -.25 | -.70 | -.04 | .41 | - | | | | | | | | | | |
| PHS | .14 | .34 | -1.48 | .37 | .50 | -.30 | -.23 | .27 | - | | | | | | | | | |
| CES | .63 | 1.01 | -.42 | .36 | -.22 | -.14 | .61 | -1.30 | .11 | - | | | | | | | | |
| QLS | -.69 | -.73 | -2.00* | -.87 | .34 | .29 | 1.24 | -1.36 | -.31 | -.01 | - | | | | | | | |
| SIS | 1.07 | .04 | -1.53 | 1.74 | .003 | -.48 | 1.32 | -1.05 | .48 | .79 | -.83 | - | | | | | | |
| SSC | -1.12 | -.55 | -.91 | -.79 | .74 | -1.13 | -.68 | .71 | .05 | -.90 | -2.64* | -.38 | - | | | | | |
| SSA | .01 | -.64 | -.59 | -.69 | .57 | .57 | -1.53 | -1.53 | -.60 | 1.39 | -.62 | .35 | .20 | - | | | | |
| SSP | 1.30 | -.23 | .92 | .93 | .87 | .87 | .79 | .79 | .36 | 1.60 | .58 | .89 | -.43 | -.08 | - | | | |
| SSE | .47 | .59 | .95 | .31 | 1.25 | .33 | -.36 | 3.04* | .22 | .88 | -1.12 | .42 | .36 | .27 | .11 | - | | |
| SSF | -.70 | -2.19* | -.52 | -.90 | -2.78* | -1.60 | -1.45 | -.64 | -2.15* | -.55 | -1.64 | -.76 | -1.89 | -.14 | 1.44 | -.87 | - | |
| INC | .43 | -.35 | .24 | .00 | .15 | -.07 | -1.38 | .45 | .29 | -.06 | .28 | -.78 | .11 | .32 | -.88 | -.17 | 1.65 | - |

*indicates that some portion of unique variance is shared by some factor common to both observed variables (potential modification).

**CTS** Conflict Tactic Scale (Abuse)
**IPA** Index of Psychological Abuse
**ISA** Index of Sexual Abuse
**IC** Injury Checklist
**DLC** Difficult Life Circumstances (Stress)
**SLE** Stressful Life Events (Stress)
**GHQ** General Health Question (Physical Health)
**CHP** Chronic Health Problems (Physical Health)
**PHS** Physical Health Symptoms (Physical Health)
**CESD** Depression (Psychological Health)
**QLS** Quality of Life Scale (Psychological Health)
**SIS** Suicide Ideation Scale (Psychological Health)
**SSC** Companionship (Social Support)
**SSA** Advice and Information (Social Support)
**SSP** Practical Assistance (Social Support)
**SSE** Emotional Support (Social Support)
**SSF** Financial Assistance (Social Support)
**INC** Percent Poverty (Income)

Table 28. Standardized Residual Covariance Matrix of Observed Variables (Indicators) (N = 397): Model 2

| | CTS | IPA | ISA | IC | SLE | DLC | GHQ | CHP | PHS | CES | QLS | SIS | SSC | SSA | SSP | SSE | SSF | INC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTS | - | | | | | | | | | | | | | | | | | |
| IPA | -.05 | - | | | | | | | | | | | | | | | | |
| ISA | .23 | .01 | - | | | | | | | | | | | | | | | |
| IC | .55 | -.52 | .62 | - | | | | | | | | | | | | | | |
| SLE | -.28 | .38 | -.46 | .01 | - | | | | | | | | | | | | | |
| DLC | -.81 | .67 | -.70 | -.01 | .00 | - | | | | | | | | | | | | |
| GHQ | 1.18 | .05 | -.70 | -1.26 | -.45 | .77 | - | | | | | | | | | | | |
| CHP | -.91 | -.66 | -2.43* | -.25 | -.70 | -.06 | .40 | - | | | | | | | | | | |
| PHS | .14 | .36 | -1.48 | .37 | .51 | -.30 | -.23 | .26 | - | | | | | | | | | |
| CES | .65 | 1.02 | -.41 | .37 | -.20 | -.14 | .61 | -1.30 | .12 | - | | | | | | | | |
| QLS | -.69 | -.74 | -2.00* | -.88 | .23 | .27 | 1.23 | -1.38 | -.33 | -.02 | - | | | | | | | |
| SIS | 1.09 | .05 | -1.52 | 1.75 | .02 | -.47 | -1.26 | -1.05 | .37 | .81 | -.83 | - | | | | | | |
| SSC | -1.19 | -.62 | -.96 | -.79 | .64 | -1.26 | -.78 | .64 | .05 | -.77 | -2.49* | -.30 | - | | | | | |
| SSA | -.21 | -.86 | -.76 | -.80 | .32 | -.03 | -1.77 | 1.19 | -.90 | 1.26 | -.74 | .26 | -.09 | - | | | | |
| SSP | .87 | -.22 | .58 | .64 | .40 | -.53 | .35 | 2.22* | -.21 | 1.12 | .13 | .58 | -.38 | .32 | - | | | |
| SSE | .35 | .47 | .86 | .29 | 1.09 | .13 | -.50 | 2.92* | .03 | .98 | -1.00 | .48 | -.28 | -.01 | .26 | - | | |
| SSF | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | - | |
| INC | .43 | -.35 | .24 | .00 | .14 | -.06 | -1.37 | .46 | .29 | -.07 | .29 | -.79 | .21 | .54 | -.48 | .29 | NA | - |

*indicates that some portion of unique variance is shared by some factor common to both observed variables (potential modification).

**CTS** Conflict Tactic Scale (Abuse)
**IPA** Index of Psychological Abuse
**ISA** Index of Sexual Abuse
**IC** Injury Checklist
**DLC** Difficult Life Circumstances (Stress)
**SLE** Stressful Life Events (Stress)
**GHQ** General Health Question (Physical Health)
**CHP** Chronic Health Problems (Physical Health)
**PHS** Physical Health Symptoms (Physical Health)

**CESD** Depression (Psychological Health)
**QLS** Quality of Life Scale (Psychological Health)
**SIS** Suicide Ideation Scale (Psychological Health)
**SSC** Companionship (Social Support)
**SSA** Advice and Information (Social Support)
**SSP** Practical Assistance (Social Support)
**SSE** Emotional Support (Social Support)
**SSF** Financial Assistance (Social Support)
**INC** Percent Poverty (Income)

Table 29. Standardized Residual Covariance Matrix of Observed Variables (Indicators) (N = 397): Model 3

| | CTS | IPA | ISA | IC | SLE | DLC | GHQ | CHP | PHS | CES | QLS | SIS | SSC | SSA | SSP | SSE | SSF | INC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTS | - | | | | | | | | | | | | | | | | | |
| IPA | -.05 | - | | | | | | | | | | | | | | | | |
| ISA | .23 | .01 | - | | | | | | | | | | | | | | | |
| IC | .55 | -.52 | -.40 | - | | | | | | | | | | | | | | |
| SLE | -.29 | .38 | -.46 | .01 | - | | | | | | | | | | | | | |
| DLC | -.80 | .68 | -.70 | -.01 | .00 | - | | | | | | | | | | | | |
| GHQ | .84 | -.29 | -.96 | -1.43 | -.69 | .46 | - | | | | | | | | | | | |
| CHP | NA | NA | NA | NA | NA | NA | NA | - | | | | | | | | | | |
| PHS | .06 | .28 | -1.54 | .51 | .52 | -.28 | -.23 | NA | - | | | | | | | | | |
| CES | .66 | 1.03 | -.40 | .38 | -.21 | -.13 | .14 | NA | -.02 | - | | | | | | | | |
| QLS | -.69 | -.74 | -2.00* | -.88 | .22 | .27 | .75 | NA | -.48 | -.01 | - | | | | | | | |
| SIS | 1.07 | .04 | -1.52 | 1.75 | .02 | -.47 | 1.01 | NA | .38 | .80 | -.84 | - | | | | | | |
| SSC | -1.19 | -.62 | -.96 | -.79 | .64 | -1.27 | -.43 | NA | .16 | -.78 | -2.50* | -.29 | - | | | | | |
| SSA | -.20 | -.86 | -.76 | -.80 | .33 | -.03 | -1.42 | NA | -.66 | 1.26 | -.73 | .27 | -.09 | - | | | | |
| SSP | .87 | -.22 | .59 | .64 | .41 | -.53 | .73 | NA | .06 | 1.13 | .14 | .60 | -.38 | .31 | - | | | |
| SSE | .35 | .46 | .85 | .29 | 1.09 | .12 | -.08 | NA | .32 | .97 | -1.00 | .49 | -.28 | -.02 | .26 | - | | |
| SSF | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | - | |
| INC | .43 | -.35 | .24 | .00 | .15 | -.07 | -1.10 | NA | .40 | -.08 | .29 | -.78 | .21 | .54 | -.48 | -.02 | NA | - |

*indicates that some portion of unique variance is shared by some factor common to both observed variables (potential modification).

**CTS** Conflict Tactic Scale (Abuse)
**IPA** Index of Psychological Abuse
**ISA** Index of Sexual Abuse
**IC** Injury Checklist
**DLC** Difficult Life Circumstances (Stress)
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**CESD** Depression (Psychological Health)
**QLS** Quality of Life Scale (Psychological Health)
**SIS** Suicide Ideation Scale (Psychological Health)
**SSC** Companionship (Social Support)
**SSA** Advice and Information (Social Support)
**SSP** Practical Assistance (Social Support)
**SSE** Emotional Support (Social Support)
**SSF** Financial Assistance (Social Support)
**INC** Percent Poverty (Income)

Table 30. Standardized Residual Covariance Matrix of Observed Variables (Indicators) (N = 397): Model 4

| | CTS | IPA | ISA | IC | SLE | DLC | GHQ | CHP | PHS | CES | QLS | SIS | SSC | SSA | SSP | SSE | SSF | INC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTS | - | | | | | | | | | | | | | | | | | |
| IPA | -.05 | - | | | | | | | | | | | | | | | | |
| ISA | .23 | .01 | - | | | | | | | | | | | | | | | |
| IC | .54 | -.51 | .62 | - | | | | | | | | | | | | | | |
| SLE | -.30 | .37 | -.47 | .00 | - | | | | | | | | | | | | | |
| DLC | -.80 | .69 | -.69 | .00 | .00 | - | | | | | | | | | | | | |
| GHQ | .85 | -.28 | -.95 | -1.43 | -.69 | .47 | - | | | | | | | | | | | |
| CHP | NA | NA | NA | NA | NA | NA | NA | - | | | | | | | | | | |
| PHS | .06 | .28 | -1.55 | .50 | .51 | -.28 | .00 | NA | - | | | | | | | | | |
| CES | .60 | .97 | -.45 | .34 | -.25 | -.16 | .11 | NA | -.07 | - | | | | | | | | |
| QLS | -.67 | -.71 | -1.98* | -.86 | .26 | .33 | .80 | NA | -.42 | .00 | - | | | | | | | |
| SIS | 1.04 | .00 | -1.55 | 1.72 | -.02 | -.50 | .99 | NA | .35 | .73 | -.84 | - | | | | | | |
| SSC | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | - | | | | | |
| SSA | -.41 | -.42 | -.92 | -.99 | .19 | -.23 | -1.48 | NA | -.72 | .92 | -1.13 | .05 | NA | - | | | | |
| SSP | .68 | -.22 | .43 | .47 | .30 | -.70 | .71 | NA | .04 | .83 | -.23 | .40 | NA | .24 | - | | | |
| SSE | .16 | .26 | .71 | .11 | .99 | -.04 | -.07 | NA | .32 | .68 | -1.37 | .00 | NA | -.14 | .00 | - | | |
| SSF | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | - | |
| INC | .43 | -.35 | .24 | .00 | .16 | -.07 | -1.07 | NA | .40 | -.05 | .26 | -.76 | NA | .61 | -.43 | .02 | NA | - |

*indicates that some portion of unique variance is shared by some factor common to both observed variables (potential modification).

**CTS** Conflict Tactic Scale (Abuse)
**IPA** Index of Psychological Abuse
**ISA** Index of Sexual Abuse
**IC** Injury Checklist
**DLC** Difficult Life Circumstances (Stress)
**SLE** Stressful Life Events (Stress)
**GHQ** General Health Question (Physical Health)
**CHP** Chronic Health Problems (Physical Health)
**PHS** Physical Health Symptoms (Physical Health)

**CESD** Depression (Psychological Health)
**QLS** Quality of Life Scale (Psychological Health)
**SIS** Suicide Ideation Scale (Psychological Health)
**SSC** Companionship (Social Support)
**SSA** Advice and Information (Social Support)
**SSP** Practical Assistance (Social Support)
**SSE** Emotional Support (Social Support)
**SSF** Financial Assistance (Social Support)
**INC** Percent Poverty (Income)

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