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ECONOMIC AND MENTAL HEALTH EFFECTS OF JOB
INSTABILITY FOR LOW-INCOME SURVIVORS OF
INTIMATE PARTNER VIOLENCE: TWO STUDIES

presented by

Adrienne E. Adams

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of the requirements for the

Ph.D. degree in Psychology

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Major Professor's Signature

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**ECONOMIC AND MENTAL HEALTH EFFECTS OF JOB INSTABILITY FOR
LOW- INCOME SURVIVORS OF INTIMATE PARTNER VIOLENCE:
TWO STUDIES**

By

Adrienne E. Adams

A DISSERTATION

**Submitted to
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ABSTRACT

ECONOMIC AND MENTAL HEALTH EFFECTS OF JOB INSTABILITY FOR LOW- INCOME SURVIVORS OF INTIMATE PARTNER VIOLENCE: TWO STUDIES

By

Adrienne E. Adams

Intimate partner violence (IPV) has detrimental physical, psychological, and economic consequences for women's lives. In order to mitigate the harmful effects of abuse, it is necessary to identify the mediating factors that link IPV to women's well-being. Toward that end, this dissertation was comprised of two studies investigating the mediating role of job stability in explaining the economic and mental health effects of IPV on a sample of 503 current and former welfare recipients who were interviewed at five time points over the course of a seven year period, as part of a larger study. Study 1 tested the mediating effect of job stability on the relationship between IPV and women's economic well-being, while Study 2 was aimed at further explicating the association between IPV and women's mental health by examining the mediating role of job stability on the IPV-mental health relationship. To test the hypothesized model, path analysis was performed with the structural equation modeling software AMOS version 17.0; maximum likelihood methods were used to estimate model parameters. Factors that have been shown to be related to the job stability, economic well-being, and mental health of low-income women were controlled for to examine the unique contribution of IPV on women's economic and mental health.

The findings revealed that recent IPV compromised women's job stability, economic well-being, and mental health. The job instability associated with IPV was partly responsible for the economic and mental health issues women confronted. Study 1 showed that recent IPV was significantly related to the material hardship women experienced, as well as their perceptions of the extent of hardship they would experience in the future. The impact of recent IPV on women's objective and subjective material hardship could be at least partially attributed to job instability. Study 1 also showed that women who recently experienced IPV had greater job instability which negatively affected their access to job benefits. Study 2 provided further confirmation of the harmful mental health effects of IPV and demonstrated the mediating role of job stability in the IPV-mental health relationship. Recent IPV was significantly related to depression and anxiety, and job instability partially explained that relationship.

Taken together, these findings suggest that IPV reduces women's capacity to sustain employment, and as a result their economic and mental health can suffer. This research calls for increased efforts to address the employment-related needs of survivors of abuse. Domestic violence advocates and other services providers could focus on connecting women with employment-supporting resources such as transportation, childcare, or further job training, as well as work to educate and/or intervene with employers to prevent women from losing their jobs as a result of IPV. Such efforts could go a long way toward helping women find and keep jobs, thereby improving their mental health and economic well-being.

For Mom

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CHAPTER 1

INTRODUCTION

Intimate partner violence (IPV) committed by men against women is widespread and damaging to women's health and well-being. According to recent estimates, 1.5 million women are victimized each year (Tjaden & Thoennes, 2000), and 1 in 3 women are assaulted by an intimate partner in their lifetime (Campbell, 2002). Violence in intimate relationships ranges from pushing and shoving to strangulation or forced sex (Sutherland, Sullivan, & Bybee, 2001). For many women with an abusive partner, the violence escalates in severity over time, and attempts to end a violent relationship have been shown to increase women's risk for injury or death (Anderson, et al., 2003; Fleury, Sullivan, & Bybee, 2000; Mechanic, Weaver, & Resick, 2000). In fact, an intimate partner is responsible for one out of every five non-fatal violent crimes committed against women, and 30% of all female murder victims are killed by an intimate partner (Fox, 1998; Greenfeld & Rand, 1998; Rennison, 2003).

While IPV occurs in all segments of society and affects women of all ages, racial/ethnic groups, and social classes (Coker, Smith, Bethea, King & McKeown, 2000; Greenfeld & Rand, 1998), physical violence is pervasive in the lives of low-income women. Rates of current or recent violence among women receiving welfare range from 10% to 77%, compared to estimates of 1.3% for middle to high income women. Rates of lifetime violence range from 22% to 83% among welfare recipients, whereas estimates in the general population are around 22%

(Tjaden & Thoennes, 2000; Tolman & Raphael, 2000)¹. Studies show that women who experience IPV often suffer physical, psychological, and economic harm as a result of the abuse (Tolman & Rosen, 2001). For women in poverty, the negative effects of IPV only compound existing hardships that also threaten their health and well-being.

One of the ways IPV is harmful to women is its impact on employment stability (Raphael, 2001). Some abusive men directly interfere with their partner's work life by sabotaging their efforts to find a job or go to work from day-to-day, showing up at their place of employment, or harassing them in person or by phone while they are at work (Swanberg & Logan, 2005; Wettersten, 2004). For other women the interference is more indirect. For example, some women have a difficult time concentrating at work because they are thinking about problems at home. In the end, women often lose hours or days at work, are fired from or quit their jobs, and miss opportunities for employment because of the actions of their abusers (Raphael, 1996; Riger, Ahrens, Blinkenstaff, & Camacho, 1999; Swanberg & Logan, 2005; Tolman & Wang, 2005). While any woman with an abusive partner could experience employment problems as a result of abuse and suffer short and long-term negative consequences of a batterer's job interference, low-income women may be even more severely impacted by a

¹ Caution should be used in interpreting these prevalence rates. Poverty does not cause IPV. IPV is rooted in an abuser's learned attitudes of entitlement, superiority, and ownership of women, combined with the belief in the right to use physical violence in order to control their partner and maintain their dominant status (Bancroft, 2002; Ptacek, 1998; Schechter, 1982). The disproportionate rates of IPV among low income women could be influenced at least in part to under-reporting of IPV by higher income women. These rates also reflect IPV among both women with a history of poverty as well as higher income women who became impoverished after leaving an abusive relationship.

violent partner's actions. For one, low wage employment tends to be insecure; women who work in the low wage labor market move in and out of jobs at a higher rate compared to women employed in mid to upper income jobs (Hershey & Pavetti, 1997). Thus, the additional burden of an abusive partner could potentially compound an already precarious job situation. Further, low income women are more likely than higher income women to experience material hardship and other stressors associated with mental health problems such as anxiety and depression (McLeod & Kessler, 1990; Mickelson & Kubzansky, 2003). When IPV is added to the equation, further compromising women's employment, existing hardships and health concerns could be exacerbated (Goodman, Smyth, Borges, & Singer, in press).

Many studies have examined the impact of IPV on low-income women's employment (see Swanberg, Logan, & Macke, 2005 and Tolman & Raphael, 2000, for reviews). In those studies, employment as a construct has been operationalized many different ways. Early on, researchers discovered that the use of general employment status measures that captured whether women were employed or unemployed produced insignificant findings (Lloyd 1997; Lloyd & Taluc, 1999); binary measures of employment were simply insufficient to capture the complexity of the problem. Instead, measures that tapped dimensions of employment stability, such as annual work hours, number of months worked, or percentage of time employed better distinguished the employment experiences of IPV survivors and non-abused women (Brown, Salomon, & Bassuk, 1999; Riger, Staggs, & Schewe, 2004; Tolman & Wang, 2005). This advancement

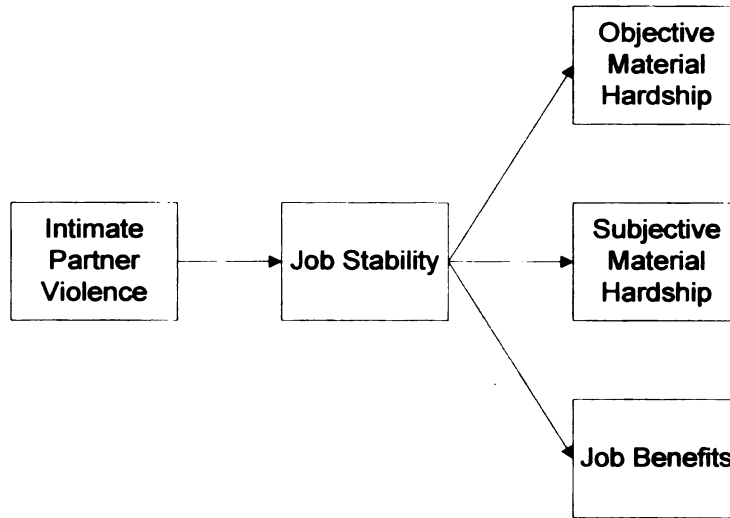
represented a shift in the conceptualization of the employment construct from “employment status” to “amount of time on the job.”

Studies using this improved type of measurement have led to a greater understanding of the impact of IPV on women’s employment; however, one key component of survivors’ employment experience has still not been adequately captured: job loss. We know from previous research that women with abusive partners are forced to quit or are fired from their jobs at a higher rate than non-abused women. This means that, over time, women experiencing abuse would likely lose and gain jobs more often than their non-abused counterparts. So while the amount of time one spends employed has an impact on economic well-being, so do experiences of job loss. For example, working ten months out of the year will produce different outcomes compared to working four months; similarly, working ten months at one job may have a different impact than working ten months out of the year at five or six different jobs. This dissertation involves two studies designed to extend the existing literature by operationalizing job stability as a function of the number of months worked and the number of job changes in the same period. As such, the overall amount of time women spend engaged in paid employment, as well as their experiences of job loss, was captured.

The two interrelated studies examined the impact of job instability on the mental health and well-being of low income women who have experienced intimate partner violence, using a large, longitudinal data set. The women in this sample were all receiving welfare at the beginning of the study, were disproportionately African American, and were predominately single mothers. At

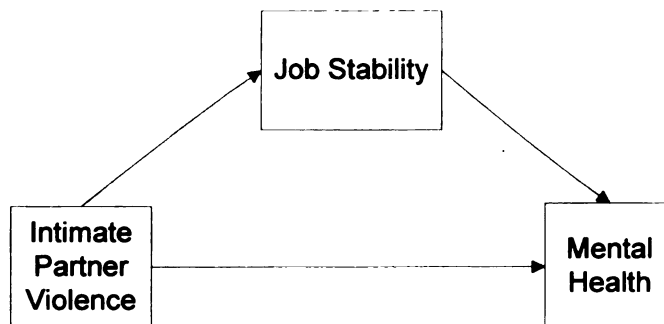
the final wave of data collection in early 2004, the majority of the women (57%) had not received assistance in the past year and 88% had earned income through employment. However, close to 90% of the women earned less than \$20,000 annually and about 75% lived in household with a total annual income under \$30,000. This was a sample of women who, by and large, were struggling to make ends meet on limited income, while caring for their children, and contending with the stressors associated with poverty. The two studies controlled for the contextual variables that are known to be commonly associated with low-income women's economic and mental health outcomes, in order to assess the impact of IPV on their well-being. Toward this end, Study 1 investigated both the direct and indirect effect of IPV on low-income women's job stability and economic well-being. Specifically, I examined whether IPV (past, recent past, and recent violence) negatively affects job stability and economic well-being (job benefits, subjective material hardship, and objective material hardship), and tested the meditational effects of job stability on the relationship between IPV and the economic outcomes.

Figure 1: Study 1 Conceptual Model



While Study 1 focused on the economic outcomes of job instability, Study 2 aimed to examine how unstable employment impacts the mental health of low-income women who have experienced IPV. This study tested whether intimate partner violence (past, recent past, and recent violence) negatively affects job stability and mental health (depression and anxiety) and investigated the meditational effect of job stability on the IPV—mental health relationship.

Figure 2: Study 2 Conceptual Model



CHAPTER 2

IMPACT OF INTIMATE PARTNER VIOLENCE ON LOW-INCOME WOMEN'S ECONOMIC WELL-BEING: THE MEDIATING ROLE OF JOB STABILITY

In 1996, Congress passed welfare reform legislation that instituted work requirements for recipients of public assistance. The new law placed time restrictions on welfare receipt and was designed to move individuals from welfare into the paid labor market. Immediately, domestic violence advocates were concerned about the implications of this policy for women with abusive partners. While it is difficult for many women to move from welfare into stable employment that pays well enough to make ends meet, some women relying on the welfare system must also confront barriers created by an abusive partner (Raphael, 1996). Many abusive men employ a range of control tactics that directly and indirectly interfere with women's efforts to find and sustain employment (Adams, Sullivan, Bybee, & Greeson, 2008; Swanberg, et al., 2005). For example, some batterers inflict physical and emotional injuries to keep women from working (Moe & Bell, 2004). They may also show up at their partners' place of employment and harass them on the job. They might call their partner incessantly at work, sometimes simply to interrupt, other times making accusations and threats (Swanberg & Logan, 2005). After a decade of research on the impact of abuse on women's employment, we now know that batterers' actions make it difficult for women to concentrate on the job, contribute to a poor attendance record, and often result in job loss (Barusch & Taylor, 1999; Moe &

Bell, 2004; Wettersten et al., 2004). We also know that welfare recipients with abusive partners spend less time gainfully employed, earn less income, and experience more material hardship compared to their non-abused counterparts (Lloyd & Taluc, 1997; Riger, Staggs, & Schewe, 2004; Romero, Chavkin, Wise, & Smith, 2003; Seifert, Heflin, Corcoran, & Williams, 2004; Tolman & Wang, 2005). Given the nature and effects of intimate partner violence, a significant concern among advocates and critics of the welfare reform policy was that women who were experiencing intimate partner violence would struggle to sustain employment at a level necessary for self-sufficiency, would suffer financial hardship, and could ultimately be forced to remain in or return to an abusive partner in order to meet their financial needs (Brandwein & Filiano, 2000; Raphael, 1999; Raphael & Tolman, 1997).

The current study examined the lives of a sample of women who were receiving public assistance at the start of welfare reform. Focusing on their experiences of IPV, level of job stability, access to job benefits, and extent of material hardship seven years later, this study asked two important questions: 1) To what extent does IPV contribute to the job instability and economic well-being of women affected by welfare reform? and 2) To what extent does job instability explain the association between IPV and women's economic well-being? While IPV is now recognized as a significant barrier to sustained employment and financial security for women (Raphael, 2001), this study was the first to put the pieces together by empirically examining the direct and indirect relationships among IPV, job stability, and economic well-being. Most significantly, this study

was the first to test whether job instability is a mechanism through which IPV affects low-income women's economic well-being. Further, existing empirical studies on the impact of IPV on women's employment have defined job instability in terms of the amount of time a woman is employed, without accounting for actual instances of job loss, which has been shown to be a common problem for women with abusive partners. This study extends previous research in two ways: first, by defining job stability as a function of both amount of time employed and number of job losses in the same period; and second, by examining the mediating impact of job stability on the relationship between intimate partner violence and economic well-being.

Impact of Intimate Partner Violence on Job Stability

A growing body of research is dedicated to understanding the impact of intimate partner violence on low-income women's employment. This collection of work suggests that at any point in time, a woman with an abusive partner is just as likely to have a job as any other woman (Lloyd & Taluc, 1997; Tolman & Rosen, 2001). What distinguishes women with abusive partners from their non-abused counterparts is more nuanced than whether she is currently working (Browne, Salomon & Bassuk, 1999; Lloyd & Taluc, 1999; Swanberg, et al., 2005; Tolman & Wang, 2005). Instead, differences have been found in their day-to-day work experiences and job stability. Specifically, the impact of abuse on women's employment is evident in aspects of job performance such as concentration and attendance (Brush, 2000; Swanberg & Logan, 2005; Swanberg, et al., 2005; Wettersten et al, 2004), as well as in experiences of job loss and the overall

amount of time spent employed versus unemployed (Lloyd, 1997; Moe & Bell, 2004; Sable, Libbus, Huneke & Anger, 1999; Staggs & Riger, 2005; Swanberg & Logan, 2005; Tolman & Wang, 2005).

Several studies have shown that concentrating at work is a common problem for women with abusive partners. Wettersten and colleagues (2004) found that seven of the ten women staying in a domestic violence shelter reported that the physical and emotional violence they were subjected to at home had left them exhausted and unable to focus on the job. They found themselves spending time and energy at work worrying about going home and coming up with strategies to avoid more conflict. Swanberg and Logan (2005) reported similar findings, with 71% of employed or recently employed women having difficulty concentrating because of abuse, and, when asked to reflect back over the previous year, 63% felt that their work performance had been compromised by the abuse.

In addition to concentration issues, regular work attendance can be a struggle for some women with abusive partners. Batterers may prevent women from getting to work on time, force them to leave work early, or cause them to miss full work days (Barusch & Taylor, 1999; Leone et al., 2004; Romero, et al., 2003; Sable, et al., 1999; Shepard & Pence, 1988; Swanberg & Logan, 2005; Tolman & Rosen, 1999; Wettersten, et al., 2004). In a classic study, Shepard and Pence (1988) surveyed 123 women attending a domestic violence support group and found that of the 71 women who were working at the time of the survey, 55% had missed work and 62% had been late for work or left work early because of

abuse. Similarly, Barusch and Taylor (1999) reported on partner violence experienced by long-term welfare recipients and found that 36% had stayed home from work because of abuse. There are innumerable ways batterers prevent their partners from working. For example, abusive men may keep their partners from sleeping, damage their car or hide the keys, or refuse to watch sick children (Swanberg & Logan, 2005; Wettersten et al., 2004). On-the-job harassment and constant interruption by abusers is common (Barusch & Taylor, 1999) and can make it difficult to get through the work day. For instance, women have reported being forced to leave work to talk on the phone with their batterer, or pulled away from work by a fictitious family emergency. For some women, the impact of abuse on job attendance is more indirect. Many feel too emotionally drained, exhausted, distressed, or depressed to function at work (Swanberg & Logan, 2005), while others have health problems or physical injuries that leave them in too much pain to go to work (Leone et al., 2004; Wettersten et al., 2004).

Concentration problems, daily distractions, and irregular attendance can make keeping a job especially difficult. Thus, it is no surprise that some women with abusive partners have problems sustaining employment (Bell, 2003; Meisel, Chandler, & Rienzi, 2003; Moe & Bell, 2004; Romero, et al., 2003; Sable, et al., 1999; Shepard & Pence, 1988; Swanberg & Logan, 2005; Tolman & Raphael, 2000; Wettersten, et al., 2004). In Swanberg and Logan's (2005) qualitative study of the work experiences of 32 women with abusive partners, an astounding 91% of women had quit or been fired from a job in the previous 24 months. Of those women, slightly over half had resigned from one job, and about half quit more

than one job in that time period. Forty-one percent had been fired from a job within the 2-year period, and among the reasons given for termination were “poor attendance at work, excessive personal phone calls, poor job performance, and the abuser showing up too many times” (p. 10). Two other qualitative studies support Swanberg and Logan’s findings. Wettersten and colleagues (2004) found that 60% of women interviewed had partners who prevented them from getting a job, forced them to quit, or got them fired from a job. Similarly, of the 19 women Moe and Bell (2004) interviewed, 68% experienced economic abuse that included interference with work that resulted in the loss of a job, either due to termination or resignation.

Employment instability is not only evident in women’s direct reports of job loss, but also in research linking abuse to reduced capacity to maintain employment over time. In one of the earliest studies of the abuse-employment connection, Lloyd (1997) found that low-income women who experienced IPV during their lifetime had more job turnover compared to women who had not been victimized by an intimate partner. In another early study, Browne, Salomon, and Bassuk (1999) interviewed 285 low-income women recruited from shelters and a welfare office and found women’s work histories were significantly affected by abuse. Specifically, women who had experienced physical violence were less likely to sustain employment at 30 hours per week for at least 6 months the subsequent year. Tolman and Wang (2005) examined women’s annual work hours using three waves of data from the Women’s Employment Study and found that, after controlling for health status, recent severe physical violence

significantly reduced the number of hours women worked in a year by 137 hours compared to women who had not experienced violence.

In a series of longitudinal studies using three waves of data from the Illinois Family Study, a six-year study of families moving from welfare to work in nine Illinois counties, Riger and colleagues (2004, 2005, 2007) confirmed the relationship between abuse and reduced time on the job, as well as demonstrated the importance of examining the timing of abuse relative to employment outcomes. In the first study, Riger and colleagues (2004) investigated the impact of past versus recent violence on mothers' employment over time and found that after controlling for employment-related human capital factors (e.g., work history and job skills), recent partner violence was associated with fewer months of employment, whereas lifetime history of abuse was not. In the next study, Staggs and Riger (2005) divided the sample into five groups based on the timing of their experiences of abuse (no abuse, past only, chronic, intermittent, and recent only). They found significant differences in employment outcomes based on the timing of abuse, with women who experienced abuse only during the three years of the study (recent only) having the worst employment outcomes. Women who experienced only recent abuse worked 37% of the time compared to the other groups who worked between 40% and 50% of the time. Finally, in their third study, Staggs and colleagues (2007) looked at the role of social support in mediating the abuse-employment relationship and found that while social support did not have a mediational effect, partner violence at year one did predict employment stability at year three. In other words, women

who had experienced abuse at year one worked fewer months two years later compared to women who had not experienced abuse at year one. Taken together, their work suggests that while recent abuse has the greatest immediate impact on employment, past abuse can have negative long-term consequences as well.

Relationship between Intimate Partner Violence and Economic Well-Being

The research on IPV and women's employment clearly indicates that many abusive men disrupt women's work lives. Research also suggests that the employment instability that abuse creates can have significant implications for women's economic well-being. Whether it is a few hours out of a day, a few days out of a week, or a few months out of the year, missed employment opportunities translate into lost income. According to a Bureau of Justice Statistics report, women lose an estimated \$18,000 in earnings each year as a result of partner violence (Greenfeld & Rand, 1998). Several research studies have linked partner violence to reduced income for women. In a community sample of 824 women from a low-income Chicago neighborhood, Lloyd and Taluc (1997) found that those who experienced violence in their relationship had lower personal income than those who had not. Women who had suffered the most severe violence at the hands of an intimate partner, including being beaten or raped, had the lowest incomes (\$997 per year) compared to the other women. Meisel, Chandler, and Rienzi (2003) randomly selected a group of 632 welfare recipients from two counties in California. Overall, women who reported being in need of domestic violence services had significantly lower earnings from employment than did

other women. Specifically, women who either did not need domestic violence services or needed them only in the past earned an average of \$13,681 to \$11,570. In comparison, women currently in need of domestic violence services earned an average of \$6,150, suggesting abuse has an immediate impact on earnings.

Without the necessary income to meet their daily needs, women with abusive partners often experience significant material hardship (Adams, et al., 2008; Tolman & Rosen, 2001). Studies have shown that many women in abusive relationships struggle to make ends meet and often end up having their utilities shut off or turning to a community agency for help paying bills (Romero, et al., 2003). It is also common for women to report difficulty finding and maintaining affordable housing. In fact, many studies have documented survivors' experiences of eviction and home foreclosure, doubling-up in homes with friends or relatives, and homelessness (Adams, et al, 2008; Baker, Cook, & Norris, 2003). With limited income it also becomes increasingly difficult to put food on the table (Vozoriz & Tarasuk, 2003); food insufficiency has been found to be a significant problem for women with abusive partners (Corcoran, Heflin, Siefert, 1999; Seifert, et al., 2004; Tolman & Rosen, 1998). In one study with low-income women seeking services from domestic violence programs, Adams and colleagues (2008) asked women to what they attributed the economic hardship they had faced, and 76% reported that their abusive partner was very much or completely responsible.

Not only does employment instability contribute to economic hardship associated with limited income, but it can also make it difficult to secure benefits such as paid leave, health care, and retirement savings. Regardless of abuse status, individuals experiencing serial job loss and frequent bouts of unemployment typically go without the employment-related benefits that are important for the health and well-being of families. Many jobs, particularly lower paying jobs, require individuals to work for a specified period of time before benefits begin. When one is cycling in and out of jobs, as research suggests many women with abusive partners do, it is likely that one will either not be at a job long enough to gain benefits or will lose benefits from one job and have to start the clock over with another employer (Moe & Bell, 2004; Romero, et al., 2003). We know from previous research that women with abusive partners are less likely than other women to have health insurance (Vest, Catlin, Chen & Brownson, 2002), they often lack assets such as savings accounts or retirement plans (Romero et al., 2003; Sanders, 2007), and they frequently do not have the benefit of sick days or vacation time (Moe & Bell, 2004). The disparity in access to job benefits may be in part due to the impact of abuse on women's employment.

The Current Study

In recent years, a great deal has been learned about the effects of IPV on women's employment and economic well-being. We know abuse makes it *difficult* for women to work, and we know that women with abusive partners *report* losing jobs because of the violence. We also know women with abusive

partners earn less money than other women and experience significant material hardship. Unfortunately, the hardships created by an abusive partner are not the only barriers to employment stability and improved economic well-being for low income women. Studies show that women who have relied on welfare to provide for their families face substantial challenges when attempting to find and sustain employment (Raphael, 1996; Tolman & Rosen, 2001). They often lack employment-supporting resources such as quality, affordable child care and reliable transportation (Meisel, Chandler, & Rienzi, 2003); some have not acquired the level of education or job skills necessary to find a job that pays a livable wage (Staggs & Riger, 2005); and the types of jobs typically available to low-income women often have undesirable working conditions and inflexible hours (Goodman, Smyth, Borges, & Singer, in press).

Collectively, prior research suggests that IPV- and poverty-related barriers to stable employment make it difficult for women to improve their family's financial health. However, no study to date has empirically investigated the links between IPV, job instability, and economic well-being among current and former welfare recipients. To fill this gap, the purpose of the current study was to examine the extent of the effect of IPV on the job stability and economic well-being of a group of women who were receiving financial assistance through the welfare program at the start of welfare reform. Specifically, this study grouped women based on the recency of IPV experiences and then, controlling for the effects of factors commonly associated with low-income women's employment and economic outcomes, examined differences in women's levels of job stability

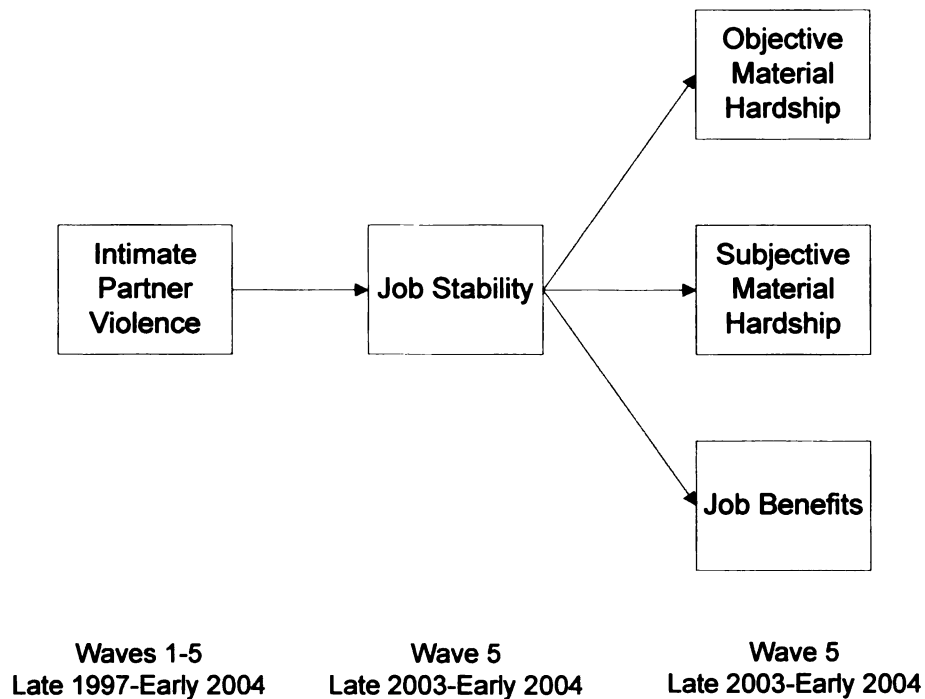
and economic well being seven years after welfare reform. It was expected that women's experiences of IPV would be directly related to their level of job stability, subjective and objective material hardship, and access to job benefits.

Specifically, it was hypothesized that women who experienced recent IPV would have higher job instability, more economic hardship, and fewer job benefits compared to women who experienced IPV earlier in time or never. It was further hypothesized that job instability would partially mediate the relationships among IPV, subjective and objective material hardship, and job benefits.

While previous studies have established an association between IPV and employment and women's experiences of material hardship, this study was the first to empirically examine the mediating effects of job instability on current and former welfare recipients' economic outcomes. This study also extends prior research by testing an alternative conceptualization of job stability. Previous research on the employment stability of survivors of abuse has defined job instability in terms of the amount of time spent employed. While working fewer hours or months reduces a person's income and can lead to financial hardship, this definition fails to account for job loss. Working nine months out of the year at one job is likely to have different economic outcomes than working nine months at four or five different jobs. Thus, job stability was calculated as a function of the amount of time employed and the number of job changes in the same period, producing a score that reflected the average amount of time a woman spent working at any one job. Using this alternative operationalization of job stability and testing a mediational model, this study offers important contributions to our

understanding of the economic impact of domestic violence on the lives of low-income women.

Figure 3: Conceptual Model



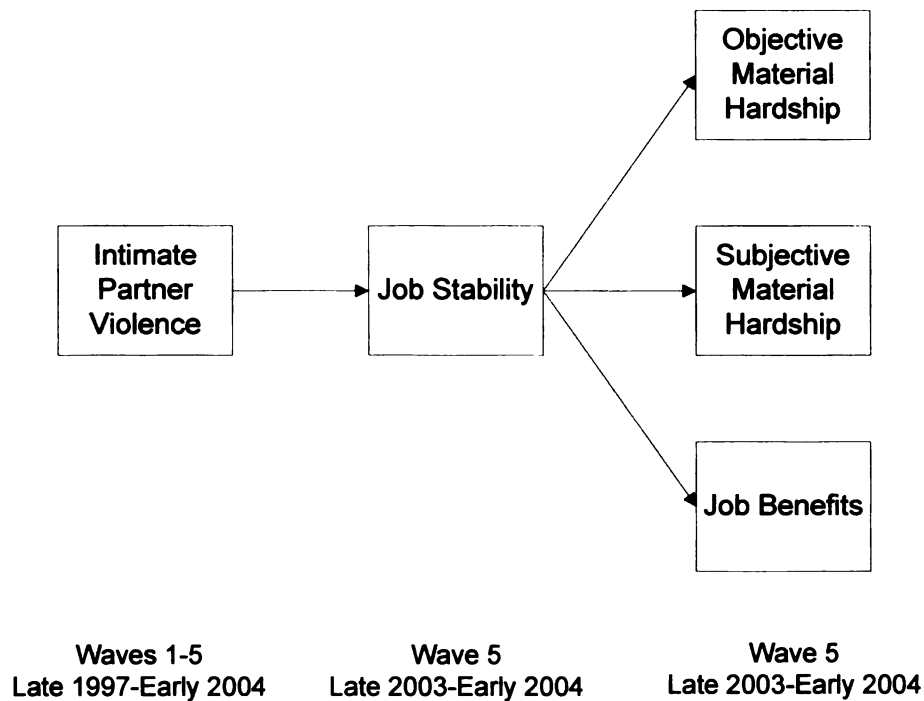
METHOD

Participants

The Women's Employment Study was a longitudinal study with a sample of single mothers who received cash assistance from Temporary Assistance to Needy Families (TANF) in one urban county in Michigan in February of 1997. Stratified random sampling was used to proportionally select cases by zip code, race (non-Hispanic, white or African American) and age (18 – 54). Of the 874 women who met the selection criterion, 753 (86% response rate) participated in

understanding of the economic impact of domestic violence on the lives of low-income women.

Figure 3: Conceptual Model



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the Wave 1 interview, which took place in the Fall of 1997. At Wave 2 (Fall 1998), 92% of the Wave 1 sample was interviewed, and at Wave 3 (Winter 1999) the response rate was 91% of the previous sample. Wave 4 data were collected from November 2001 through early 2002, again with a 91% response rate. Ninety-three percent of the women interviewed at Wave 4 were interviewed again at Wave 5, which started in September 2003 and concluded in early 2004. A total of 536 women participated in all five waves of the study, which is an attrition rate of 29%.

Procedure and Measures

Face-to-face structured interviews were conducted by a group of specially trained interviewers beginning in the fall of 1997 and ending in early 2004. On average, the interview lasted approximately 1 hour and assessed a wide range of economic, health, and life event domains. The following measures were used in this study:

Intimate Partner Violence was assessed with a modified version of the Conflict Tactics Scale (Strauss, 1979). The measure used in this study was comprised of six forms of severe violence, including 1) “hit you with a fist”; 2) “hit you with an object that could hurt you”; 3) “beaten you”; 4) “choked you”; 5) “threatened to or used a weapon”; and 6) “forced you into any sexual activity against your will.” At Wave 1, women were asked if they had ever experienced each type of violence in an intimate relationship, and if so, if it had happened in the past 12 months. At Waves 2-5, women were asked whether they had experienced each type of violence since the previous interview. With this

information, women were categorized into four groups that captured experiences of violence across time: the “No IPV” group consisted of 190 (38%) women who had never experienced partner violence. The “IPV Prior to Start of Study” group included 122 (24%) women who had experienced partner violence prior to but not during the study. The 90 (18%) women who experienced IPV at least once during the first 3 waves of the study were categorized into a “IPV 4-7 Yrs Prior” group, and 101 (20%) women who had reported partner violence in Wave 4 or Wave 5 became the “Recent IPV” group.

Job Stability. At Wave 5, women were asked “How many times have you changed your main job, that is, changed employers since [the last interview].” On average the number of months between Wave 4 and Wave 5 interviews was 24.14 ($SD = 1.46$). Responses ranged from 0 (no job change) to 7 (changed employers 7 times). Women were also asked to report whether they had worked for pay in each month since the last interview. The job stability variable was expressed as the number of months worked since the last interview divided by the number of job changes (plus a constant of 1 to remove the 0 value from the equation). Hence, job stability was operationalized as the average number of months at any one job since the last interview. Scores ranged from 0 to 29, with a mean of 12.88 ($SD = 9.3$).

Objective material hardship at Wave 5 was measured through a 7-item index addressing experiences of material hardship in the following areas: 1) gas or electricity turned off, 2) phone disconnected, 3) moved in with someone to share expenses, 4) been evicted, 5) been homeless 6) food insufficiency in the

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past 12 months, 7) asked a charity or community group for help ($M = 1.20$, $SD = 1.52$). *Subjective material hardship* at Wave 5 was assessed with the item, “In the next two months, how much do you anticipate that you and your family will experience actual hardships such as inadequate housing, food, or medical care.” Responses were based on a 5-point Likert scale (1 = not at all, 5 = a great deal; $M = 2.04$, $SD = 1.26$).

Job Benefits at Wave 5 was computed as a sum of the number of job benefits offered by participants’ current employer or recent employer if the participant was unemployed at the time of the interview but had been employed within 3 months of the interview. The benefits included paid sick days, paid vacation, a health plan or medical insurance, and a retirement program. Scores ranged from 0 (no benefits) to 4 (received all types of benefits), with a mean of 1.22 ($SD = 1.56$). Participants who were unemployed during the months between Waves 4 and 5 received a score of 0.

Control Variables. Variables known to be associated with economic outcomes were controlled for in the analyses: 1) a race binary variable indicating if the participant is African American; 2) participants’ age at the time of the Wave 5 interview; 3) number of years of education completed as of the Wave 5 interview; 4) a binary variable capturing whether the participant is married or single at Wave 5; 5) the number of the participant’s children in the household age five and younger at Wave 5; 6) a transportation problems binary variable, coded “0” if the participant owned a car and had a drivers license, or “1”, if the participant lacks a car and/or driver’s license at Wave 5; 7) a binary variable

indicating whether the participant's household income in 2000 was below the poverty line; 8) a summed index of the number of job skills participants had used in their most recent job at the time of the Wave 5 interview. The job skills included talking with customers face to face or over the phone, reading instructions or reports, writing letters or memos, working with a computer or other electronic machine such as a cash register, bar code scanner or calculator, doing arithmetic or making change, filling out forms, keeping a close watch over gauges, dials, or instruments of any kind, and supervising others.

Analysis

Path analysis was used to test the hypothesized model. Path analysis provides estimates of the magnitude and significance of hypothesized relationships among a set of variables (Garson, 2008). The path analysis was performed with the structural equation modeling software AMOS version 17.0, and maximum likelihood (ML) methods were used to estimate model parameters. Univariate skewness values indicated that the observed variables were sufficiently normal to meet the assumptions necessary for ML estimation.

Of the 536 women who completed all five interviews, 33 who were unemployed due to disability were excluded from this study, leaving a final sample of 503 women. In this sample there were two missing responses on both race and subjective material hardship and eight missing values on the poverty variable. Missing data in this study was handled in two ways. First, the path analysis was performed using full information maximum likelihood estimation (FIML). The FIML procedure was appropriate because it produces accurate

coefficient estimates and model fit indices with up to 25% missing data (Enders & Bandalos, 2001). Second, expectation maximization (EM) methods were used to estimate missing values so that modification indices could be calculated and the bootstrap procedure could be run in Amos with complete data. The estimates produced with missing data and with imputed data were compared to confirm there were no major differences.

Following the recommendation of Hu and Bentler (1999), three different types of fit indices were applied to evaluate model fit. First, the chi-square statistic (CMIN) was used to assess the absolute fit of the model. This statistic tests how well the model reproduces the observed covariance matrix. A higher probability associated with the chi-square statistic indicates closer fit between the hypothesized model and the observed data, thus good fit is expressed by a non-significant chi-square. Second, the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993) was employed to test the discrepancy between the hypothesized model and the true population model, correcting for the complexity of the model. An RMSEA less than .06 indicates good model fit (Hu & Bentler, 1999). Finally, the Comparative Fit Index (CFI; Bentler, 1990) was used to compare the fit of the hypothesized model to the fit of the null or independence model, essentially testing whether the hypothesized model was any better than the worst case model, where all the variables in the model are uncorrelated. The CFI values must be .95 or greater to claim adequate fit (Hu & Bentler, 1999).

Once initial overall model fit had been established, local model fit was assessed by examining the coefficient estimates and modification indices to identify additional paths that would improve model fit if added to the model. After modifications were made, the analysis was rerun and the fit indices were reviewed to determine whether fit had been improved. Once a model that adequately fit the data had been established, the final path model was used to test and interpret the hypothesized direct and indirect effects. To test the primary mediational hypothesis of this study, bootstrapping was used to determine the statistical significance of the indirect effects. Specifically, the statistical significance of the effects was determined by bias-corrected bootstrap estimates with a 95% confidence interval. The bootstrap procedure takes repeated samples from the original sample to compute a given parameter. The distribution of the parameter produced from the repeated sampling is used to estimate the variance in the population which allows the significance of the parameters to be estimated (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This procedure is a popular alternative to other methods for testing mediation due to its ability to yield unbiased estimates and greater power to detect effects. In order for an indirect effect to be interpreted as a mediated effect there must have been a significant direct effect between the independent and dependent variables. Consistent with MacKinnon (2008), significant indirect effects in the absence of significant direct effects were interpreted as indirect effects, as opposed to mediated effects. Thus, the distinction between an indirect effect and a mediated effect was based on the presence or absence of the unconditional direct effect.

RESULTS

Descriptive Results

At the time of the Wave 5 interview, on average, participants were 36 years old ($SD = 7.35$, range = 24 - 60) and had 2 children under the age of 18 living with them ($SD = 1.5$, range = 0 - 10). Fifty-six percent of the women were African American, 72% had at least a high school education, and 75% were unmarried at the time of the interview. Sixty-two percent of the women had experienced IPV at some point during their lifetime, and of those, 20% had recently experienced IPV. Among the types of abuse they had recently experienced, 11% were hit with a fist, 10% were hit with an object, 8% had been beaten, 12% had been choked, 8% were threatened with a weapon, and 5% were forced into sexual activity.

A majority of the women were employed (66%) at Wave 5 and on average participants worked 71% of the months between their Wave 4 and Wave 5 interviews. Thirty eight percent of the women worked for employers who offered at least one type of job benefit. Specifically, 28% had paid sick days, 37% had paid vacation time, and 32% participated in a retirement program. For the year 2000, 46% of the women had household incomes below the poverty line. In 2002, the last year income data was collected, participants' reported gross household incomes ranged from \$1,000 to \$90,000 ($M = 20,622$, $SD = 15,368$), and 45% fell below the poverty line. While all of the women in this sample were receiving assistance through the TANF program in February 1997, the majority of the women (68%) had not received any TANF in 2003.

In the 12 months preceding their final interview, 22% of the women reported that they did not have a driver's license and/or own a vehicle. In addition, 54% of the women reported that they had experienced at least one form of material hardship. Twelve percent had their utilities shut off because they could not pay the bill, and 31% had their phone disconnected or went without a phone because they were unable to afford the cost. The cost of food was an additional hardship for these women, with 17% reporting that they had experienced food insufficiency. Housing was also a problem for some women: 6% had been evicted, 19% moved in with someone to share the household expenses, and 6% had been homeless in the past year. In order to provide for themselves and their families, 29% reported that they had turned to a community charity for food or shelter. In addition to the actual hardships the women had experienced, they were also asked how much they anticipated experiencing hardships in the next two months. While 48% said "not at all," another 37% said they anticipated future hardships "a little" or "some" and 15% said "pretty much" or "a great deal."

Table 1: Demographics at Wave 5
(N = 503)

	Percent (%)
AGE	
24 – 34	48
35 – 44	38
45 – 54	12
55 – 60	2
RACE	
African American/Black	56
Other	44
EDUCATION	
Less than High School	2
Some High School	20
Completed High School	38
1-3 Years of College	35
4 years of College	5
EMPLOYMENT	
Unemployed	33
Employed	67
OWN CHILDREN IN HOUSEHOLD	
0	13
1	24
2	30
3	21
4 & over	12
MARITAL STATUS	
Married, living together	21
Separated/Divorced	30
Girl/boyfriend, living together	10
Girl/boyfriend, not living together	22
Single	17
HOUSEHOLD INCOME	
Under \$5,000	10
\$5,001 - \$10,000	16
\$10,001 - \$15,000	18
\$15,001 - \$20,000	18
\$20,000 - \$30,000	11
\$30,000 - \$40,000	20
Over \$40,000	7
POVERTY STATUS IN 2000	
Household income above poverty line	54
Household income below poverty line	46
JOB SKILLS	
0	5
1-4	23
5-7	35
8-10	37
TRANSPORTATION	
Owns/has regular use of a car	85
Has a license	84

Table 2: Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. No IPV	1.00													
2. IPV Prior to Study	-.441**	1.00												
3. IPV 4-7 Yrs Prior	-.364**	-.264**	1.00											
4. Job Stability	.036	.100*	.000	1.00										
5. Obj. Material Hardship	.204**	-.066	.047	-.244**	1.00									
6. Subj. Material Hardship	-.085	.036	-.038	-.109*	.417**	1.00								
7. Job Benefits	-.019	.046	.035	.483**	-.188**	-.173**	1.00							
8. Age	-.010	.225**	-.076	.103*	-.049	.142**	-.033	1.00						
9. Race	.106*	-.126**	.062	-.030	.000	-.060	.016	-.042	1.00					
10. Education Level	.074	.074	-.041	.176**	-.209**	-.227**	.246**	-.006	.064	1.00				
11. Poverty Line Yr 2000	-.058	-.096*	.048	-.212**	.185**	.142**	-.207**	.063	-.133**	-.218**	1.00			
12. Marital Status	-.009	.055	-.033	.033	-.120**	-.053	.077	.017	-.201**	.022	-.223**	1.00		
13. Kids under 6	-.006	-.138**	.060	-.108*	.040	-.053	-.013	-.375**	.004	-.011	.002	.045	1.00	
14. Job Skills	-.086	.065	-.040	.183**	.009	-.036	.290**	-.219**	-.200**	.251**	-.191**	.043	.095*	1.00
15. Transportation probs.	-.091*	-.039	.044	-.252**	.254**	.105*	-.224**	.082	.149**	-.234**	.186**	-.139**	-.018	-.194**

** p< .01; * p<.05; Race coded 1=African American, 0= white; Poverty coded 1=below poverty, 0=all else; marital status coded 1=married, 0=not married

Model Fitting Process

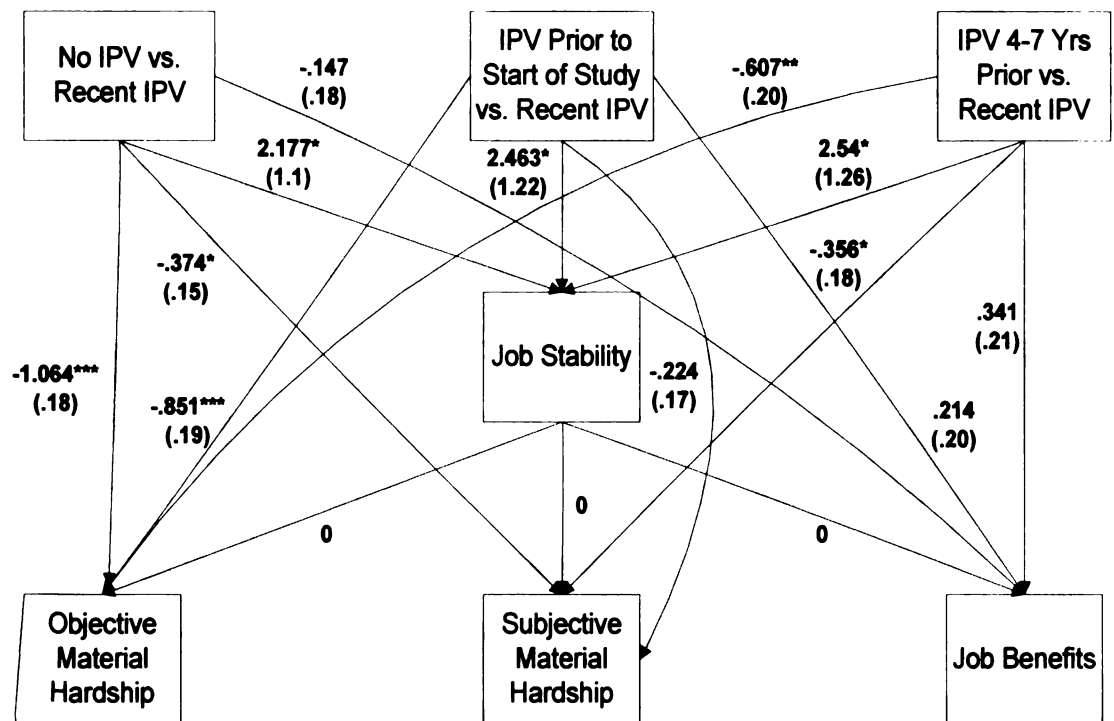
The model fitting process began with the estimation of an almost fully saturated explanatory base model, which estimated the effects of all control variables on all endogenous variables and all correlations among exogenous variables. The overall fit of the model was good, $\chi^2(N=503, 2) = 5.19, p = .075$, RMSEA = .056, 90% confidence intervals (CI) = .000-.118, CFI = .997. In order to achieve a parsimonious model with good fit, steps were then taken to trim non-significant paths from the model. In total, 46 non-significant paths were set to zero. While this model was more parsimonious, the chi-square statistic increased and reached significance, $\chi^2(N=503, 48) = 79.66, p < .01$, RMSEA and CFI continued to show good fit, RMSEA = .036, 90% (CI) = .021-.050, CFI = .972, and model fit was significantly worse in comparison with the base model (LR $\chi^2(N=503, 46) = 69.288, p = .015$). Modification indices were then examined and two sets of correlations were incorporated back into the model: poverty and education were both correlated with each of the IPV dummy variables. These additions improved the model both statistically and conceptually, given that in previous research IPV has been shown to be related to both poverty and education. The resulting model showed good fit, $\chi^2(N=503, 42) = 54.696, p = .09$, RMSEA = .025, 90% (CI) = .000-.041, CFI = .989, as well as no significant decrement in fit compared with the base model (LR $\chi^2(N=503, 40) = 49.51, p = .144$). The final model accounted for 14% of the variance in job stability, 18% of the variance in objective hardship, 9% of the variance in subjective hardship, and 29% of the variance in job benefits. Fit indices and chi-square difference test

statistics (LR χ^2) for each step in the model fitting process can be found in Table 3 below.

Table 3: Fit Indices

	CMIN	LR χ^2	RMSEA	CFI
Initial Model	5.186 (2), $p = .075$		.056	.997
Adjusted Model	79.66 (48), $p < .01$	69.288 (46), $p = .015$	.036	.972
Final Model	54.696 (42), $p = .091$	49.51(40), $p = .144$	.025	.989

Figure 4: Direct Effects Path Model



*** $p < .001$; ** $p < .01$; * $p < .05$; standard errors are in parentheses; control variables included: poverty, job skills, kids under 6, marital status, race, transportation problems, education, age

Direct Effects

In order to assess the direct effects of IPV on job stability, material hardship, and job benefits, the model was first tested without estimating the effects of the mediator (job stability) on the dependent variables (objective material hardship, subjective material hardship, and job benefits; see Figure 2). This model showed good overall fit, $\chi^2 (N=503, 45) = 176.352, p < .001$, RMSEA = .076, 90% (CI) = .065-.088, CFI = .885, however, there was a significant decrement in fit compared with the full model (LR $\chi^2 (N=503, 3) = 121.656, p < .001$). As hypothesized, after controlling for factors commonly associated with low-income women's employment outcomes, IPV was significantly related to

women's job stability, objective material hardship, and subjective material hardship. Women who experienced IPV within the prior three years (Recent IPV) had significantly lower levels of job stability compared to women who had never experienced IPV ($B = 2.18, p < .05$), those who had experienced IPV prior to the start of the study ($B = 2.46, p < .05$), and those who experienced IPV four to seven years prior ($B = 2.54, p < .05$). Specifically, women who experienced recent IPV worked 2.18 fewer months at any one job during Wave 5 compared to women who never experienced abuse, 2.46 months fewer than women who experienced IPV prior to the study, and 2.54 months fewer than women who experienced IPV four to seven years earlier.

In addition to job stability, Recent IPV was significantly associated with greater objective and subjective material hardship. Specifically, women who experienced IPV within the prior three years had experienced significantly more objective material hardship compared to all other groups of women (No IPV: $B = -1.06, p < .001$; IPV Prior to Start of Study: $B = -.851, p < .001$; IPV 4-7 Yrs Prior: $B = -.607, p < .01$). Women's degree of subjective material hardship was significantly linked to recent IPV when compared to women with no IPV experiences ($B = -.374, p < .05$) and those who experienced IPV four to seven years prior ($B = -.356, p < .05$), but not compared to women who experienced abuse only prior to the start of the study ($B = -.224, p = .28$). Contrary to expectations, no direct effects were found between IPV and job benefits.

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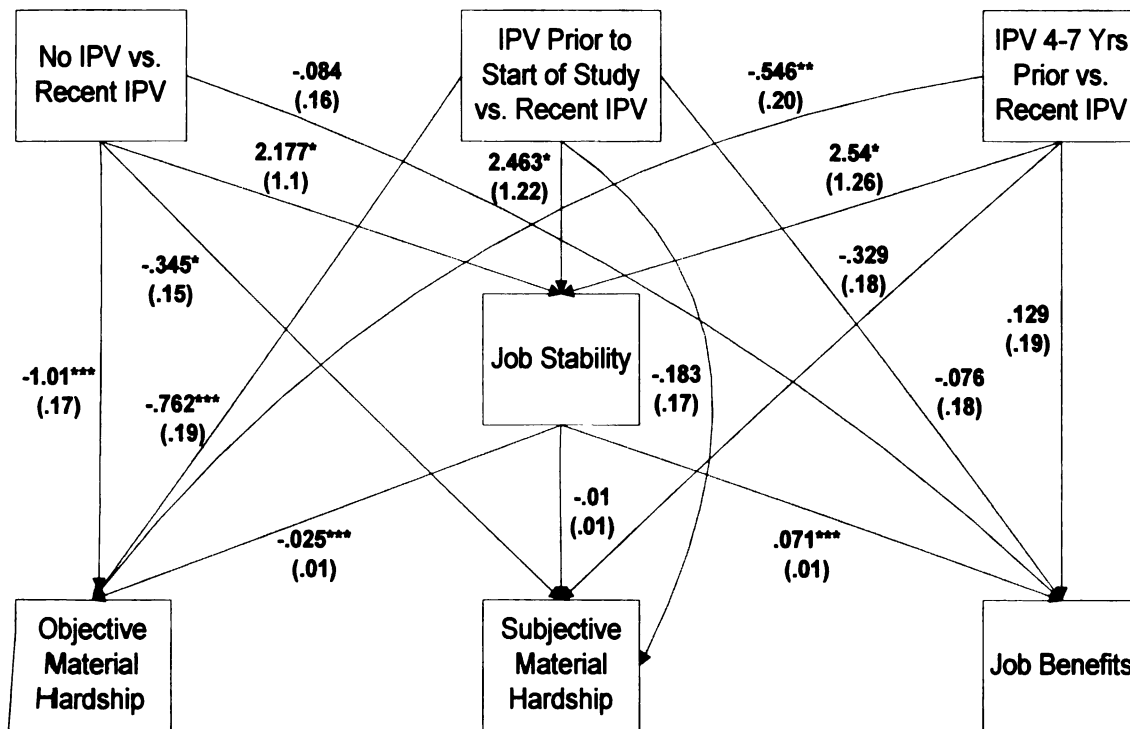
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Figure 5: Full Path Model



*** $p < .001$; ** $p < .01$; * $p < .05$; standard errors are in parentheses; control variables included: poverty, job skills, kids under 6, marital status, race, transportation problems, education, age

Mediated and Indirect Effects

It was hypothesized that the impact of IPV on women's subjective and objective material hardship and job benefits would be partially mediated by their level of job stability. Using the full final path model (Figure 3), the bootstrap procedure was run to determine the statistical significance of the indirect effects, and the expected mediated effects were found between IPV and objective material hardship when Recent IPV was compared to No IPV (indirect $B = -.054$, $p < .05$), IPV Prior to Start of Study (indirect $B = -.061$, $p < .05$), and IPV 4-7 Yrs Prior (indirect $B = -.063$, $p < .05$). In order to test whether the effect was fully or partially mediated, the model was rerun with the paths from IPV to objective

hardship set to zero and the resulting chi-square value was compared to the full model. The difference in chi-square (LR χ^2) values between the models was 33.828 (df=3), which was statistically significant ($p < .05$), indicating that model fit was significantly worsened when the path from the predictor to the dependent variable was set to zero. This means that a significant additional proportion in the overall variance was explained by the direct path from IPV to objective hardship. Thus, the relationship between IPV and objective material hardship was partially explained by job stability.

Also as expected, job stability mediated the relationship between IPV and subjective material hardship for Recent IPV compared to No IPV (indirect B = -.023, $p < .05$), but not compared to IPV Prior to Start of Study (indirect B = -.026, $p < .056$) or IPV 4-7 Yrs Prior (indirect B = -.026, $p = .062$). Again, the model was rerun with the appropriate paths set to zero and the chi-square difference test was performed. The results showed no significant reduction in model fit with the direct path set to zero (LR $\chi^2(N=503, 3) = 6.105$, $p = .107$), indicating that the relationship between IPV and subjective material hardship was fully explained by job stability. Hence, when compared to women who never experienced IPV, those who experienced IPV within the prior three years were significantly more likely to anticipate future material hardship as a result of the job instability they had experienced.

Given that a significant direct effect of IPV on job benefits was not found, the mediational hypothesis was not supported. However, significant indirect effects were found, in that Recent IPV was linked to job benefits through job

stability when compared to No IPV (indirect $B = .154$, $p < .05$), IPV Prior to Start of Study (indirect $B = .174$, $p < .05$), and IPV 4-7 Yrs Prior (indirect $B = .18$, $p < .05$). In other words, compared to all three other groups of women, those who experienced IPV within the prior three years had significantly lower job stability, which in turn reduced the number of job benefits they had access to.

Table 4: Mediated and Indirect Effects

	No IPV vs. Recent IPV			IPV Prior to Study vs. Recent IPV			IPV 4-7 Yrs Prior vs. Recent IPV		
	B	p	Effect Type	B	p	Effect Type	B	p	Effect Type
Objective Material Hardship	-0.054	<.05	PM	-0.061	<.05	PM	-0.063	<.05	PM
Subjective Material Hardship	-0.023	<.05	FM	-0.026	0.056	n/a	-0.026	0.062	n/a
Job Benefits	0.154	<.05	IE	0.174	<.05	IE	0.180	<.05	IE

Effect Type: FM = full mediation; PM = partial mediation; IE = indirect effect

DISCUSSION

The current study sought to investigate the extent to which IPV contributes to the job instability and economic well-being of current and former welfare recipients seven years after the 1996 welfare to work requirements were instituted, as well to test whether job instability explains the relationship between IPV and women's subjective and objective experiences of material hardship and access to job benefits. Further, this study employed a measure of job stability that captured not only the amount of time women spent employed, but also

instances of job loss, which is known to be a common problem for women with abusive partners. The results showed that IPV did directly affect women's job stability, objective material hardship, and subjective material hardship, but not their access to job benefits. In addition, significant mediating or indirect effects were found for each of the economic outcomes of interest, demonstrating the considerable role job instability plays in the economic well-being of low-income women who have experienced IPV.

Looking specifically at the effects of IPV on job stability, this study found that women who experienced recent IPV (within the past 3 years) had significantly lower job stability compared to women who never experienced IPV, those who experienced IPV prior to, but not during the study, and those who experienced IPV 4-7 years prior, but no more recently. In other words, IPV contributed to women's job instability, such that women who were recently in an abusive relationship spent less time at any one job, on average, compared to all other groups of women. In fact, the women recently in a violent relationship worked on average 2.17 fewer months at any one job compared to women who were never in a violent relationship, 2.46 fewer months than those who experienced IPV only prior to the start of this study, and 2.54 months less than women who had been in an abusive relationship four to seven years prior. This finding demonstrates the extent to which IPV can negatively impact women's job stability and suggests that the effect of IPV on women's job stability is relatively immediate but could lessen after the abuse ends.

Significant direct effects were also found between IPV and women's objective and subjective material hardship. First, women recently in an abusive relationship experienced significantly more objective material hardship than all other groups of women. This means that when compared to women who never experienced IPV or experienced it eight or more years prior, women who were recently victimized by an intimate partner had more difficulty meeting their basic needs, such as securing housing, paying bills, and putting food on the table. This is consistent with previous research showing women with abusive partners experience substantial material hardship (Adams, Sullivan, Bybee, & Greeson, 2008; Romero, Chavkin, Wise, & Smith, 2003; Tolman & Rosen, 2001), and extends prior research by demonstrating the importance of the recency of IPV in relation to the material hardship; considering specifically the material hardship experienced by the three groups of women who had experienced IPV in their lives (i.e., within last 3 years, 4-7 years prior, 8 or more years ago), the recent IPV group consistently reported significantly more objective material hardship compared to the other two groups of survivors. Again, this suggests that IPV has an immediate impact on women's financial health, but once the IPV ends the effect is reduced.

Second, while a similar pattern of findings was expected with subjective material hardship, an unexpected finding emerged. The effect of IPV on women's subjective material hardship was significant when comparing Recent IPV with No IPV and IPV 4-7 Yrs Prior, but not IPV Prior to Start of Study. That is, women who experienced IPV within the last three years (recent IPV) were significantly

more likely to anticipate that their family would experience material hardship in the near future compared to women who had never experienced IPV and compared to women who experienced IPV four to seven years earlier; however, women who experienced IPV before the study began did not differ significantly from women experiencing more recent IPV on their beliefs about their financial future. This finding is particularly interesting given that significant differences on experiences of objective material hardship were found between recent IPV and IPV that occurred four to seven years earlier and IPV occurring prior to the study. So while women who were in an abusive relationship prior to study entry experienced significantly less actual material hardship compared to women who recently experienced IPV, they shared a similar negative outlook on their financial future. One possible interpretation is that once a woman is no longer experiencing IPV her appraisal of her financial situation significantly improves, relative to women who have been victimized more recently; however, as time passes since the IPV occurred and one's financial circumstances do not markedly improve, one's subjective appraisal of the hardship they will face in the future might return to levels similar to that of women who have experienced IPV more recently.

In addition to examining the impact of IPV on women's job stability and economic well-being, this study also sought to explain how IPV affects women's economic well-being by testing the mediating role of job instability. As hypothesized, the effects of IPV on objective material hardship were partially mediated by job stability. Specifically, when compared to women who never

experienced IPV and those who experienced IPV at some point in the past, either four to seven years earlier or prior to the study, women who recently had a violent intimate partner experienced more material hardship such as insufficient housing, food, and money to pay bills, and those hardships were partially attributable to greater job instability. This finding suggests that one of the reasons why women who have recently experienced IPV suffer more material hardship compared to other women is that their job stability has been compromised as a result of the violence. More specifically, the results of the study indicated the experience of recent IPV significantly reduced the amount of time women spent working at any one job, and that job instability was partially responsible for the material hardship survivors faced.

Similarly, job stability was expected to partially mediate the relationship between IPV and subjective material hardship. The results showed that rather than partial mediation, job stability fully mediated the IPV—subjective material hardship relationship when comparing Recent IPV with No IPV. Women who experienced IPV in recent years anticipated significantly more future material hardship compared to women who had never had an abusive partner, and their appraisal of their upcoming financial struggles was fully explained by their lower level of job stability. Thus, women who recently experienced IPV had a more negative outlook on their financial future as a result of the effect IPV had on their job stability.

The final economic outcome this study explored was job benefits. Previous research suggested that IPV may be linked to limited access to benefits

through paid employment; thus, it was hypothesized that IPV would be directly related to women's access to job benefits and that this relationship would be partially explained by job instability. This hypothesis was not supported; however, a significant indirect effect was found, such that women who experienced Recent IPV, compared to all other groups of women, experienced significantly more job instability which was then linked to significantly fewer job benefits. So while IPV did not directly affect women's job benefits, it was indirectly linked to benefits through job stability. In other words, women who have experienced IPV in recent years spent less time at any one job compared to women who have never experienced IPV or those who experienced IPV in the past, and that job instability was then linked to reduced access to health care, vacation time, sick days, or a retirement plan.

The findings of this study need to be considered in light of the limitations. First, although this study does utilize longitudinal data to categorize women according to their IPV history, the study was generally cross-sectional in design. Thus, while important contributions have been made to our understanding of the mediating role of job stability for women's economic well-being, it is unclear from this study whether IPV causes women's job stability, material hardship, and lack of job benefits. To make causal statements about the interrelationships among these variables, future research should utilize measures of IPV, job stability, hardship, and benefits at multiple time points to allow for an examination of the temporal ordering of events. Such analyses were not possible in this research

due to inconsistent measurement of the number of job changes variable across waves of the larger study.

A second limitation of this study was that the categorization of women based on the recency of their IPV experience failed to account for the fact that some of the women could have been experiencing chronic IPV. The distribution of IPV experiences within this sample prohibited categorization based on both recency and chronicity. While attending to the recency of IPV is consistent with evidence in previous research showing that recent IPV is most strongly associated with employment outcomes (Staggs & Riger, 2005), future research should take chronicity of IPV experiences into account in order to examine the unique impact that ongoing IPV may have on women's economic well-being.

The definition of job stability also posed a potential limitation. Job stability, operationalized as a function of women's job changes and amount of time employed, implies that all job change is negative, when in fact a woman could leave one job to transition into a higher paying position. However, this limitation might only apply to the material hardship pathways of the model, given that any job change, whether positive or negative, can result in at least a temporary loss of job benefits.

Finally, the women in this study were primarily low-income, African American women with children, which limits the generalizability of the findings to women with similar demographic characteristics. Future research should investigate the economic effects of IPV for women with diverse socioeconomic backgrounds.

Even with these limitations, this study has important implications for research, practice, and policy. First, this study provides further confirmation of the need for researchers to attend to the recency of IPV when assessing employment and other economic outcomes. Growing evidence in the literature has suggested that recent IPV has the greatest impact on women's employment compared to no IPV, past IPV, intermittently occurring IPV, and chronic IPV (Brown, et al., 1999; Riger, et al., 2004; Staggs & Riger, 2005; Tolman & Wang, 2005). Building on these findings, the current study used longitudinal data to group women based on their IPV experiences across time, which allowed for the direct comparison of recently occurring IPV, with IPV that occurred four to seven years earlier, eight or more years prior, or not at all. Overall, the results showed that recent IPV was linked to worse outcomes for women, suggesting that IPV can have a relatively immediate impact on women's employment and economic health. In fact, women who experienced IPV just a few years earlier were better off economically compared to women who recently experienced IPV. Based on these findings, it may be advantageous for researchers to collect individual level economic data at shorter intervals over time in order to more precisely detect the effect of IPV on women's employment and economic health.

This study also has important practice implications. Among this sample of primarily low-income, current and former welfare recipients, recent IPV has been shown to have detrimental consequences for women's job stability and economic well-being, after controlling for other factors known to be associated with these same outcomes. Moreover, the material hardship experienced by these low

income women was at least partly due to the effect IPV had on their job stability, and the women with the least access to job benefits were those who had their employment compromised by a violent partner. Taken together, these findings call for increased efforts to address the employment-related needs of women in abusive relationships. Domestic violence advocates and other services providers could focus on connecting women with employment-supporting resources such as transportation, child care, or further job training, as well as work to educate and/or intervene with employers to prevent women from losing their jobs as a result of IPV. Such efforts could go a long way toward helping women find and keep jobs, thereby improving their economic well-being.

Finally, two significant policy implications can be drawn from this study. First, the findings substantiate the concerns of domestic violence advocates and provide further support for the Family Violence Option (FVO) for women receiving welfare. The FVO recognized the potential for batterer interference in women's attempts to transition from welfare to work and was designed to protect women with abusive partners from the punitive consequences of not complying with the welfare to work requirements. The current study clearly shows that recently occurring IPV reduces women's capacity to sustain employment and lends further support for such a provision in our welfare policy. Second, in order for violence against women service providers to be able to assist women with their employment-related needs, federal funds should be designated specifically for employment supporting resources. Such action would communicate that women's employment is fundamentally tied to their long term health and well-

being, and as such funds should be put toward helping them sustain employment. Similarly, a policy could be enacted requiring that Work First programs collaborate with their local violence against women organizations to screen for IPV and provide advocates for women attending the program. The mission of the Work First program is to move welfare recipients back into the labor market and the mission of domestic violence programs is generally to provide women with the help and support they need to find safety and heal from the effects of an abusive relationship. The findings of this study suggest that the missions of these groups are complementary, and together they could safely put women back to work and on a path to a better financial future for themselves and their children.

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CHAPTER 3

A STUDY OF THE MENTAL HEALTH CONSEQUENCES OF JOB INSTABILITY FOR LOW-INCOME WOMEN WHO HAVE EXPERIENCED INTIMATE PARTNER VIOLENCE

Intimate partner violence (IPV) is a significant social problem and public health concern. Each year in the U.S., it is estimated that 4.5 million acts of physical violence are committed against women at the hands of an intimate partner (Tjaden & Thoennes, 2000), and approximately 30% of women are victimized by an intimate partner during adulthood (Browne 1993; Campbell, 2002). The physical violence women endure ranges from pushing and shoving to punching and kicking to forced sex and strangulation (Sutherland, Sullivan, & Bybee, 2001). Physical attacks of this nature often leave women with immediate visible injuries, and can result in permanent injury or death. In fact, 37% of female emergency room patients treated for a violence-related injury were injured by an intimate partner (Rand, 1997), and one out of every three female homicide victims are killed by their intimate partners (Fox, 1998; Rennison, 2003).

Living with physical violence and the ongoing threat of violence has significant implications for women's mental health. Women with abusive partners and ex-partners suffer from a range of mental health problems including PTSD, generalized anxiety, depression, lowered self-esteem, suicidality, and substance abuse (Cascardi, O'Leary & Schlee, 1999; Coker et al., 2002; Pico-Alfonso et al., 2006; Sackett & Saunders, 1999). Depression and anxiety disorders are among the most commonly experienced mental health issues associated with partner

violence, with rates among survivors of abuse at least two times greater than those found in the general population (Golding, 1999; Ramos, Carlson, & McNutt, 2004; Shear, Cloitre, Pine, & Ross, 2005). Symptoms of anxiety and depression can interfere with daily life and normal functioning (National Institute of Mental Health, 2008) and, for some women, lead to suicidal thoughts or attempts (Leiner, Compton, Houry, & Kaslow, 2008; Weaver et al., 2007).

In an effort to find safety away from an abusive partner, women with few alternative resources often turn to welfare as a financial safety net after leaving an abusive relationship. This is evidenced by high rates of IPV reported among welfare recipients. Studies show that rates of current or recent violence among women receiving welfare range from 10% to 77%, and lifetime rates of violence range from 22% to 83% (Tjaden & Thoennes, 2000; Tolman & Rapheal, 2000). These rates are also influenced by women already receiving welfare who are victimized by an intimate partner. Regardless of whether the IPV or need for public assistance came first, women living in poverty often confront tremendous amounts of stress in their everyday lives that can affect their mental health (Goodman, Smyth, Borges, & Singer, in press). In fact, a review of prevalence rates for depression among welfare recipients found 1 in 5 met the criteria for major depressive disorder and nearly half had symptoms of depression that warranted concern (Lennon, Blome, & English, 2002). Thus, the added experience of partner violence only exacerbates already stressful conditions, further threatening women's psychological health (Goodman, Smyth, Borges, & Singer, in press).

Of primary importance among violence against women researchers, advocates, and practitioners is identifying ways to reduce or eliminate the harmful mental health impact of intimate partner violence. In order to develop effective interventions, it is essential to understand the process through which partner violence impacts women's mental health. In previous research, IPV has been linked to depression and/or anxiety through its impact on social support (Beeble, Bybee, Sullivan, & Adams, 2009; Williams & Mickelson, 2004), self-esteem (Williams & Mickelson, 2004), feelings of powerlessness, hopelessness, and loss of control (Bargai, Ben-Shakhar, & Shalev, 2007; Campbell, Sullivan, & Davidson, 1995), and coping responses (Lee, Pomeroy, & Bohman 2007; Calvete, Corral, & Estevez, 2008). However, no study to date has considered job instability as a potential factor linking partner violence to women's mental health outcomes.

The research literature has clearly demonstrated that job instability is a common problem for women with abusive partners. The actions of some abusive men make it difficult for women to find and/or sustain employment. Some batterers directly interfere with women's employment by preventing them from going to work or harassing them on the job (Barusch & Taylor, 1999). Some abusive men use tactics that indirectly affect their partner's employment, such as causing physical injuries, preventing sleep, or destroying clothes (Swanberg & Logan, 2005; Wettersten, et al., 2004). Regardless of the tactics used, the end result for women can be problems with concentration and productivity on the job, missed hours and/or workdays, and often times lost employment opportunities

(Brush & Raphael, 2000; Moe & Bell, 2004; Swanberg & Logan, 2005; Tolman & Wang, 2005).

The consequences of employment instability can be far reaching.

Research on employment and women's mental health has shown a strong connection between women's work life and psychological well-being (Pavalko & Smith, 1998; Repetti, Matthews, & Waldron, 1989). Studies conducted with representative samples of women in general, low income women, and low income women with violent partners have all suggested that employment can have beneficial psychological effects for women to the extent that it fulfills a need for social support, financial resources, a sense of purpose, or a sense of control over one's life (Brush, 2000; Blustein, 2008; Danzinger, Carlson, & Henly; 2001; Davies & McAlpine, 1998; Gyamfi, Brooks-Bunn, & Jackson; 2001; Repetti, et al., 1989; Ross & Mirowsky, 1992; Wettersten et al., 2004). When employment is disrupted, women not only lose any positive benefits derived on-the-job, but they also often experience financial stress that can further erode their mental health (McCallum, Arnold, & Bolland, 2002; Samuels-Dennis, 2006; Turner, 2007).

Existing research clearly links intimate partner violence with both job instability and mental health problems for women, and studies have shown that employment is related to women's mental health in general. Taken together, these areas of research suggest that employment may be a key point of intervention for improving the mental health of survivors of abuse. However, to date no study has explicitly tested a mediational model with these three factors: physical abuse, employment stability, and mental health. Thus, the purpose of

the current study was to empirically investigate the extent to which employment instability mediates the relationship between intimate partner violence and adverse mental health symptoms in low-income women.

Effects of Intimate Partner Violence on Women's Mental Health

Across a variety of samples, including low-income women, research has shown that intimate partner violence can have devastating effects on women's psychological well-being. Two of the most common mental health problems associated with partner violence are depression and anxiety disorders (Coker et al., 2002; Carleson, McNutt, Choi & Rose, 2002; Golding, 1999). Women struggling with depression experience fatigue, difficulty sleeping, feelings of worthlessness, and concentration problems, among other symptoms (Cascardi, O'Leary & Schlee, 1999). Studies conducted with survivors of intimate partner violence and with women suffering from depression have both found a strong link between intimate partner violence and depression. A review of literature on the prevalence of mental health problems among women with a history of intimate partner violence reported that an average of approximately 48% of women with abusive partners suffer from depression. This rate is 2 to 4.5 times higher than that found in general populations of women (Golding, 1999). Among women diagnosed with major depression, 61% report a history of intimate partner violence, which is 2 times greater than the lifetime prevalence rates of 25 to 30% found in the general population (Campbell, 2002; Dienemann et al., 2000).

Anxiety is characterized by excessive worry that can lead to physical symptoms such as restlessness, headaches, irritability, and sleeplessness

(Anxiety Disorders Association of America, 2008). Similar to rates of depression, the prevalence of anxiety disorders among women with abusive partners is higher than that found in the general population of women. Whereas approximately 7% of women in the general population suffer from anxiety disorders (Shear, Cloitre, Pine, & Ross, 2005), prevalence among female survivors of domestic violence has been estimated between 13% and 46% (Helfrich, Fujiura, & Rutkowski-Kmitta, 2008; Loxton, Schofield, & Hussain, 2006; Ramos, Carlson, & McNutt, 2004; Tolman & Rosen, 2001).

While any violence committed against women by an intimate partner can be psychologically harmful, research indicates that the level of psychological symptoms women experience depends to some extent on the severity and recency of the violence. First, studies have shown that more severe forms of violence are associated with increased mental health problems (Coker et al., 2002; Dienemann et al., 2000; McCauley, Kern, Kolodner, Derogatis, & Bass, 1998; Sato-DiLorenzo & Sharpe, 2007). For instance, McCauley and colleagues (1998) surveyed 1,931 primarily white women with diverse socioeconomic backgrounds from five community-based health care practices. They found that women who were currently experiencing low-severity violence (defined as pushing, shoving, or threatening harm) reported significantly more depression and anxiety symptoms than women in violence-free relationships, but significantly fewer symptoms than women experiencing severe violence. That is, women who had been hit, slapped, kicked, physically hurt, or forced into sexual activity were the most likely to report problems with depression and anxiety.

Similarly, Sato-DiLorenzo & Sharpe (2007) reviewed the medical records of 177 primarily African American low-income women visiting a health clinic located in a domestic violence shelter to examine the health impact of dangerous intimate relationships. They found that women who reported symptoms of depression or anxiety were more likely to report that their partner's violence was escalating in severity, they had been subjected to sexual violence or strangulation, and that their partner had access to weapons, used substances, or had threatened their life or his own.

The extent of the effect of intimate partner violence on women's mental health is also dependent on the recency of the abuse (Bonomi, Anderson, Rivara, & Thompson, 2007; Campbell & Soeken, 1999; Campbell, Sullivan, & Davidson, 1995; Ramos, Carlson, & McNutt, 2004; Tolman & Rosen, 2001). Recent abuse has been shown to have a greater impact on women's mental health status than past abuse. For example, Bonomi and colleagues (2007) conducted telephone surveys with 3,429 randomly selected women and found that almost 40% of women who had experienced intimate partner violence in the past five years reported symptoms of depression, compared to 22% of women who were victimized by an intimate partner more than five years before and 14% of never-abused women. Tolman and Rosen (2001) reported on the first wave of data collected for the Women's Employment Study and found a similar pattern between recency of violence and low-income women's mental health status. Specifically, rates of depression and anxiety were highest among women who had experienced severe partner violence in the past 12 months, followed by

women who had been victimized prior to the study, and the lowest rates were found among never-abused women. Using a longitudinal design, Campbell, Sullivan, and Davidson (1995) interviewed 141 women upon exiting a domestic violence shelter, 10 weeks later, and then again at six months post shelter. At shelter exit, all of the women had recently experienced violence and 83% reported symptoms of depression. At each follow-up interview, the rates of violence and depression decreased overall. However, for women still experiencing violence, depression remained a concern. At the 10-week and 6-month interviews, women who had been recently assaulted had significantly higher rates of depression than did women who were no longer experiencing violence. Taken together, these studies suggest that intimate partner violence has an immediate impact on women's mental health, but once the violence ends, symptoms of depression and anxiety may subside.

Effects of Intimate Partner Violence on Women's Employment Stability

Studies conducted with women from low, middle, and upper income households have found that sustaining employment can be a challenge for women with abusive partners. Abusive men often forbid, discourage, or directly prevent their partners from working (Aguilar & Nightingale, 1994; Brewster, 2003; Curcio, 1997; Hudson & McIntosh, 1981; Riger, Ahrens, Blinckenstaff, & Camacho, 1999; Sable, Libbus, Huneke, & Anger, 1999; Shepard & Pence, 1988; Tolman, 1989; VonDeLinde, 2002; Walker, 1979; Weitzman, 2000). For example, in a study of 42 low-income women attending a domestic violence support group, Shepard and Pence (1988) reported that 33% of the women were

prohibited from working and another 59% had been discouraged from holding a job. Other studies have described how abusive men sabotage their partners' efforts to find a job or go to work. For example, women have reported that their partners interfered with their efforts to work by sabotaging their cars, threatening or physically restraining them, failing to show up to care for their children, stealing their car keys or money, or refusing to give them a ride to work (Raphael, 1996; Riger, Ahrens, & Blickenstaff, 2001; Swanberg & Logan, 2005; Wettersten, et al., 2004). These tactics, as well as others such as withholding medication, preventing sleep, cutting her hair, hiding her clothes, and inflicting injuries have been reported elsewhere (Brandwein & Filiano, 2000; Brewster, 2003; Lloyd, 1997; Lloyd & Tuluc, 1999; Moe & Bell, 2004; Raphael, 1996). On-the-job harassment and constant interruption by abusers is also common (Barusch & Taylor, 1999). Batterers have been known to show up at their partners' place of employment, harass them with telephone calls throughout the workday, and harass their coworkers or boss (Lloyd, 1997; Lloyd & Taluc, 1999; Raphael, 1996; Riger, Ahrens, & Blickenstaff, 2001).

Batterers' interference with their partners' employment has been shown to have a wide range of negative consequences for women, including difficulty concentrating, lost hours at work, missed workdays, and lost jobs (Barusch & Taylor, 1999; Leone et al., 2004; Romero, Chavkin, Wise & Smith, 2003; Sable, et al., 1999; Shepard & Pence, 1988; Swanberg & Logan, 2005; Tolman & Rosen, 1998; Wettersten, et al., 2004). Women have also reported feeling too emotionally drained, exhausted, distressed, or depressed to function at work

(Swanberg & Logan, 2005), while others had health problems or physical injuries that left them in too much pain to go to work (Leone et al., 2004; Wettersten et al., 2004).

Unfortunately, for many women the ultimate employment-related consequence of their partners' violence and interference is job loss (Bell, 2003; Meisel, Chandler, & Rienzi, 2003; Moe & Bell, 2004; Romero, et al., 2003; Sable, et al., 1999; Shepard & Pence, 1988; Swanberg & Logan, 2005; Tolman & Raphael, 2000; Wettersten, et al., 2004). In Swanberg and Logan's (2005) qualitative study of the work experiences of 32 low-income women with abusive partners, an astounding 91% of women had quit or been fired from a job in the previous 24 months. Of those women, slightly over half had resigned from one job, and about half quit more than one job in that time period. Forty-one percent had been fired from a job within the 2-year period, and among the reasons given for termination were "poor attendance at work, excessive personal phone calls, poor job performance, and the abuser showing up too many times" (p. 10). Two other qualitative studies support these findings. Wettersten and colleagues (2004) found that 60% of women from a domestic violence shelter had partners who prevented them from getting a job, forced them to quit, or got them fired from a job. Similarly, of the 19 domestic violence shelter residents Moe & Bell (2004) interviewed, 68% experienced economic abuse that included interference with work that resulted in the loss of a job, either due to termination or resignation.

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While any woman with an abusive partner could be forced out of a job because of abuse, numerous studies have documented significant job instability among low-income women with violent partners. Research shows that low-income women who have recently been abused by an intimate partner experience a significant reduction in the amount of time they spend on-the-job. For instance, Browne and colleagues (1999) interviewed 285 low-income women recruited from shelters and a welfare office and found women who had experienced physical violence were less likely to sustain employment at 30 hours per week for at least 6 months the subsequent year. Tolman and Wang (2005) examined women's annual work hours using three waves of data from the Women's Employment Study and found that, after controlling for health status, abuse significantly reduced the number of hours women worked in a year by 137 hours. Riger and colleagues (2004) investigated the impact of past versus recent partner violence on mothers' employment over time and found that after controlling for employment-related human capital factors (e.g., work history and job skills), recent partner violence was associated with fewer months of employment, whereas lifetime history of abuse was not. In another study, Staggs and Riger (2005) divided the same sample into five groups based on the timing of their experiences of abuse (no abuse, past only, chronic, intermittent, and recent only). They found significant differences in employment outcomes based on the timing of abuse, with women who experienced abuse only during the three years of the study (recent only) having the worst employment outcomes. Women

who experienced only recent abuse worked 37% of the time compared to the other groups who worked between 40% and 50% of the time.

Employment and Women's Mental Health

In 1950, 18 million American women participated in the labor force (Toossi, 2002), and by 2006 the number had risen dramatically to 67 million (U.S. Department of Labor, 2008). As women began to move from home-based labor to the paid work force in greater numbers, researchers became interested in the mental health effects of employment for women. After decades of research, the evidence suggests that involvement in the labor force is related to women's mental health, and several theoretical perspectives explaining the work-health relationship have emerged (Pavalko & Smith, 1999; Repetti, Matthews, & Waldron, 1989).

One explanation, the healthy worker hypothesis, proposes that women who are in better health are more likely to be employed, while those with health issues are more likely to move out of the workforce. In other words, this approach positions women's health as a potential impediment to employment. When applied to low-income women, particularly those receiving welfare, studies show that mental health problems can act as a barrier to finding and sustaining employment. For example, several studies have shown that poor women with high levels of depression find it more difficult to work than do other women (Coiro, 2001; Danzinger, Carlson, & Henly, 2001; Danzinger, Kalil, & Anderson, 2000; Jayakody, Danzinger, & Pollack, 2000; Jayalody & Stauffer, 2000).

The work-benefits model offers an alternative perspective on the link between women's employment and mental health. This model suggests that paid employment is beneficial for women to the extent that it provides them with greater opportunities for financial resources, power and a sense of control over their lives, social support and connectedness, as well as self-esteem and a social identity (Blustein, 2008; Davies & McAlpine, 1998; Repetti, et al., 1989; Ross & Mirowsky, 1992). Research on non-welfare samples has demonstrated the psychological benefits of employment for women. For instance, studies have shown that married women who are unemployed suffer more negative mental health effects compared to their employed counterparts (Davies & McAlpine, 1998; Repetti, et al., 1989; Warr & Parry, 1982), and it has been suggested that such differences reflect variations in access to social support through employment (Parry, 1986; Repetti, et al., 1989). Similarly, Davies and McAlpine (1998) discovered that the difference in psychological distress between unemployed and employed mothers was partially explained by their perceptions of control over their lives, suggesting that employment can improve women's sense of control and result in positive mental health outcomes. Evidence that employment can contribute to a feeling of control has also been found in studies on single women who are the sole financial providers for their families, suggesting that single women providing for their families alone gain a greater sense of control from employment compared to women who are able to rely on other sources of income to meet their family's financial needs (Ali & Avison, 1997; Belle, 1990; Ross & Mirowsky, 1992).

When extended to welfare recipients, research findings on the mental health benefits of employment are more mixed. For example, some evidence has shown that the extent to which employment benefits low-income women psychologically is influenced by job characteristics, such as repetitiveness and level of occupational control and autonomy (O'Campo & Rojas-Smith, 1998). However, other studies have demonstrated a positive relationship between employment and psychological well-being. For instance, Danzinger and colleagues (2001) found that despite the poor job quality, former welfare recipients who found employment after leaving welfare were at lowered risk for depression and had higher life satisfaction compared to those who were unemployed. Similarly, Gyamfi, Brooks-Gunn, and Jackson (2001) found that low-income single black mothers who were employed had fewer symptoms of depression than their unemployed counterparts, even though both groups of women experienced high levels of financial strain. Further, financial strain was related to depression for unemployed single mothers, but not for mothers who were working, suggesting that the financial strain employed mothers were experiencing was not influencing their mental health. The authors concluded that employed mothers might have been feeling a greater sense of purpose from their employment, reducing any effect that the financial strain might have had on their psychological health.

Research employing the healthy worker hypothesis focuses on the mental health barriers to employment, while studies conducted from the work-benefits model examine the positive contributions of employment to women's mental

health. A third framework for exploring the employment – mental health relationship for women is the stress process model (Pearlin, 1989, 2002). Research conducted from this perspective focuses on understanding the negative consequences of job instability. Specifically, from this perspective undesirable job change or loss is a negative life event that can trigger a chain of stressful conditions and result in adverse mental health outcomes (Price, Choi, & Vinokur, 2002; Turner, 2007). Studies with economically diverse samples have shown that the stress of unstable employment has negative mental health consequences for women. For example, Thomas and colleagues (2007) reported that women who moved from employment to unemployment were at increased risk for psychological distress, and the relationship between employment transitions and mental health was partially explained by their financial circumstances.

The financial stress resulting from the loss of income has been studied as a key mediator in the stress process model (Price, et al., 2002; Turner, 2007). When applied to low-income women, this framework would suggest that job instability contributes to chronic financial strain, which is often a precursor to material hardships such as food insufficiency, housing instability, a lack of transportation, and inadequate medical care (McCullum, Arnold, & Bolland, 2002; Samuels-Dennis, 2006). Studies show that, under conditions of financial strain and material deprivation, low-income women's risk for mental health problems such as anxiety and depression is greatly increased (Brown & Moran, 1997; Hall, Williams, & Greenberg, 1985; Lynch, Kaplan, & Shema; 1997; Samuels-Dennis,

2006; Turner, 2007). For example, Turner (2007) provided evidence for the stress process explanation of the employment-mental health relationship in her study with 508 rural primarily single mothers. Turner found that unemployed mothers reported significantly higher financial stress and significantly more symptoms of depression than did employed mothers. The types of financial stress women experienced included lacking money for bills, clothes, transportation, medical care, housing, and children's needs. In this study, greater financial stress predicted women's level of depression, even after controlling for demographic characteristics, other types of chronic stress, and previous history of major depressive disorder. Further, the effect of employment on women's symptoms of depression was partially mediated by financial stress, indicating that women's employment circumstances can lead to depression to the extent that it affects their experiences of financial stress.

The Current Study

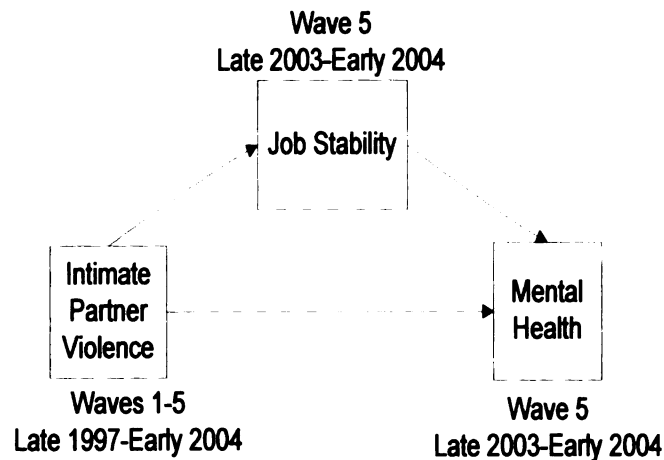
Previous studies on the intersections among intimate partner violence, employment, and mental health have approached the issue from a healthy worker perspective; that is, researchers have focused on understanding mental health as a barrier to sustained employment for survivors of abuse (Chandler, Meisel, Jordan, Rienzi, & Goodwin, 2005; Coiro, 2001; Corcoran, Danziger, & Tolman, 2004; Danziger, et al., 2001; Helfrich, Fujiura, & Rutkowski-Kmitta, 2008; Mascaro, Arnett, Santana & Kaslow, 2007; Riger, Ahrens, Blickenstaff, & Camacho, 1999; Yoshihama, Hammock, & Horrocks, 2006). In reality, the association between women's employment and mental health is likely bi-directional. In other words, while for some women with abusive partners, mental

health problems can be a significant barrier to employment, there is also evidence suggesting that employment plays an important role in influencing the mental health of survivors. For example, studies show that work can serve as an escape from violence and can be viewed as an important avenue toward economic independence from an abuser (Brush, 2000; Wettersten, et al., 2004). Additionally, the work-benefits framework suggests that employment may have beneficial mental health effects to the extent that it provides women with resources and supports that expand their social networks, sense of purpose, and ability to shape their own lives. Given this, when an abusive intimate partner threatens a woman's job he is also jeopardizing any resources, supports, and sense of control that employment was providing, and as a consequence her mental health can suffer. The stress process model further warns that disrupted employment can operate as a source of stress, thereby negatively affecting mental health. Research shows that job instability is a stressful experience that leads to further stressful economic conditions and hardship that can diminish a woman's psychological well-being.

Building on previous research and drawing from the work-benefits framework and stress process model to connect employment to women's mental health, the current study was the first to test whether job instability is a mediating factor explaining the relationship between intimate partner violence and women's subsequent psychological well-being. In doing so, this study was also the first to include women's experiences of job loss in the operationalization of job stability. We know from prior research that women are often fired from or quit jobs

because of abuse, but no study to date has considered job loss in the definition of job stability. In response, the current study operationalized job stability as a function of the amount of time women spent employed and their experiences of job loss. Thus, the aim of the study was to build on existing research by examining the extent to which job instability, defined as the average amount of time spent working at any one job, explains the impact of abuse on low-income women's experiences of depression and anxiety. Controlling for factors known to be associated with employment and mental health outcomes for low-income women (e.g., race, age, education, and poverty status), it was expected that recent intimate partner violence would be directly related to job instability, depression, and anxiety, and that the relationship between partner violence and the mental health outcomes would be partially mediated by job instability.

Figure 6: Conceptual Model



METHOD

Participants

This study used data from five waves of the Women's Employment Study, a longitudinal study of single mothers who were receiving welfare in February of 1997. The initial sample of women was drawn from a list of all the single mothers who received cash assistance from Temporary Assistance to Needy Families (TANF) in one urban county in Michigan. Stratified random sampling was used to proportionally select cases by zip code, race (non-Hispanic, white or African American) and age (18 – 54). Of the 874 women who met the selection criterion, 753 (86% response rate) agreed to participate in the study and completed Wave 1 interviews in the fall of 1997. Wave 2 and Wave 3 interviews were conducted at approximately one year intervals with 693 and 632 women participating, respectively. Wave 4 interviews were completed with 577 women from November 2001 through early 2002, and Wave 5 interviews were completed with 536 women from September 2003 through early 2004. Of the 536 women who completed all five interviews, 33 who were unemployed due to disability were excluded from this study, leaving a final sample of 503 women.

Procedure and Measures

Interviews were conducted by a group of specially trained interviewers beginning in the fall of 1997 and ending in early 2004. Interviewers administered face-to-face standardized interviews using a paper-and-pencil survey instrument. The interview lasted approximately one hour on average and assessed a range of economic, health, and life event domains. The following measures from the interview were used in this study:

Intimate Partner Violence.

A six-item severe violence measure from the Conflict Tactics Scale (Strauss, 1979) was used to assess intimate partner violence. At each interview, women were asked if an intimate partner had 1) "hit you with a fist;" 2) "hit you with an object that could hurt you;" 3) "beaten you;" 4) "choked you;" 5) "threatened to or used a weapon;" and 6) "forced you into any sexual activity against your will." At Wave 1, women were asked whether they had ever experienced each type of violence in an intimate relationship, and if so, if it had happened in the past 12 months. At each subsequent interview women were asked whether they had experienced each type of violence since the previous interview. With this information, women were categorized into four groups that captured patterns of violence across time. The "No IPV" group consisted of 190 (38%) women who had never experienced partner violence. The "IPV Prior to Study" group included 122 (24%) women who had experienced partner violence prior to but not during the study. The 90 (18%) women who experienced IPV at least once during the first three waves of the study were categorized into a "IPV 4-7 Yrs Prior" group, and 101 (20%) women who had reported assault during Wave 4 or Wave 5 became the "Recent IPV" group.

Job Stability

At Wave 5, women were asked "How many times have you changed your main job, that is, changed employers since [the last interview]." On average the number of months between Wave 4 and Wave 5 interviews was 24.14, with a standard deviation of 1.46. The maximum number of job changes women

reported was 7, while the minimum was 0. Participants also reported whether they had worked for pay in each month since the last interview. The job instability variable was computed as the number of months worked since the last interview divided by the number of job changes (plus a constant of 1 to remove the 0 value from the equation). Hence, job stability was operationalized as the average number of months at any one job since the last interview. Scores ranged from 0 to 29, with a mean of 12.88 ($SD = 9.3$).

Mental Health

The WHO-CIDI-SF (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1999) was used to measure the likelihood of a diagnosis of major depression or generalized anxiety disorder. For both mental health disorders, the diagnostic interview first contained a series of screening questions that assessed the persistence of feelings of depression or anxiety. For depression, women who reported feeling sad, blue, or depressed or losing interest in most things for at least most of the day, almost every day of the week for at least two weeks in a row were then asked to report whether they had experienced the following additional symptoms: losing interest, feeling tired, losing or gaining weight, having trouble falling asleep, having trouble concentrating, feeling down on yourself, and having thoughts about suicide. With this information, a continuous symptom count variable was created, with scores ranging from 0 to 7 with a mean of 1.1 ($SD = 2.2$). The greater the number of symptoms women experienced, the greater the probability of a diagnosis of major depression. As

such, all findings were interpreted in terms of the likelihood of a major depression diagnosis.

Similarly for anxiety, women who reported being anxious or worried most of the time for a period of six months or longer on a set of screening questions were then asked whether they experienced the following symptoms: restlessness, feeling keyed up or on edge, irritability, pounding or racing heart, fatigue, difficulty falling asleep, and dizziness or lightheadedness. A continuous symptom count variable was created that had scores ranging from 0 to 7 with a mean of .83 and a ($SD = 2.0$). As with the depression measure, higher anxiety symptom scores were associated with a greater probability of a diagnosis of generalized anxiety disorder; thus, findings were interpreted as the likelihood of a generalized anxiety disorder diagnosis.

The symptom count measures were used in this study rather than a dichotomous diagnosis measure to maximize variability in the outcomes. Both symptom count measures were shown to be highly reliable: the internal consistency coefficient for major depression with this sample was .95, while the generalized anxiety disorder scale yielded an alpha coefficient of 1.0.

Control Variables

Variables known to be associated with low-income women's mental health (WHO International Consortium in Psychiatric Epidemiology, 2000) and/or employment (Staggs & Riger, 2005; Tolman & Wang, 2005) were controlled for in the analyses: 1) a race binary variable indicating if the participant was African American; 2) participants' age at the time of the wave 5 interview; 3) number of

years of education completed; 4) a binary variable capturing whether the participant was married or single; 5) the number of the participant's children in the household age five and younger; 6) a transportation problems binary variable, coded "0" if the participant owned a car and had a drivers license, or "1", if the participant lacked a car and/or driver's license; 7) a binary variable indicating whether the participant's household income in 2000 was below the poverty line; and 8) a summed index of the number of job skills participants had used in their most recent job. The job skills included talking with customers face to face or over the phone, reading instructions or reports, writing letters or memos, working with a computer or other electronic machine such as a cash register, bar code scanner or calculator, doing arithmetic or making change, filling out forms, keeping a close watch over gauges, dials, or instruments of any kind, and supervising others.

Analysis

The analysis began by examining the frequency distribution and descriptive statistics to identify any distributional issues. Anxiety and depression were both positively skewed (2.17 and 1.63, respectively) and anxiety was highly kurtotic (2.96). To normalize the skew and correct kurtosis, a log transformation was applied to the variables. The transformation improved the distribution of both variables: after the transformation, the skewness value for anxiety was 2.04 and kurtosis was 2.24; depression had a skewness value of 1.49 and kurtosis was .31. All other observed variables were sufficiently normal to meet the assumptions necessary for maximum likelihood (ML) estimation.

To test the hypothesized model, path analysis was performed with the structural equation modeling software AMOS version 17.0, and ML methods were used to estimate model parameters. Of the 536 women who completed all five interviews, 33 who were unemployed due to disability were excluded from this study, leaving a final sample of 503 women. With less than 1% of values missing from the dataset, two approaches were used to handle the minimal missing data in this analysis. First, the path analysis was performed using full information maximum likelihood estimation (FIML). The FIML procedure was appropriate because it produces accurate coefficient estimates and model fit indices with up to 25% missing data (Enders & Bandalos, 2001). Second, expectation maximization (EM) methods were used to estimate the missing values so that modification indices could be calculated and the bootstrap procedure could be run in Amos with complete data. The estimates produced with the incomplete dataset and imputed data were compared to confirm there were no major differences.

Following the recommendation of Hu and Bentler (1990), three different types of fit indices were applied to evaluate model fit. First, the chi-square statistic (CMIN) were used to assess the absolute fit of the model. This statistic tests how well the model reproduces the observed covariance matrix. A higher probability associated with the chi-square statistic indicates closer fit between the hypothesized model and the observed data, thus good fit is expressed by a non-significant chi-square. Second, the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993) was employed to test the discrepancy

between the hypothesized model and the true population model, correcting for the complexity of the model. An RMSEA less than .06 indicates good model fit (Hu & Bentler, 1999). Finally, the Comparative Fit Index (CFI; Bentler, 1990) was used to compare the fit of the hypothesized model to the fit of the null or independence model, essentially testing whether the hypothesized model was any better than the worse case model, where all the variables in the model are uncorrelated. The CFI values must be .95 or greater to claim adequate fit (Hu & Bentler, 1999).

Once initial overall model fit had been established, local model fit was assessed by examining the coefficient estimates and modification indices to determine whether any paths needed to be added or trimmed from the model to improve the overall fit. After modifications were made, the analysis was rerun and the fit indices were reviewed to determine whether fit had been improved. Once a model that adequately fit the data had been established, the final path model was used to test and interpret the hypothesized direct and indirect effects. The statistical significance of the indirect effects were determined by bias-corrected bootstrap estimates with a 95% confidence interval. The bootstrap procedure takes repeated samples from the original sample to compute a given parameter. The distribution of the parameter produced from the repeated sampling is used to estimate the variance in the population which allows the significance of the parameters to be estimated (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This procedure is a popular alternative to other methods for testing

indirect effects due to its ability to yield unbiased estimates and greater power to detect effects.

RESULTS

Descriptive Results

On average, women in this study were 36 years old ($SD = 7.35$) and had two children under the age of 18 living with them ($SD = 1.5$, range 0 - 10) at the time of the Wave 5 interview. Just over half of the women were African American (56%) and 75% were unmarried at the time of the interview. Seventy-two percent had at least a high school education, and the majority were employed (66%) at the Wave 5 interview. Participants' average gross household income was \$20,622 for the year 2002 (range \$1,000 to \$90,000). When the study began in 1997, all of the women were receiving TANF; in 2003, 32% were receiving assistance through the welfare program.

The majority of the women had experienced severe IPV during their lifetime (62%); of those women, 29% were in a severely violent relationship during the first three years of the study, and 13% recently experienced severe IPV (i.e., during the last two waves of the study). The women who were recently abused reported that they had been hit with a fist (6%), hit with an object (6%), beaten up (5%), strangled (7%), threatened with a weapon (5%), and forced into sexual activity (2%). At the time of the Wave 5 interview, 20% of the women met the criteria for major depression and 14% met the criteria for generalized anxiety disorder.

Table 5: Demographics at Wave 5
(N = 503)

	Percent (%)
AGE	
24 – 34	48
35 – 44	38
45 – 54	12
55 – 60	2
RACE	
African American/Black	56
Other	44
EDUCATION	
Less than High School	2
Some High School	20
Completed High School	38
1-3 Years of College	35
4 years of College	5
EMPLOYMENT	
Unemployed	33
Employed	67
OWN CHILDREN IN HOUSEHOLD	
0	13
1	24
2	30
3	21
4 & over	12
MARITAL STATUS	
Married, living together	21
Separated/Divorced	30
Girl/boyfriend, living together	10
Girl/boyfriend, not living together	22
Single	17
HOUSEHOLD INCOME	
Under \$5,000	10
\$5,001 - \$10,000	16
\$10,001 - \$15,000	18
\$15,001 - \$20,000	18
\$20,000 - \$30,000	11
\$30,000 - \$40,000	20
Over \$40,000	7
POVERTY STATUS IN 2000	
Household income above poverty line	54
Household income below poverty line	46
JOB SKILLS	
0	5
1-4	23
5-7	35
8-10	37
TRANSPORTATION	
Owns/has regular use of a car	85
Has a license	84

Table 6: Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. No IPV	1.00												
2. IPV Prior to Study	-.441**	1.00											
3. IPV 4-7 Yrs Prior	-.364**	-.264**	1.00										
4. Job Stability	.036	.100*	.000	1.00									
5. Depression	-.125**	-.012	.026	-.145**	1.00								
6. Anxiety	-.166**	.052	.065	-.166**	.499**	1.00							
7. Age	-.010	.225**	-.076	.103*	.033	.049	1.00						
8. Race	.106*	-.126**	.062	-.030	-.089*	-.046	-.042	1.00					
9. Education Level	.074	.074	-.041	.176**	-.042	-.059	-.006	.064	1.00				
10. Poverty Line Yr 2000	-.058	-.096*	.048	-.212**	.038	.106*	.063	-.133**	-.218**	1.00			
11. Marital Status	-.009	.055	-.033	.033	-.067	-.042	.017	-.201**	.022	-.223**	1.00		
12. Kids under 6	-.006	-.138**	.060	-.108*	-.007	-.020	-.375**	.004	-.011	.002	.045	1.00	
13. Job Skills	-.086	.065	-.040	.183**	-.010	-.063	-.219**	-.200**	.251**	-.191**	.043	.095*	1.00
14. Transportation probs.	-.091*	-.039	.044	-.252**	.068	.124**	.082	.149**	-.234**	.186**	-.139**	-.018	-.194**

** p < .01; * p < .05; Race coded 1=African American, 0= white; Poverty coded 1=below poverty, 0=all else; marital status coded 1=married, 0=not married

Model Fitting Process

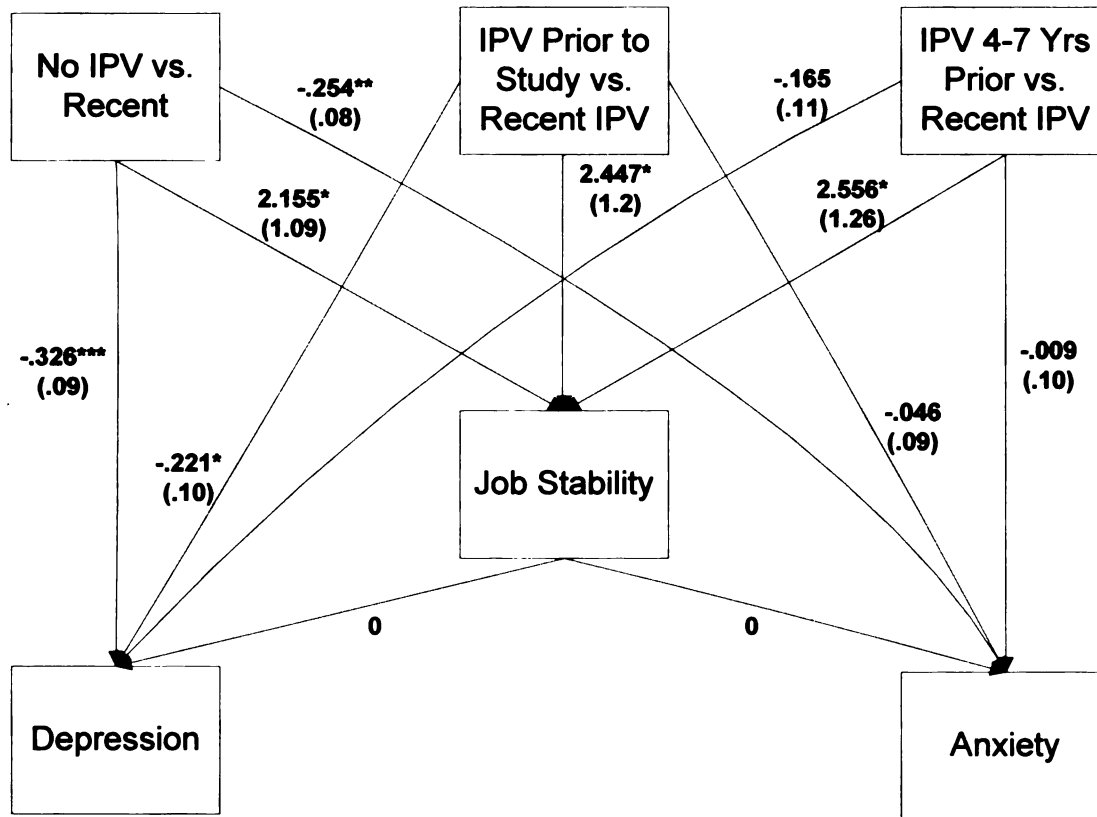
The first step in the model fitting process was to estimate a close to fully saturated base model, which estimated the effects of all control variables on all endogenous variables and all correlations among exogenous variables. With almost every explanatory pathway estimated, the model showed good fit, χ^2 (N=503, 1) = 1.867, p = .172, RMSEA = .042, 90% confidence intervals (CI) = .000-.134, CFI = .999. The next step in the process involved trimming non-significant paths from the model, with the goal of achieving a parsimonious model with good overall fit. The resulting adjusted model had 40 non-significant paths set to zero, and again showed good overall fit, χ^2 (N=503, 41) = 51.854, p = .119, RMSEA = .023, 90% (CI) = .000-.040, CFI = .988. Further, the adjusted model showed no significant deterioration in fit compared with the base model, LR χ^2 (N=503, 40) = 49.987, p = .114. At this point, the adjusted model was examined for any additional non-significant paths that could be trimmed and the modification indices were reviewed for paths that could improve model fit if they were added to the model. One final non-significant path was removed, and no paths were incorporated into the model based on the modification indices. The final path model (Figure 2), showed good fit χ^2 (N=503, 42) = 54.985, p = .086, RMSEA = .025, 90% (CI) = .000-.041, CFI = .986, as well as no significant decrement in fit compared with the base model, LR χ^2 (N=503, 41) = 53.118, p = .097. The final model accounted for 14% of the variance in job stability, 4% of the variance in depression, and 5% of the variance in anxiety. Fit indices and likelihood ratio chi-square difference statistics for each step in the model fitting

process can be found in Table 3, and the path coefficients for the final model are presented in Figure 2.

Table 7: Fit Indices

	CMIN	LR χ^2	RMSEA	CFI
Initial Model	1.867 (1), $p = .172$		.042	.999
Adjusted Model	51.854 (41), $p = .119$	49.987(40), $p = .114$	.023	.988
Final Model	54.985 (42) , $p = .086$	53.118 (41), $p = .097$	.025	.986

Figure 7: Direct Effects Path Model



*** $p < .001$; ** $p < .01$; * $p < .05$; standard errors are in parentheses; control variables included: poverty, job skills, kids under 6, marital status, race, transportation problems, education, age

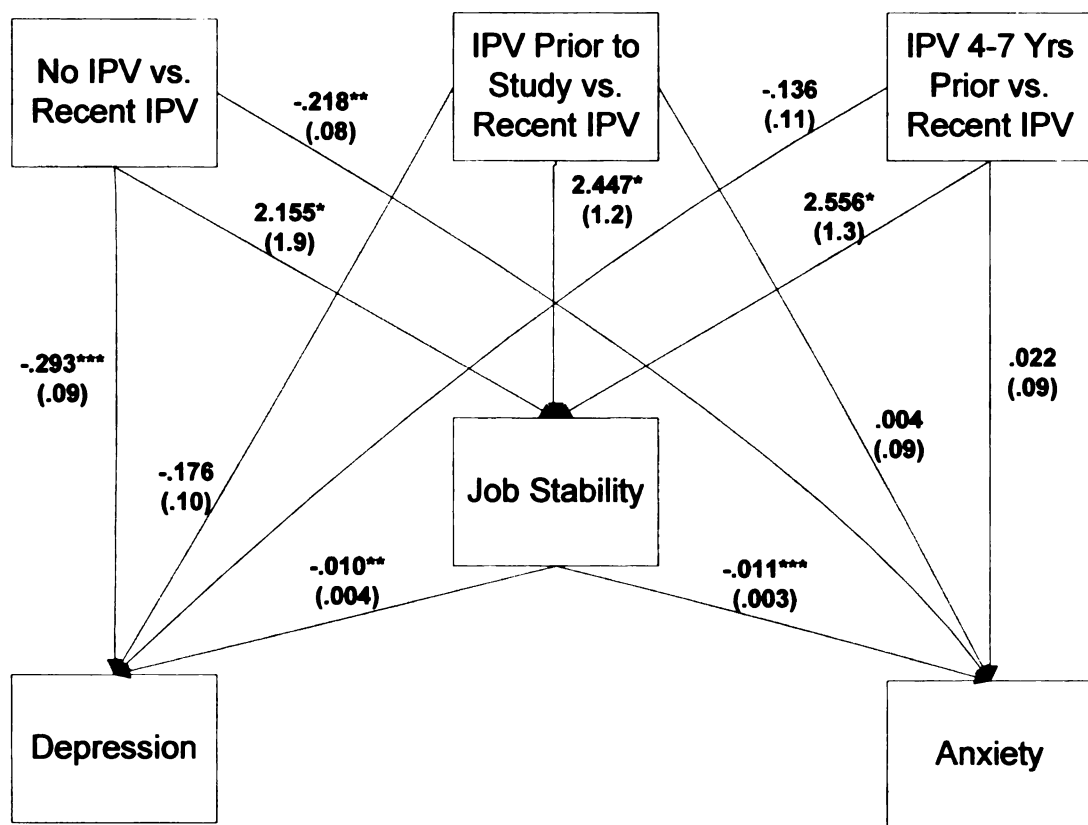
Direct Effects

To examine the direct effects of IPV on job stability, depression, and anxiety the paths from job stability to the mental health outcome variables were set to zero (see Figure 5). Despite a significant chi-square, overall the model showed good fit, $\chi^2(N=503, 44) = 69.184, p < .01$, RMSEA = .034, 90% (CI) = .017-.048, CFI = .973. When compared to the full model however, the model fit significantly worsened with the exclusion of the mediational pathways (LR $\chi^2(N=503, 2) = 14.199, p < .001$). Examination of the path coefficients revealed that, as hypothesized, IPV was significantly related to women's job stability,

depression, and anxiety, after controlling for factors commonly associated with low-income women's employment and mental health. Women who had a violent partner within the past 3 years (Recent IPV) experienced significantly more job instability compared to women who never experienced IPV ($B = 2.155, p < .05$), experienced IPV only prior to the study ($B = 2.447, p < .05$), or experienced IPV 4 to 7 years earlier ($B = 2.556, p < .05$). In fact, recent IPV survivors worked 2.16 fewer months at any one job compared to women with no IPV history, 2.45 months fewer compared to women who experienced IPV prior to the start of the study, and 2.56 months fewer than women who had been in a violent relationship 4 to 7 years earlier.

The results also showed that IPV was significantly related to women's mental health. Recent survivors of IPV were significantly more likely to be diagnosed with major depressive disorder compared to women with no history of IPV ($B = -.326, p < .001$) and compared to those who experienced IPV prior to the start of the study ($B = -.221, p < .05$); however no significant difference was found when comparing women who experienced IPV within the past 3 years (Recent IPV) with those who had been in a violent relationship 4 to 7 years earlier ($B = -.165, p = .122$). The likelihood of a generalized anxiety disorder diagnosis was significantly greater among women recently victimized by an intimate partner compared to those who never experienced IPV ($B = -.254, p < .01$), but not compared to the other two groups of survivors (IPV Prior to Study: $B = -.046, p = .604$; IPV 4 to 7 Yrs Prior: $B = -.009, p = .924$).

Figure 6: Full Path Model



*** $p < .001$; ** $p < .01$; * $p < .05$; standard errors are in parentheses; control variables included: poverty, job skills, kids under 6, marital status, race, transportation problems, education, age

Mediated and Indirect Effects

The primary aim of this study was to examine the mediating role of job stability on the relationship between IPV and mental health. It was expected that the effect of IPV on depression and anxiety would be partially explained by job stability. To assess this hypothesis, the bootstrap procedure was performed on the full final path model (Figure 6). The results revealed significant indirect effects from IPV to both depression and anxiety through job stability. In order for an indirect effect to be interpreted as a mediated effect there must have been a significant direct effect between the IPV variable and the mental health outcome. Consistent with MacKinnon (2008), significant indirect effects in the absence of

significant direct effects were interpreted as indirect effects, as opposed to mediated effects. Thus, the distinction between an indirect effect and a mediated effect was based on the presence or absence of the direct effect. The mediated effects were interpreted first, followed by the indirect effects.

In order to determine whether the significant direct effects were partially or fully mediated by job stability, a model was estimated with the paths from IPV to the mental health outcomes set to zero and the remaining paths allowed to vary. Comparison with the full model showed that model fit significantly worsened when the IPV - depression paths were set to zero, $LR \chi^2(N=503, 3) = 10.828, p = .013$, and when the IPV - anxiety paths were set to zero, $LR \chi^2(N=503, 3) = 14.215, p = .003$. The significant difference in chi-square values indicates that a significant portion of the overall variance was explained by the direct paths from IPV to depression and the paths from IPV to anxiety; thus, the relationship between IPV and mental health was partially mediated by job stability. Specifically, recent IPV survivors had a significantly greater likelihood of a diagnosis of major depression and generalized anxiety disorder compared to women who never experienced IPV, and that relationship was partially explained by their level of job stability (indirect $B = -.022, p < .05$; indirect $B = -.024, p < .05$, respectively). Similarly, women who experienced IPV within the past 3 years (Recent IPV) had an increased likelihood of being diagnosed with major depression compared to women who had been victimized by an intimate partner prior to the start of the study, and their mental health status in part due to their greater job instability (indirect $B = -.024, p < .05$).

In addition to the mediating effects, several indirect effects were found. Neither the direct effects of IPV on depression nor on anxiety were significant when comparing Recent IPV and IPV 4-7 Yrs Prior, nor was the direct effect of IPV on anxiety significant when comparing Recent IPV with IPV Prior to the Study; however, these variables were shown to be significantly related when job stability was considered. Specifically, compared to women who experienced IPV 4 to 7 years earlier, recent survivors of IPV had significantly less stable employment, which in turn led to a greater probability of a major depression (indirect $B = -.026$, $p < .05$) and generalized anxiety disorder diagnosis (indirect $B = -.029$, $p < .05$). Further, compared to women who had experienced IPV prior to the study, recently abused women were significantly more likely to experience job instability, which in turn led to a significantly greater likelihood of a diagnosis of generalized anxiety disorder (indirect $B = -.027$, $p < .05$).

Table 8: Mediated and Indirect Effects

	No IPV vs. Recent IPV			IPV Prior to Study vs. Recent IPV			IPV 4-7 Yrs Prior vs. Recent IPV		
	B	p	Effect Type	B	p	Effect Type	B	p	Effect Type
Depression	-0.022	<.05	PM	-0.024	<.05	PM	-0.026	<.05	IE
Anxiety	-0.023	<.05	PM	-0.027	<.05	IE	-0.029	<.05	IE

Effect Type: FM = full mediation; PM = partial mediation; IE = indirect effect

DISCUSSION

Previous research has linked IPV to women's employment and mental health, and mental health has been identified as a significant barrier to employment for women with abusive partners. Prior literature has also suggested that the relationships among IPV, employment, and mental health may be bi-directional; that is, IPV may not only lead to poor mental health which then compromises women's employment, but IPV may also lead to job instability that then contributes to mental health problems. In an effort to advance our understanding of how IPV affects women's mental health, the primary aim of the present study was to empirically test whether employment instability associated with IPV undermined women's mental health in a low-income sample. The study showed that IPV was related to women's job stability, depression, and anxiety, and, as expected, the relationship between IPV and mental health was partially explained by job stability.

Examination of the direct effects of IPV on job instability showed that women who experienced IPV in the past three years had significantly higher job instability compared to (1) women who were in violent relationships four to seven years earlier, (2) women who had a violent intimate partner eight or more years prior, and (3) women who had never experienced IPV. Specifically, recent IPV was shown to reduce the amount of time women remained employed at any one job by almost 2.5 months compared to women whose abuse experience occurred four to seven years prior, close to 2.5 months compared to women who had a

violent intimate partner prior to the start of the study, and about 2.2 months to women who never experienced IPV.

These findings are consistent with previous research by Staggs and Riger (2005) who also examined the effects of IPV patterns on low-income women's employment stability and found that women who experienced abuse during the three years of the study worked significantly less than women who had never been abused and those who had been in an abusive relationship prior to the study. With recent IPV survivors suffering the worse employment outcomes compared to non-abused women as well as other survivors of abuse, the results of both of these studies suggest that the effect of IPV on women's employment can be relatively immediate and can lessen once the violence ends.

The significant differences in job stability among groups of women with varying histories of IPV after controlling for age, job skills, transportation problems, and poverty level, also shows that IPV has a detrimental effect on women's ability to sustain employment above and beyond other poverty-related factors. That is, among low-income women who already tend to move in and out of jobs due to human capital limitations, discrimination, resource constraints, and poor job quality, those recently in a violent relationship had the least stable employment. This finding adds to a growing literature indicating that IPV is an added barrier to employment for low-income women (Browne; Salomon, & Bassuk, 1999; Raphael, 1999; Riger, Staggs, & Schewe, 2004) and supports the need for provisions such as the Family Violence Option of the Personal

Responsibility and Work Opportunity Reconciliation Act of 1996, which allows the work requirements of the welfare program to be waived for abuse survivors.

In addition to demonstrating significant direct effects of IPV on women's job stability, this study also verified a link between IPV and low-income women's mental health. Women who had been physically assaulted by an intimate partner within the past three years were significantly more likely to be diagnosed with major depression and generalized anxiety disorder compared to women who had never been victimized by an intimate partner. This significant difference in depression and anxiety rates between women who had never experienced abuse and those who experienced IPV in a relationship within the past two years is consistent with a body of previous research across a variety of populations showing recently abused women experience higher rates of mental health problems compared to women with no IPV history (Bonomi, et al 2006; Golding, 1999; Tolman & Rosen, 2001).

Beyond the immediate impact of IPV, this study showed that violence perpetrated by an intimate partner can have lasting effects on major depression and anxiety disorder. First, recently abused women were significantly more likely to be diagnosed with major depression compared to women who had been in a violent relationship prior to the start of the study; however, they were no more likely to be diagnosed with depressive disorder compared to women who had been victimized four to seven years earlier. So, while women who experienced recent IPV had a greater likelihood of major depression compared to women who experienced IPV eight or more years ago, they did not differ significantly in their

experiences of depression compared to women who experienced IPV four to seven years earlier. Second, women who experienced recent IPV were not more likely to experience generalized anxiety disorder compared to women who had a violent partner either four to seven years ago or eight or more years earlier. In other words, current and former welfare recipients who had any history of IPV, regardless of the timing of the violence, did not differ significantly in their likelihood of a generalized anxiety disorder diagnosis.

This pattern of findings is consistent with the few studies that have considered the timing of abuse when examining the mental health effects of IPV among samples of low-income women. For instance, in a longitudinal study of 141 women exiting a domestic violence shelter, R. Campbell and colleagues (1995) found that, of the women having experienced recent abuse, 83% were at least mildly depressed. Ten weeks later and again at the six month follow-up interview, just over half of the women were no longer experiencing abuse and of those 50% were not experiencing depression. Among the other 50% of women who were no longer experiencing abuse at 6 months post-shelter, 23% reported mild depression, 14% moderate depression, and 12% severe depression. In another study, J. Campbell & Soken (1999) interviewed a community sample of low-income women at three time points over 3 ½ years and found that rates of depression decreased significantly once the IPV ended, but then over time returned to the original level. In a more recent study, von Eye and colleagues (2006) analyzed data collected from 206 low-income mothers once a year for four years to understand how IPV contributes to the development of depression.

They concluded that IPV had lasting effects on women's level of depression over the four year period and that once IPV is taken into account, poverty and welfare receipt do not predict depression over time.

Collectively, previous research and the current study suggest that symptoms of depression can initially subside once the abuse ends, but IPV may also have long-term negative implications for women's mental health. The study by R. Campbell & colleagues found lingering depression among a substantial percentage of formerly abused women at 6 month follow-up, J. Campbell & Soken's findings showed lasting effects over 3 ½ years, and von Eye & Bogat demonstrated continued impacts of IPV on depression in a four year span. The current study extends these previous findings by demonstrating continued depression up to seven years, but less depression at eight years and beyond. Women may struggle with depression for several years after an abusive relationship, but eventually the distress may lessen significantly. The same may or may not be true for anxiety. In this study, generalized anxiety disorder was significantly more likely among the three groups of survivors (i.e., Recent IPV, IPV 4-7 Yrs Prior, and IPV Prior to the Study), suggesting that anxiety disorder might not respond to the passing of time in the same way depression does. This is a question future research should explore. Future research should also examine the lifetime impact of IPV on both depression and anxiety in order to improve our understanding of the trajectory of these mental health problems over the life course.

Beyond examining the direct effects of IPV on women's employment and mental health, the central aim of this study was to test the mediational role of job stability on the IPV - mental health relationship among current and former welfare recipients. Previous research has shown that mental health can serve as a barrier to employment for women; however, this is the first study to consider the mediating impact of job stability on the mental health of IPV survivors. As expected, the results of this study established an indirect effect of IPV on mental health through job stability. Specifically, the effect of IPV on depression was partially explained by increased job instability when comparing women who experienced recent IPV with those who never experienced abuse and in comparison with those women who had been victimized eight or more years earlier. Similarly, the effect of IPV on anxiety was partially explained by greater job instability when comparing women who were recently abused by an intimate partner to women who were never victimized in an intimate relationship. Low-income women who were recently physically victimized by an intimate partner suffered significantly more deleterious mental health symptoms than other low-income women, and part of that disparity can be attributed to greater job instability among survivors who recently experienced IPV. Thus, this study demonstrates that one of the ways IPV impacts women's mental health is through its impact on their job stability.

In addition to explaining existing relationships between IPV and mental health, job stability was also shown to contribute significantly to increased mental health problems when comparing the groups of IPV survivors. Women who

recently experienced IPV had significantly less stable employment compared to women who experienced IPV four to seven years earlier, as well as in comparison with women who experienced IPV eight or more years prior. In addition, increased job instability experienced by survivors of recent IPV led to a greater likelihood of generalized anxiety disorder. A similar indirect effect was found for depression when comparing women who recently experienced IPV with those for whom IPV occurred four to seven years prior. Those women who had experienced IPV within the past three years had significantly greater job instability compared to women who were in a violent relationship four to seven years prior, and their unstable employment was linked to an increase likelihood of major depression. These results suggest that when women's employment is threatened as a result of IPV, their mental health can also suffer as a consequence.

The significant mediational findings of this study can serve as a foundation for future research. The results provided empirical evidence of an economic pathway between IPV and low-income women's mental health, but a substantial proportion of the variance in mental health outcomes remained unexplained. Future research could build on this work by broadening the measurement of IPV to include other forms of psychological and economic abuse, as well as include other explanatory variables in the model. The current study was limited to an abuse measure that reflected whether or not severe physical violence had occurred within a specified time frame, neglecting the extent or the duration of the violence and not attending to other forms of intimate partner abuse that have

been shown to be associated with employment and mental health outcomes. Specifically, measures of physical, psychological, and economic forms of abuse should be used in order to assess the range of power and control tactics used by abusive men.

Additional explanatory variables beyond job stability that have been linked to women's mental health should be included in future studies. The work-benefits framework and stress process model suggest that it may be the material hardship, economic stress, compromised social support, and/or diminished sense of control that results from job instability that contributes to the psychological distress women experience. Thus, a more comprehensive model that includes such variables, along with more sensitive measures of intimate partner abuse, may yield findings that better contribute to our understanding of how abuse negatively affects women's mental health through economic means.

A number of other limitations of this study should be noted. First, the conceptualization of job stability in this study was premised on the assumption that any job loss was harmful. The number of months women worked was divided by the number of times they changed employers during that same period to arrive at an "average number of months at any one job" measure of job stability. This conceptualization neglects the fact that a woman could lose one job and benefit monetarily or psychologically from a transition into another employment situation. In the future, researchers should inquire about why the job loss occurred, the wage difference with the new job, changes in job benefits from one job to other, and whether the change was viewed as positive or negative by

the respondent. This way a measure of job stability could be constructed that more fully captured beneficial versus harmful employment transitions.

Second, the categorization of women into four IPV groups based on the timing of their experiences of abuse failed to consider chronic and intermittently occurring IPV which has been shown to relate to women's mental health (Campbell & Soken, 1999; Staggs & Riger, 2005). The three IPV categories used in this study grouped women according to the recency of abuse. As such, women who were chronically or intermittently abused were collapsed into a category depending on when the most recent IPV incident occurred. While examining the impact of timing in this way provided useful information about how women's economic and mental health suffers depending on how recently the abuse occurred, it fails to consider the uniquely harmful impact of more long-standing forms of abuse. Grouping women in a more inclusive manner was not possible with the distribution of IPV experiences in this sample; that is, too few women would have been assigned to each category to permit statistical analysis. When possible, future research should take chronicity of IPV experiences into account in order to improve our understanding of how continued or intermittent experiences of abuse compromise women's economic and mental health.

Third, future research could improve upon this study by addressing the limitations posed by the largely cross-sectional nature of the study. If experiences of IPV, employment, and mental health were all measured longitudinally and at shorter intervals, it would be possible to determine whether the abuse, employment problems, or mental health issues came first, which followed, and

how they each change relative to the others. Although not ideally timed, there was some temporal ordering to the current study that should not be overlooked. IPV was measured across the lifetime through the final wave of the study, job stability was measured during the last two waves of the study, and mental health was assessed for the past two weeks of the study. While there was still some overlap in the timing of events, the general temporal ordering in measurement does heighten confidence in the mediational findings of the study. An additional advantage of a more fully longitudinal design would be that it would allow for the assessment of cumulative impacts of IPV on women's employment and mental health; it is possible that mental health problems may worsen after sustained employment instability or with profound impacts of abuse on women's employability.

Fourth, the sample in this study was limited to women who were current and former welfare recipients. Findings based on a sample of primarily low-income women cannot be generalized to other women from different socioeconomic backgrounds. Future research should test whether the model holds true for middle and upper income women. Further, studies should be designed to include more racially diverse samples of women so that the impact of IPV on economic and mental health of women from various racial groups can be examined.

Finally, the mental health measures used in this study were derived from an instrument used to diagnosis major depression and generalized anxiety disorder. In the interview, women were asked a series of initial screening

questions designed to assess the persistence of feelings of depression and anxiety required for a diagnosis before they were asked about the specific symptoms they may have experienced. Only women who met the initial screening criteria were asked to report specific symptoms. Therefore, some of the women who did not meet the initial criteria may have endorsed some of the symptoms had they been given the chance. As such the symptom score, used in the current study, was an indicator of the likelihood of a diagnosis of major depression or generalized anxiety disorder, rather than a direct symptom count; the greater the number of symptoms women experienced, the greater the probability of a diagnosis of major depression or generalized anxiety disorder. This form of measurement is useful for identifying women struggling with the most severe and persistent mental health problems, but may fail to capture women who did not meet the initial screening criteria but may still have intermittent symptoms that could impair functioning and diminish women's quality of life. Future research examining the mental health of survivors of intimate partner violence should employ instruments designed to broadly assess mental health symptom severity across all women rather than solely relying on diagnostic measures of mental health disorders which are unable to assess the impairment women experience who do not meet diagnostic thresholds.

Even with these limitations, this study has important practice, policy and research implications. The results of this study help answer the question "how and why does IPV affect women's mental health." Previous research has offered social support, self-esteem, loss of power and/or control, hopelessness, and

coping responses as mechanisms by which this process occurs (Beeble, Bybee, Sullivan, & Adams, 2009; Willimas & Mickelson, 2004; Campbell, Sullivan, & Davidson, 1995; Calvete, Corral, & Estevez, 2008). The current study adds job stability as another potential link in the chain, thus another potential point of intervention for improving the mental health of IPV survivors.

For low-income women, obstacles generated by an abusive partner only compound existing poverty-related barriers to employment stability and economic independence. To address the complexity of the problem, comprehensive interventions aimed at helping low-income women find and sustain living-wage employment are necessary. For example, a coordinated effort between domestic violence advocates and job training and placement offices could aid in addressing the unique needs and issues of survivors of abuse who are struggling to find and sustain employment. While employment office personnel work to enhance women's employability, a trained domestic violence advocate could mobilize existing community resources to provide the basic employment supporting resources women need, such as transportation and child care, work with women to find employment that fits their needs, and intervene with employers when necessary to prevent the loss of a job because of abuse. Whatever forms the intervention takes, comprehensive efforts aimed at addressing the employment-related needs of women recently or formerly victimized by an intimate partner could go a long way toward improving the mental health of survivors of abuse.

CHAPTER 4

CONCLUSION AND FUTURE DIRECTIONS

A primary goal of violence against women policies and interventions is to help women find safety away from an abusive partner and heal physically, emotionally, and economically. To achieve this goal it is important to understand how batterers entrap women, how abuse impacts women's lives, and what factors promote resilience and recovery after an abusive relationship. Decades of research has shown that one of the ways abusive men exercise control over and entrap women is by preventing them from being financially independent (Adams, Sullivan, Bybee, & Greeson, 2008). Women's employment is often a target, whether directly or indirectly, because it is an avenue toward self-sufficiency (Moe & Bell, 2004). While such interference could be problematic for any woman, it may be particularly devastating for low-income women who are already struggling to sustain employment, make ends meet financially, and have few alternative resources and/or sources of support (Goodman, Smyth, Borges, & Singer, in press). In order to advance our understanding of the consequences of IPV and identify opportunities for intervention, this dissertation was comprised of two separate studies investigating the mediating role of job stability in explaining the economic and mental health effects of intimate partner violence (IPV) for current and former welfare recipients. Study 1 tested the mediating effect of job stability on the relationship between IPV and women's economic well-being, while Study 2 was aimed at further explicating the association between IPV and women's mental health by examining the mediating role of job stability on the

IPV-mental health relationship. Factors that have been shown to be related to the job stability, economic well-being, and mental health of low-income women were controlled for in these studies in order to examine the unique contribution of IPV on women's economic and mental health.

The findings of the current research revealed that recent IPV compromised the job stability, economic well-being, and mental health of current and former welfare recipients. In fact, the job instability associated with IPV was partly responsible for the economic and mental health issues women confronted. Specifically, this research showed that the material hardship women faced was partly due to job instability; IPV survivors were less sure of their financial future because of the job instability they experienced; women recently victimized by an intimate partner were less likely to have access to health care and other fringe benefits because their employment was unstable; and the likelihood of major depression and generalized anxiety disorder were greater among recent IPV survivors, partly as a result of less stable employment. Taken together, the results of this research demonstrate the challenge job instability can be for low-income women with abusive partners and provide evidence of the detrimental economic and mental health impacts of that job instability.

The findings of this study not only contribute to our understanding of the impact of IPV, but also suggest that employment may be a key point of intervention for improving the economic and mental health of low-income survivors of IPV. In many communities, advocacy is a critical component of the services offered to survivors of abuse, making domestic violence advocates

uniquely positioned to help women find and sustain employment. For instance, for women who are in need of assistance finding or moving into stable employment, domestic violence advocates could work with women to strengthen their employability by connecting them with opportunities for education and job training, offering job search strategies, and helping to create a resume and prepare for interviews. In cases where the challenge lies in sustaining employment from day to day, advocates could also help women secure employment-supporting resources such as stable housing, child care, and transportation. For women who are faced with losing a job due to IPV, advocates could intervene with employers to explain the dynamics of abuse, address employers' safety concerns, and lobby for understanding and patience. There are many possible ways advocates could intervene to enhance the work life of low-income IPV survivors, and the findings of the current study suggest that women could benefit psychologically and economically from such efforts.

While the current studies contribute to our understanding of the impact of job instability associated with IPV on the lives of low-income women, further research is needed to more fully understand how intimate partner abuse impacts women's economic and mental health. The present research demonstrated that the economic and mental health effects of IPV can be at least partially explained by job stability, and previous research has shown that poverty and other dimensions of economic well-being are related to women's mental health. Now a comprehensive study is needed that combines and expands the two models tested here to more fully examine the economic pathway from intimate partner

violence to women's mental health. Such a study could improve upon the current research by 1) refining the measurement of key constructs; 2) including additional explanatory variables linking IPV and economic well-being to mental health; 3) employing a longitudinal design, with data collected at shorter intervals; and 4) using an economically and racial diverse community sample of women.

Future research could build on the current studies by improving upon the measures of IPV, job stability, and mental health. First, the measurement of intimate partner violence could be broadened to include other forms of psychological and economic abuse, as well as assess the frequency and severity of each type of abuse. The current research was limited to a measure that reflected whether or not severe physical violence had occurred within a specified time frame, neglecting the extent or the duration of the violence and not attending to other forms of intimate partner abuse that have been shown to be associated with economic and mental health outcomes. Future research should include measures of physical, psychological, and economic forms of abuse in order to assess the range of power and control tactics used by abusive men and examine whether distinct forms of abuse produce differential economic and mental health effects for women. Similarly, the severity, frequency, and duration of each form of abuse should be measured to permit examination of the effects of different levels of abuse on women's lives.

In addition to intimate partner abuse, limitations of the measure of job stability used in the current research could also be addressed in future research. When studying intimate partner abuse, it is important to measure those aspects

of employment that would be expected to be affected by abuse. Research shows that women lose hours, wages, and jobs and experience periods of unemployment as a result of abuse. The current research attempted to extend prior studies by operationalizing job stability as a function of the number of months worked and the number of job changes in that same time period in an effort to account for the job loss often associated with IPV. However, it is important that future studies use a combination of employment measures in order to more fully examine the various ways intimate partner abuse affects women's work lives. This should include measurement of the start and end dates of each job, type of job (i.e., industry/occupation/position), number of days worked per week, number of hours worked per day, hourly wage or salary, and benefits provided. With this level of measurement it would be possible to account for lost hours, days, wages, jobs, and benefits, as well as advancements or promotions. This information is critical for documenting the economic costs of intimate partner abuse and exploring the mental health effects associated with compromised economic well-being for survivors.

Just as the measurement of IPV and job stability could be expanded, future research could also improve upon the measure of mental health used in the current study. Intimate partner abuse has been linked to psychological distress that can manifest itself in many ways (e.g., feeling sad, tired, irritable and edgy, unable to concentrate, unable to sleep). These symptoms may or may not be severe or persistent enough to warrant a DSM diagnosis; however, they may be severe enough to impair a woman's functioning and diminish her quality of

life. Taking this into consideration, the current study computed a symptom measure based on women's responses to a commonly used depression and anxiety diagnostic instrument. While the use of the measure as a count of the number of symptoms women experienced was appropriate given the aim of the study, the measure failed to capture the effect of such symptoms on women's functioning. Future research should seek to employ mental health measures that adequately capture the range of symptoms survivors of abuse experience, as well as the impact they may have on daily functioning.

In addition to improving upon the measurement of key constructs, future research should examine additional explanatory variables to further explicate the economic link between intimate partner abuse and women's mental health. The current research established that job instability associated with IPV lead to greater material hardship and increased depression and anxiety symptoms for low-income women. Building upon this, future research should investigate *how* IPV and employment instability lead to psychological distress by exploring factors such as stress, perceived control, and social support, which have all been linked to both intimate partner abuse and employment instability. So while women with abusive partners often experience increased stress, a sense of powerlessness, and diminished social support as a direct consequence of the abuse, those who also struggle to sustain employment and suffer financially would feel even greater stress, less control, and more social isolation. Further, interfering in women's employment is only one way abusive men have been shown to compromise women's economic well-being; thus, more attention should be paid

to the other ways in which an abusive intimate partner contribute to women's psychological distress through economic means. Batterers can keep women from finding work, cause them to lose jobs, and keep them out of the labor force all together, but they can also restrict their access to financial resources, exploit them financially, destroy their credit, and isolate them from the friends and family that they might be able to turn to for help and support in times of economic hardship. In all these ways, batterers compromise women's economic well-being, which could then lead to greater social isolation, reduced sense of control, exacerbated financial stress, and ultimately to mental health problems that impair women's function and diminish their quality of life.

Future research aimed at examining the economic and mental health consequences of intimate partner abuse should employ a longitudinal design with data collected at short intervals. Given the frequency with which a woman's employment and economic circumstances can change and the immediacy of the impact of abuse on women's economic well-being, collection of economic data should ideally occur at two to three month intervals. Full data collection at this interval would pose substantial challenges for both researchers and participants, thus longer comprehensive interviews could take place at six month intervals, while diary methods could be employed to gather frequently changing economic information. This timeframe would allow researchers to more precisely capture changes that occur, as well as maximize recall of events. Data collected in this manner would not only increase the precision of the data, but also allow for examination of the causal sequence of events. It would be possible to establish

whether intimate partner abuse *causes* economic harm and whether that economic harm *causes* psychological distress. Further, longitudinal data would permit research on the directionality of critical abuse, employment, and mental health relationships. For example, it would be possible to examine whether employment stability and improved economic well-being is protective against future abusive relationships, or the extent to which abuse impact employment by way of mental health vs. how mental health impacts employment.

To advance our understanding of the economic component of intimate partner abuse, future research should also include an economically and racially diverse community sample of women. Several important questions remain unanswered due to the homogenous nature of most research studies. No study to date has explored the differential economic impact of abuse on women from varying economic and racial backgrounds. Thus, we do not know whether demographically different batterers use different abusive tactics to control their partner, and whether those tactics have different economic consequences for women depending on their social location. Similarly, the extent to which the economic effects of intimate partner abuse compound the economic effects of poverty for low-income women has yet to be determined. Further, researchers have yet to uncover the extent to which intimate partner abuse and economic well-being interact to affect women's mental health, and whether this varies for different racial groups of women. The answers to these questions are critical to ensuring that policies and services are tailored and responsive to the unique experiences and needs of targeted groups of women.

In summary, the current research has extended previous research by demonstrating the economic and mental health effects of job instability that result for intimate partner violence. Together, the two studies showed that women who experienced recent IPV experienced greater job instability compared to other groups of women, and that job instability was related to greater material hardship, more pessimism about future financial struggles, less access to job benefits, and more symptoms of depression and anxiety. Future research can build on this work by testing a comprehensive model of the economic pathway linking intimate partner abuse to women's mental health outcomes, based on data collected with more sensitive measures of key constructs and employing a longitudinal design with data collected at short intervals from an economically and racially diverse community sample of women. Such research could contribute significantly to our understanding of the ways in which abusive men compromise women's economic and mental health. With this information, policies and interventions could be designed to prevent and/or mitigate the harmful economic effects of intimate partner abuse, thereby improving not only the economic well-being of women, but also enhancing their mental health and quality of life.

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