

THE IMPACT OF ECONOMIC ABUSE ON DEPRESSIVE SYMPTOMS AMONG  
SURVIVORS OF INTIMATE PARTNER VIOLENCE

By

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## **ABSTRACT OF THE DISSERTATION**

The Impact of Economic Abuse on Depressive Symptoms among Survivors of Intimate Partner Violence

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This dissertation examined the impact of economic abuse and the mediating role of economic self-efficacy on depressive symptoms among survivors of intimate partner violence (IPV). The primary research question aimed to examine the associations between economic abuse experiences and depressive symptoms from a cross-sectional and longitudinal viewpoint, among a sample of 457 female survivors of IPV, recruited from 14 domestic violence programs, across 10 states and Puerto Rico. The secondary research question aimed to examine the mediating role of economic self-efficacy in the relationship between economic abuse and depressive symptoms.

This dissertation theorized that higher levels of economic abuse experiences would relate to increased levels of depressive symptoms. Stress theory (Thoits, 2010) was utilized to provide a framework for understanding the way the stress of economic abuse and the accumulated life strain, which occurred from financial dependence on an abuser, might converge to produce high levels of stress and depression for survivors of IPV.

Furthermore, this dissertation theorized that economic self-efficacy would mediate the relationship between economic abuse experiences and depressive symptoms. The concept of self-efficacy evolved from social learning theory (Bandura, 1994, 1997,

2008) and examined how the survivor's perceived economic competence, during or following the economic abuse experiences, provided a specific mediating construction in the development of depressive symptoms.

The findings revealed that, from a cross-sectional perspective, higher levels of economic abuse experiences related to higher levels of depressive symptoms; however, this relationship was not mediated by economic self-efficacy. Furthermore, from a longitudinal, 14-month perspective, there was no significant impact of the change in economic abuse experiences on the change in depressive symptoms. In examining the impact of economic abuse on depressive symptoms among survivors of IPV, this study added to the knowledge base of the social sciences, furthered understanding of the impact of economic abuse and the possible mediating impact of economic self-efficacy, and provided critical information that the field of IPV could utilize in developing programs and policies to support survivors.

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## **CHAPTER 1: INTRODUCTION**

### **Overview of the Problem**

Intimate partner violence (IPV) is a major public health concern. The Centers for Disease Control and Prevention (CDC) defines IPV as physical, sexual, or psychological harm by a current or former partner or spouse (CDC, 2013). It is estimated that the annual cost of intimate partner violence in the United States, including medical costs, mental health costs, and loss of productivity, is \$5.8 billion (CDC, 2003). Studies have found that victims of physical, sexual, and psychological IPV are significantly more likely to use healthcare services and to develop a range of physical and mental health problems (Black et al., 2011; Breiding, Black, & Ryan, 2008; Coker et al., 2002; Tjaden & Thoennes, 2000). Despite numerous studies documenting the impact of physical, psychological, and sexual abuse on depressive symptomatology, few studies exist that document the impact of economic abuse on depressive symptomatology. Therefore, this dissertation examined the impact of economic abuse on depressive symptoms among survivors of intimate partner violence.

### **The Framework: The Feminist Perspective**

Since the early 1970s, the feminist perspective has been one of the predominant theoretical models in the field of IPV. The feminist model states that intimate partner violence is the result of male oppression within a patriarchal system. Within this patriarchal system, men remain the primary oppressors and women continue to be the primary victims (Dobash & Dobash, 1979; Walker, 1979). According to this model, male violence, within intimate relationships, results from historic power differences between genders that maintain women as subordinates. Male violence occurs primarily through



the persistent use of intimidation and coercion to dominate and control victims (Dobash & Dobash, 1979).

In addition, the feminist movement emphasizes the disproportionate occurrences of IPV by male perpetrators against their female partners. Although both sexes perpetrate IPV against both sexes, the overwhelming majority of partner violence incidents occurs by male aggressors against female victims. Feminist scholars often cite evidence from national crime surveys, such as police, hospital, court records, clinical, and shelter samples to demonstrate that women experience significantly higher rates of IPV than men do (Tjaden & Thoennes, 2000). These scholars utilize a feminist theory to explain that IPV occurs most frequently by men against women due to the macro effects of the male dominant society. Furthermore, feminist scholars note that violence that occurs by females against their male partners is often committed in self-defense (Chesney-Lind, 2002; Henning, Renauer, & Holdford, 2006; Miller, 2001).

Two nationally representative samples, measuring men and women's experiences of IPV, provide further evidence that domestic violence occurs disproportionately by male perpetrators against female victims. The first study involved the Behavioral Risk Factor Surveillance System (BRFSS) (Breiding et al., 2008), and the second study involved the National Intimate Partner and Sexual Violence Survey (Black et al., 2011).

The BRFSS survey was a random-digit-dialed telephone survey developed by the CDC (2003, 2013) to provide surveillance of health behaviors and health risks among the non-institutionalized adult population of the U.S. and several U.S. territories. In 2005, over 70,000 respondents were administered the first-ever IPV module in English and Spanish. Analyses conducted by Breiding et al. (2008) indicated that one in four surveyed

women (compared to one in seven surveyed men) reported being a victim of IPV during their lifetime. Furthermore, female victims reported significantly higher lifetime threatened physical abuse, attempted physical abuse, completed physical abuse, and unwanted sex than male victims.

Similarly, the National Intimate Partner and Sexual Violence Survey (NISVS) (Black et al., 2011) was developed by the CDC (2003, 2013) and was initiated in 2010 to collect data on the prevalence estimated for intimate partner violence, sexual violence, dating violence, and stalking victimization. The NISVS also consisted of a national random-digit-dialed telephone survey of the non-institutionalized English and/or Spanish speaking U.S. population, aged 18 or older. Complete interviews were collected from over 16,000 adults. The results indicated that one in three women (compared to one in four men) experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime. One in four women (compared to one in seven men) reported severe physical violence by an intimate partner in their lifetime. An estimated 10.7% of women (compared to 2.1% of men) reported an intimate partner stalking them during their lifetime.

The BRFSS and the NISVS demonstrated that women reported higher rates of both abuse and severe abuse experiences, higher rates of injury, and other consequences as compared to male victims. As intimate partner violence occurred disproportionately by male perpetrators against female victims, this dissertation utilized a feminist framework in examining (a) the impact of economic abuse on depressive symptoms and (b) the mediating role of economic self-efficacy on the relationship between economic abuse and depressive symptoms.

## **Economic Abuse**

Although a great deal of research has been conducted over the past 40 years to examine the prevalence and impact of physical, psychological, and sexual abuse, economic abuse has received far less attention from the scientific community. It was not until 2008 that the first Scale of Economic Abuse (SEA) was created and subsequently validated and revised to the SEA-12 (Adams, Sullivan, Bybee, & Greeson, 2008; Postmus, Plummer, & Stylianou, 2015). Since then, one study (Stylianou, Postmus, & McMahon, 2013) utilized a confirmatory factor analysis to provide evidence that economic abuse remained a construct unique from psychological, physical, and sexual abuse.

Although a variety of non-physical abusive tactics, including psychological, social, and economic tactics, have been identified in the literature (Dutton & Goodman, 2005; Outlaw, 2009; Stark, 2007; Strauchler et al., 2004), these non-physical forms of abuse were often ill measured and blurred together in research studies. However, it was often these forms of non-physical violence that survivors identified as the most devastating forms of abuse, above the effects of physical violence (Outlaw, 2009). Therefore, it remains critical that researchers develop measures of non-physical violence and conduct research to understand further the impact of non-physical forms of violence on survivors.

A variety of economic abuse tactics have been identified in the literature (Adams et al., 2008; Moe & Bell, 2004; Postmus et al., 2015; Wettersten et al., 2004); however, economic abuse is often ill measured and blurred together with psychological abuse in research studies (Coker et al., 2002; Hegarty, Sheehan, & Schonfeld, 1999; Shepard &

Campbell, 1992). Perpetrators of economic abuse utilize behaviors that "control a woman's ability to acquire, use, and maintain economic resources, thus threatening her economic security and potential for self-sufficiency" (Adams et al., 2008, p.564).

Economic abuse occurs in three main ways: (1) controlling the victim's access to economic resources, (2) sabotaging the victim's ability to obtain and maintain employment, and (3) exploiting the victim's personal economic situation (Postmus et al., 2015).

Abusers control the victim's economic situation by preventing the victim from using or accessing available resources. These tactics include denying access to money, dictating use of transportation, putting the victim on an allowance, and monitoring all money spent (Adams et al., 2008, Postmus et al., 2015; Wettersten et al., 2004). Abusers sabotage the victim's ability to obtain and maintain employment by discouraging or actively forbidding education, training, and/or employment of the victim outside the home. Studies have documented a variety of abusive tactics used by perpetrators to interfere with their partner's employment, such as sabotaging the victim's car, threatening physical harm, failing to show up for childcare or transportation, stealing the victim's car keys, draining gas from the car, preventing sleep, hiding clothes, inflicting injuries, and harassing the victim at work (Adams et al., 2008; Brandwein & Filiano, 2000; Lyons, 2002; Moe & Bell, 2004; Riger, Ahrens, & Blickenstaff, 2000). Abusers economically exploit their victims by actively destroying their economic situation. This could occur in a variety of ways, including stealing the victim's money, generating debt under the victim's name, opening up credit cards under the victim's name, stealing the victim's checkbook, ATM, or credit card, gambling shared money, and not paying the utilities

(Adams et al., 2008; Postmus et al., 2015). Ultimately, all of the behaviors represented ways that the abuser attempted to control the victim's ability to acquire, use, and maintain economic resources.

### **The Impact of IPV on Mental Health**

Numerous researchers have examined the impact of IPV experiences on the mental health of the victims. These studies (Bonomi et al., 2006; Bonomi et al., 2009; Coker et al., 2002; Rivara et al., 2007) indicated that female victims of psychological, physical, and sexual IPV were significantly more likely than women without IPV experiences to use healthcare services and to develop a range of mental health problems.

Data from the National Violence against Women Survey (NVAWS) indicated that physical and psychological IPV victimization among women was associated with an increased risk of poor health, depressive symptoms, substance use, chronic disease, chronic mental illness, and injury (Coker et al., 2002). Another study conducted by Bonomi et al.(2006) found that, of over 3,000 women living in the United States, women with recent physical and sexual IPV experiences reported higher rates of severe and minor depressive symptoms, higher numbers of physical symptoms, and lower mental and social functioning scores. This same survey showed that psychologically, physically, and sexually abused women had significantly increased risks of psychological/mental disorders (Bonomi et al., 2009).

Although research has demonstrated an association between IPV history and mental health problems, especially depression, the majority of these studies examined the effects of psychological, physical, and sexual abuse and ignored the impact of economic abuse on mental health outcomes. Only three research studies, conducted by Hamdan-

Mansour, Arabiat, Sato, Obaid, and Imoto (2011), Nancarrow, Lockie, and Sharma (2008), and Postmus, Huang, and Stylianou (2012), demonstrated that economic abuse is associated with psychological outcomes among female survivors of IPV. In research, conducted by Hamden-Mansour et al. (2011), among women in the southern region of Jordan, women who experienced economic abuse had significantly lower levels of psychological well-being. In research, conducted by Nancarrow et al. (2008), among 532 women living in the Bowen Basin and Mackay region of Central Queensland, women who experienced economic abuse were 4.7 times more likely to show evidence of depression. In addition, in research, conducted by Postmus et al. (2012), among 2,305 mothers from 20 U.S. cities, mothers who experienced economic abuse at Year 1 were more likely to experience a depressive episode in Year 5. However, none of these studies examined the potential mediating variable of economic self-efficacy in the relationship between economic abuse and depression.

### **Economic Self-Efficacy and the Relationship with Economic Abuse and Depression**

According to Bandura (1986), self-efficacy is a strong conviction of competence based on one evaluating various sources of information about one's abilities. Self-efficacy is central to one's ability to manage her own functioning and to exercise control over events that affect her life (Bandura, 1997, 2001). However, economic abuse might prevent a survivor from developing the economic self-efficacy needed to make financial decisions, access financial information and resources, and understand economic rights. As survivors of economic abuse receive negative information from the abusers about their ability to manage finances and are restricted from having control over their own financial events, economic abuse experiences might lead to low economic self-efficacy.

Furthermore, among the self-efficacy literature, Benight and Bandura (2004) noted that self-efficacy motivates individuals, supports individuals to persevere during difficult times, alleviates experiences of stress and depression during vulnerable times, and increases resiliency following traumatic events. According to Bandura (1997), self-efficacy plays a pivotal role in the self-regulation of affective states. When individuals perceive themselves as unable to gain a highly valued outcome, they become depressed. This link between self-efficacy and depression provides support for the hypothesis that economic self-efficacy might be a potential mediator between economic abuse experiences and depressive symptoms among survivors of intimate partner violence.

### **Stress Theory and the Relationship between Economic Abuse and Depression**

Sociological approaches to mental health focus on factors external to the individual, such as the environment or social context, and view mental illness as a breakdown in the face of overwhelming environmental stress (Thoits, 2010). Stress theory, as an example of one theory on the development of mental health, is based on evidence that accumulations of social stressors could precipitate mental health problems (Thoits, 2010). For this dissertation, stress theory provided a framework for understanding the potential association between economic abuse experiences and depressive symptoms among survivors of intimate partner violence.

Stress and the effects of stress do not follow a single, linear pathway; hence, stress theory is not a set of predictions that can rigidly be followed. Rather, stress theory identifies the interrelationships among experiences and social and personal resources hypothesized as relevant to mental health risk (Turner & Lloyd, 1999). Therefore, stress

theory is a framework that incorporates and emphasizes the features of social and economic life into accounts of the health and well-being of individuals (Pearlin, 1999).

### **Specific Aims**

This dissertation filled in current gaps in literature by utilizing both stress theory and the theory of self-efficacy to explore further the impact of economic abuse on depressive symptoms among survivors of intimate partner violence. It also added to the literature by testing the possible mediating role of economic self-efficacy on the relationship between economic abuse and depressive symptoms among survivors of intimate partner violence. The purpose of this cross-sectional and longitudinal study examined the impact of economic abuse on depressive symptoms among survivors of intimate partner violence and the possible role of economic self-efficacy on the relationship between economic abuse and depressive symptoms. The specific aims of this dissertation were to: (a) explore the prevalence of economic abuse experiences among a sample female survivors of IPV; (b) understand differences in economic abuse experiences based on demographic variables; (c) examine the cross-sectional relationship between economic abuse and depressive symptoms; (d) evaluate the role of economic self-efficacy as a possible mediator between economic abuse and depressive symptoms; and (e) examine the longitudinal relationship between change in economic abuse and change in depressive symptoms. The sample consisted of 457 female survivors of intimate partner violence recruited from 14 domestic violence agencies from 10 states and Puerto Rico. This dissertation deepened the understanding of the impact economic abuse had on depressive symptoms among survivors of intimate partner violence. Such



an understanding allows us to develop interventions that address the unique experiences and needs of women whose financial health has been exploited by an abusive partner.

## **CHAPTER 2: THEORY**

Currently few studies exist in the field of intimate partner violence that utilize theory to explain the relationship between abuse experiences, economic self-efficacy, and depressive symptoms among survivors of IPV. This dissertation added to the literature by examining two theories: stress theory and self-efficacy theory. The first theory, stress theory, provided a framework for understanding the potential association between economic abuse experiences and depressive symptoms. The second theory, self-efficacy theory, explained how economic self-efficacy could function as a mediating variable between economic abuse experiences and depressive symptoms.

### **Stress Theory**

Stress theory was developed in the mid-1900s when Hans Selye (1956) argued and demonstrated that prolonged and repeated exposure to stress eventually depleted the body's physical defenses to disease of infection in laboratory animals. Researchers then began to focus on the effect of social stress, in particular, of major life events on the health outcomes of humans (Holmes & Rahe, 1967). These researchers defined a major life event as a major change in an individual's life that forces the individual to have extensive behavioral readjustments. These researchers hypothesized that these extensive behavioral readjustments could exhaust a person's ability to cope or adapt, leaving the person vulnerable to illness, injury, and disease.

Holmes and Rahe (1967) created the initial Social Readjustment Rating Scale by examining medical records of Navy personnel, recording the most common life events that preceded Navy men's doctor visits and hospitalizations. This Social Readjustment Rating scale incorporated 43 major life events that they identified from the medical

records. Next, they surveyed a group of people to judge the degree of behavioral readjustment each event on the list required. By using this Social Readjustment Rating Scale, researchers found that the more major life events individuals experienced in a given period and the higher their readjustment scores, the more likely they would have an injury, an illness, or even die (Cohen, Janicki-Deverts, & Miller, 2007; Tennant, 2002). In addition, research demonstrated that pile-ups of stressors produced elevated levels of psychological distress and predicted onsets or recurrences of psychiatric disorders (Mirowsky & Ross, 2003).

While research demonstrated that the higher number of stressful life experiences led to a higher likelihood of the onset of recurrence of mental health disorders (Mirowsky & Ross, 2003), Brown and Harris (1978) began to explore which types of stressors were most likely to precede the onset of a mental illness. They found that when major life events were divided between desirable (positive) and undesirable (negative) life events, undesirable events were more strongly associated with psychological problems than desirable events. In their study, they randomly selected 460 women outside of London for in-depth interviews. From these interviews, Brown and Harris (1978) defined *severe* life events as negative life events that most individuals would agree were serious long-term threats to personal well-being. They found that severe events predicted the onset of major depression better than *non-severe* life events. These researchers also discovered that ongoing difficulties (or chronic stress) were almost as important as severe negative events in predicting depression. Examples of chronic stress that arose from their research included living in overcrowded conditions, having persistent family arguments, and having too little money to buy necessary food, clothes, or medicine. When severe events

and chronic stress were considered together, Brown and Harris (1978) found that 89% of depressed women had experienced one or both types of stressors in the past nine months; on the other hand, only 30% of the non-depressed women experienced those conditions in the same period (Brown & Harris, 1978). Thus, evidence indicated that both severe negative events and chronic stress predicted depressive symptomatology. This evidence provided a framework for understanding how depression might occur due to overwhelming environmental stress.

Furthermore, Thoits' (1995) review of the stress literature reports that it remained well established that one or more major negative life events predicted subsequent psychological distress and/or psychiatric disorders. She noted that the literature consistently demonstrated that chronic strains were also damaging to mental health outcomes. Finally, Thoits (1995) highlighted that studies examining the impact of both major negative life events and chronic strain found that negative life events produced a significant increase in mental health problems, only when the events specifically generated chronic strain or when they occurred in a situation that continued stress.

To understand stress theory, three major conceptual domains developed, including the sources of stress, the mediators of stress, and the manifestations of stress (Pearlin, Leiberman, Menaghan, & Mullan, 1981). Sources of stress described the actual stressor that the individual experienced, such as divorce, loss of a loved one, or abuse experiences. The manifestations of stress explained the outcomes of stress, such as physical or mental health consequences. The mediators of stress examined the variables that facilitated the relationship between the sources of stress and the manifestations of

stress. Mediators of stress could include concepts, such as mastery, coping styles, and social support.

### **Sources of Stress, Mediators of Stress, and Manifestations of Stress**

#### **Sources of Stress**

Pearlin et al. (1981) identified two major sources of stress: discrete events and relatively enduring problems or life strains. Serious stressors, such as being a victim of a violent crime, natural disaster, military combat, or physical or sexual abuse during childhood, remained particularly powerful causes of mental health outcomes (Dohrenwend, 2000). The more frequently such events occurred and the more serious the stress events remained, the worse any person's mental health outcome was likely to be (Horowitz, 2010). Pearlin et al. (1981) suggested that the stressful events did not necessarily affect the individual directly, but might exert their effects through a wider net of life strains instead. Thus, the combination of the stressful event and the accumulated life strains converged in the production of stress (Pearlin et al., 1981).

#### **Mediators of Stress**

Social and personal resources, such as social support, mastery, and self-esteem, could mediate the impact of stress on psychological well-being (Turner & Lloyd, 1999). Among studies examining personal resources as a mediating variable, researchers considered the issue of perceived mastery (Pearlin & Schooler, 1978; Turner & Lloyd, 1999). According to Pearlin and Schooler (1978), mastery "concerns the extent to which one regards one's life-chances as being under one's control in contrast to being fatalistically ruled" (p.5). In addition, it was also important to note that one's sense of mastery was, at least in part, a product of the individual's history of successes and

failures. A sense of mastery was believed to be an important factor, mediating the role between stress and mental health because of its important implications for the initiation and persistence of efforts to resolve problematic situations (Pearlin and Schooler, 1978). Ross and Mirowsky (1979) suggested that a sense of mastery reduced depression because it encouraged active problem solving; in contrast, a sense of powerlessness remained demoralizing and decreased effective coping.

### **Manifestations of Stress**

Researchers documented numerous physical health and mental health manifestations of stress, including cardiovascular disease, human immunodeficiency virus, cancer, mental health disorders, and substance abuse disorders (Cicchetti & Toth, 2015; Cohen et al., 2007; Kessler et al., 2010; Kirsch, 2014; Schneiderman, Ironson, & Siegel, 2005; Sinha, 2008;). Specifically, many widely cited reviews discussed the relationship between stress and depression (Kessler, Davis, & Kendler, 1997; Mazure, 1998; Monroe & Hadjiyannakis, 2002; Paykel, 2003; Tennant, 2002). The literature demonstrated that, when examining episodic life events, there remained higher levels of significant stressors prior to the onset of major depressive episodes in patients compared to controls and community samples (Brown & Harris, 1978; Mazure, 1998). Furthermore, Tennant (2002) suggested that relationship stressors were common in depression, especially for women. In addition, McGonagle and Kessler's (1990) study, utilizing a sample of non-institutionalized married men and women, found that chronic stress (defined as ongoing for more than 12 months) was a stronger predictor of depressive symptoms than acute stressors.

Campbell, Kub, and Rose (1996) discussed the use of stress theory to suggest the importance of understanding abuse experiences as a trigger for depression. As Campbell et al. (1996) noted, studies that documented the association between intimate partner violence and depression "argue for environmental stress as a major contribution to depression in battered women, with abuse acting as both a stressor in itself and a contributor to other stressors" (p. 107). In a similar approach, this dissertation applied stress theory to understand the impact of economic abuse on depressive symptoms among survivors of intimate partner abuse. As stress theory suggested, both the stressful events of experiencing economic abuse and the accumulated life strain that occurred, due to being financially dependent on an abuser or due to experiencing financial hardship because of economic abuse, might converge to produce high levels of stress for survivors of intimate partner abuse. Furthermore, the impact of economic abuse on the survivor's sense of economic mastery or self-efficacy might mediate the relationship between economic abuse experiences and depressive symptoms among survivors.

### **Self-Efficacy Theory**

While the concept of perceived mastery in stress theory emphasizes one's perception of life-changes being controllable versus fatalistically ruled (Pearlin & Schooler, 1978), the concept of self-efficacy more narrowly focuses on one's perceived competence level, often in a particular arena (Bandura, 1986). Therefore, mastery often utilizes an overarching concept. However, self-efficacy is often examined through specific lenses, such as coping self-efficacy, computer self-efficacy, or economic self-efficacy. As the concept of self-efficacy is related to specific behaviors (e.g., coping,

computer behaviors, or economic behaviors), it has been found to be the best predictor of successful performance across many behavioral areas (Bandura, 1997).

Self-efficacy is the central construct of Bandura's (1997) social cognitive theory and refers to the perceived ability to produce a desired action. Among the mechanisms of human agency, none is more central than one's belief in her efficacy to manage her own functioning and to exercise control over events that affect her life (Bandura, 1997, 2001). Bandura (1997) found that a strong sense of personal efficacy related to better health, higher achievement, and better social integration. Self-efficacy is more than encouraging the self to act; it is also a strong conviction of competence developing from evaluation of various sources of information about one's abilities (Bandura, 1986).

Self-efficacy beliefs regulate human functioning as they affect whether individuals think in self-enhancing or self-debilitating ways. Self-efficacy motivates individuals, supports individuals to persevere during difficult times, alleviated experiences of stress and depression during vulnerable times, and increases resiliency following traumatic events (Benight & Bandura, 2004). According to Bandura (1997), self-efficacy plays a pivotal role in the self-regulation of affective states; when individuals perceive themselves as unable to gain a highly valued outcome, they become depressed.

Bandura (1997) notes three pathways by which a low sense of self-efficacy led to feelings of depression. First, when people face a situation that they have to meet highly valued standards, a low sense of self-efficacy might produce a despondent mood and anticipatory apprehension. Second, a low sense of social self-efficacy might hinder the formation of positive social relationships that brings satisfaction to peoples' lives and



enable them to manage stressful experiences; thereby, low self-efficacy might promote depressed feelings. Third, low self-efficacy about the exercise of control over negative thoughts might also increase levels of depression.

### **Economic Self-Efficacy**

As Bandura (1997) discussed, perceived self-efficacy predicts more than just behavior. Rather, perceived self-efficacy creates an agency of change, which individuals motivate and enable themselves to create change. This need for change remains especially important when following a traumatic event and speaks to the importance of addressing self-efficacy when following a trauma to increase the individual's sense of resiliency.

According to Bandura (2006), people differ in the areas that they cultivated their efficacy. For example, one individual might have high self-efficacy for management of emotions, but low self-efficacy for academic achievement; therefore, "the efficacy belief system is not a global trait but a differentiated set of self-beliefs linked to distinct realms of functioning" (Bandura, 2006, p. 307). Hence, in order to understand the impact economic abuse had on a victim, researchers need to better study how economic abuse specifically influences economic self-efficacy.

Economic self-efficacy involves the individual's perceived belief in her capabilities to manage finances. As economic abuse consists of a specific stressor, examining the role of the individual's perceived economic competence during or following the economic abuse provided a specific mediating construct. Economic abusive tactics, often utilized by perpetrators, might include preventing the victim from working, harassing the victim at work, ruining the victim's credit, demanding the victim account

for all expenses, or making unilateral financial decisions (Adams et al., 2008; Postmus et al., 2012; Tolman & Rosen, 2001). These economic abuse tactics result in the victim becoming economically dependent on the perpetrator (Sanders & Schnabel, 2006). Therefore, the experiences of economic abuse might decrease the victim's sense of economic self-efficacy. Furthermore, research demonstrates that economic self-efficacy remained the pivotal predictor of financial success, even above financial knowledge (Lapp, 2010). Therefore, if economic abuse experiences decreased the victim's sense of economic self-efficacy, this could further lead to the impact of those economic experiences resulting in the victim's financial dependence on the perpetrator.

Finally, as Bandura (1997) suggested, low self-efficacy can also lead to depression. For victims who remain financially dependent or unable financially to care for themselves and their children, a lack of economic self-efficacy, or ability to control their financial situation, might lead to an increase in depressive symptomatology. Furthermore, for victims who need to reach financial goals to provide for themselves and their children, a low sense of economic self-efficacy might produce anticipatory apprehension or depressed emotions.

To understand better what mediated the potential association between economic abuse and depression, this dissertation considered the potential role that self-efficacy and, in particular, economic self-efficacy played in this relationship. Thus, a measure of general self-efficacy was not utilized because of ambiguity in a general self-efficacy scale. Instead, a measure of economic self-efficacy tailored the scale to the particular domain of functioning that this dissertation focused on studying.

### **Summary**

In summary, stress theory views depression as forming from psychosocial environmental stress (e.g., intimate partner violence or trauma) and provides a framework for understanding the potential association between economic abuse experiences and depressive symptoms. Stress theory suggested that the stressful event(s) of experiencing economic abuse and the accumulated life strain that occurred, due to being financially dependent on an abuser or due to experiencing financial hardship because of economic abuse, converge to produce high levels of stress for survivors of intimate partner abuse, which might lead to depressive symptoms. Furthermore, the impact of economic abuse on survivors' sense of economic self-efficacy might mediate the relationship between economic abuse experiences and depressive symptoms among survivors.

## **CHAPTER 3: LITERATURE REVIEW**

### **Purpose**

The overall purpose of this chapter focused on describing the known facts about the impact of IPV on depressive symptoms. It also highlighted the need for understanding the impact of different forms of abuse, including physical, psychological, sexual, and economic abuse on depression. This chapter is organized into the following sections: (1) The impact of IPV on the incidents and severity of depression, (2) the impact of different forms of abuse on depression, (3) the understanding economic abuse, (4) the impact of economic abuse on depression, (5) the association between self-efficacy and depression, and (6) the relationship between self-efficacy and traumatic situations.

### **The Impact of IPV on the Incidents and Severity of Depression**

Population-based studies demonstrated associations between IPV history and medical and psychosocial diagnoses, both observed in clinical settings and self-reported by victims (Afifi et al., 2009; Breiding et al., 2008; Campbell et al., 2002; Helweg-Larsen & Kruse, 2003; Jones et al., 2006). While these studies often examined the effect of broad medical categories, such as mental health, studies also demonstrated relationships between IPV history and depressive symptoms (Bonomi et al., 2009; Hathaway et al., 2000; Lipsky, Caetano, & Roy-Byrne, 2009; Zlotnick, Johnson, & Kohn, 2006). The following studies examined the impact of IPV, specifically on depression outcomes.

Bonomi et al. (2009) examined the relative risk of a wide range of common medical and psychosocial diagnoses, including depression, among women with an IPV history. The study included 3,568 women, ages 18-64, randomly sampled from a large U.S. healthcare plan, providing medical services to people in Washington State and

northern Idaho. The women were primarily 45 years of age or older, White, and employed. The average annual household income of the women estimated at \$50,000 or more, and the average level of education existed above high-school level. IPV, in the past year, was assessed by using the Women's Experience with Battering Scale (WEB) (Smith, Earp, & DeVellis, 1994) and questions from the CDCs (2003, 2013) BRFSS survey on physical, sexual, and psychological abuse experiences (Nelson, Holtzman, Bolen, Stanwyck, & Mack, 2000). Depression diagnoses, in the past year, were determined using automated data from health plan records. For this analysis, all women who experienced IPV, regardless of the type of IPV, were placed into one group. Two-hundred-forty-two women (7.9%) reported experiencing abuse within the past year. The results indicated that, in age-adjusted models, compared with never abused women, abused women had a three-fold, increased risk of being diagnosed with depression.

However, there remained several limitations to Bonomi et al.'s (2009) study. First, as the sample was drawn from the Washington State and northern Idaho region, the women in the sample were White, older, had higher income levels, and most had a high school level of education. Therefore, this sample could not represent and generalize all U.S. women. In addition, due to the small number of women in the study who reported IPV experiences ( $n=242$ ), it was not possible to apply statistical adjustments for demographic characteristics. Furthermore, the study measured depression based on diagnoses in health record plans. This measure of depression limited the findings to those women who both (a) sought treatment and (b) received a diagnosis of depression from a medical provider. Instead of using health record data to measure depression, the

following study conducted by Hathaway et al. (2000) utilized respondents' reports of recent depressive symptoms to more accurately capture depressive symptomatology.

Hathaway et al. (2000) analyzed data from 2,043 women, ages 18 to 59, who participated in the 1998 Massachusetts BRFSS (Remington, 1988). The BRFSS involved a population-based health study survey that defined IPV as experiencing physical violence by fear or control from an intimate partner. The survey asked three questions to measure IPV experiences, which included one question on physical violence and two questions on psychological abuse. Depression was measured by whether or not the victim felt sad or depressed for 14 or more days in the past month. The results demonstrated that women who reported IPV experiences were over three times as likely to experience sadness/depressive symptoms compared to women who did not report IPV experiences.

However, there also existed numerous limitations to Hathaway et al.'s (2000) study. First, the measures used for IPV and depression were brief measures; therefore, the measures limited the breadth of abuse experiences and depressive symptoms captured. Furthermore, these measures were not validated measures of IPV or depression. In addition, the measure of IPV only included physical and psychological abuse experiences. The sample was only drawn from women living in Massachusetts, which also limited the findings from this study to Massachusetts residents. While Bonomi et al.'s (2009) study and Hathaway et al.'s (2000) study measured IPV through asking the respondent about past abuse experiences, the next study conducted by Lipsky et al. (2009) measured IPV through police reports.

Lipsky et al. (2009) examined IPV and hospitalization rates among women with police-reported IPV incidents, relative to women without police-reported IPV incidents,

among a population-based sample of women, ages 18 to 49 years, residing in Dallas, Texas. The results indicated that women with police-reported IPV experiences were significantly more likely to have been hospitalized for an episodic mood and depressive disorder than women without police-reported IPV experiences.

However, Lipsky et al.'s (2009) study had numerous limitations to note. First, IPV was measured based on police data from the Dallas Police Department. As noted by the authors (Lipsky et al., 2009), police data was limited in that (a) many victims did not report abuse experiences to the police, (b) police might not accurately report a call as an intimate partner call, and (c) police data focused heavily on physical forms of IPV. It was also important to recognize that there were women in the comparison group who experienced IPV, but did not have police reports to document the abuse. Second, depression was measured by hospitalization rates, limiting the measure to only the most severe forms of depression and only to women who sought treatment for their depressive symptoms. While Bonomi et al. (2009), Hathaway et al. (2000), and Lipsky et al. (2009) examined the cross-sectional association between IPV and depression, Zlotnick et al. (2006) examined the relationship between IPV and depression over time.

Zlotnick et al. (2006) utilized a five-year longitudinal perspective to examine the effects of IPV on psychosocial outcomes over time. The study utilized a nationally representative sample of 3,173 American married or cohabitating women from the National Survey of Families and Households (NSFH). Intimate partner violence was measured using two questions that focused on experiences of physical victimization. The two questions were: (1) "During the past year, how many fights with your partner resulted in him/her hitting, shoving, or throwing things at you?", and (2) "Have you ever

been cut, bruised, or seriously injured in a fight with your partner?” Depression was measured by using an abbreviated version of the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). The modified version of the CES-D included a 12-item self-report survey, scored on a scale from 0 to 7, indicating the number of days each symptom was experienced in the past week (Poulin, Hand, & Boudreau, 2005).

When controlling for age and depression at wave one, IPV significantly related to depression scores at wave two, so that women, who reported IPV, compared to those who reported no IPV, were significantly more likely, within a 5-year follow-up period, to experience depressive symptoms. However, when comparing victims who left the abuser to victims who remained with the abuser at wave two, there was no significant difference in their depressive symptoms. Thus, this study suggested that women, who had experienced IPV, irrespective of whether or not they stayed in the relationship, were at risk for long-term depressive symptoms. However, it remained important to note that the measure of IPV only included two items measuring physical abuse experiences, excluding victims of psychological, sexual, and/or economic abuse.

Whereas the previous studies conducted by Bonomi et al. (2009), Hathaway et al. (2000), Lipsky et al. (2009), and Zlotnick et al. (2006) measured physical, psychological, and sexual abuse experiences, the studies combined all abuse experiences into one variable. This caused missing the opportunity to examine the unique contributions of different forms of abuse on depressive symptoms. In contrast, the following studies, conducted by Bonomi, Anderson, Rivara, and Thompson (2007) and Coker et al. (2002), added to the literature by focusing on the unique impact of different forms of abuse,



including psychological, physical, and sexual abuse experiences, on depressive symptoms.

In a study using the NVAWS, Coker et al. (2002) assessed the mental health consequences of both psychological and physical IPV. The random-digit-dial residential telephone survey sampled 8,001 men and 8,005 women who were representative of the U.S. population. IPV used the 12-item Conflict Tactics Scale, the 4-item forced sex questions from the National Women's Study, and 13 items to measure psychological abuse. The authors then created a three-level hierarchical category of IPV. The first group included respondents who reported experiencing physical or sexual IPV; these respondents might have also experienced verbal abuse or abuse of power and control. The second group included respondents who reported experiencing abuse of power and control, yet not sexual or physical IPV; these respondents might have also experienced verbal abuse. The third group only experienced verbal abuse, and the fourth group remained the comparison group.

The Coker et al. study found (2002) that, for female victims of IPV, all forms of IPV victimization (physical/sexual abuse, power/control abuse, and verbal abuse) were significantly associated with an increased risk of depressive symptoms. Furthermore, compared to women who had no IPV experiences, women with high levels of physical/sexual IPV abuse had a significantly increased risk for current depressive symptoms. Similarly, compared to women who had no IPV experiences, women with high, medium, and low levels of psychological IPV had significantly increased risks for depressive symptoms (Coker et al., 2002). While all forms of abuse related to an increased risk for depressive symptoms, only low levels of psychological IPV were

needed for an increased risk for depressive symptoms, while high levels of physical/sexual IPV were needed to increase significantly the risk for depressive symptoms. Therefore, this study suggested that psychological IPV had a greater impact on victims than physical/sexual IPV, in terms of an increased risk of depressive symptoms.

It remained important to note that one of the major limitations of Coker et al.'s (2002) survey was the use of a random-digit-dial residential telephone survey. A victim of abuse might have access to the telephone restricted by the abuser or might not feel safe reporting abuse experiences if the abuser presented in the home during the survey. Furthermore, the way the IPV variable was created, it was not possible to determine the unique contribution of physical and sexual abuse on depressive symptoms, as all victims who reported physical, and/or sexual abuse experiences were combined into one category. In addition, no measure of economic abuse was included in this study.

Another study, examining the unique impact of different forms of abuse on depression, was conducted by Bonomi et al. (2007), which examined IPV-related health outcomes in women with exposure to physical, sexual, physical, and/or sexual violence. The sample consisted of 2,876 English-speaking women, sampled randomly from a large U.S. health plan to complete a telephone survey, using five questions from the BRFSS. The five questions from the CES-D measured depression (Radloff, 1977). The results indicated that, compared to never abused women, women who were victims of sexual, sexual and physical, and physical IPV had significantly increased prevalence ratios for depressive and severe depressive symptoms. Furthermore, women with sexual or physical and sexual IPV had increased depressive symptoms and severe depressive symptoms

compared with women with physical IPV only. These findings suggested that sexual violence might place an additional burden on women's depressive symptoms above the effects of physical violence.

In sum, these studies suggested that IPV remained a complex experience that could not be accurately conceptualized as a single form of abuse. Therefore, different forms of abuse should be taken into consideration when assessing the impact of IPV on women's depressive symptoms. However, also important to note, these studies were cross-sectional designs; therefore, the results could only suggest an association, not causation, between IPV experiences and depressive symptoms. In addition, these studies measured the relationship between depression and physical, psychological, and sexual abuse, but failed to measure the unique effect of economic abuse on depression.

### **Understanding Economic Abuse**

It remained well documented in the literature that IPV abusers might directly interfere with women's employment by preventing them from working, forcing them to miss work, causing them to be late for work, or harassing them while at work (Brandwein & Filiano, 2000; Lloyd, 1997; Lloyd & Taluc, 1999; Moe & Bell, 2004; Raphael, 1996; Riger, Staggs, & Schewe, 2004; Tolman & Rosen, 2001). In addition, research demonstrated that abusers might directly interfere with activities that could lead to or improve women's employment by preventing women from participating in educational or employment training opportunities (Shepard & Pence, 1988; Tolman, 1989).

Much of the research on economic abuse was conducted in the context of changes in welfare policy. A number of studies found that IPV associated with a higher likelihood of welfare receipt (Tolman & Raphael, 2000), welfare reliance (Tolman, Danziger, &

Rosen, 2002), and cycling on and off welfare (Salomon, Bassuk, & Brooks, 1996). In addition, one of the most studied aspects of the economic effects of IPV was its impact on women's employment. Among numerous studies, IPV associated with the number of hours women worked (Tolman & Wang, 2005), lower incomes (Lloyd & Taluc, 1999; Meisel, Chandler, & Rienzi, 2003; Reeves & O'Leary-Kelly, 2007), and work performance (Brush, 2000; Reeves et al., 2007; Swanberg & Logan, 2005; Wettersten et al., 2004).

Economic abuse had historically been included within the definition of psychological abuse (Barnett, Miller-Perrin, & Perrin, 2005; Tolman, 1989). Only recently scholars began to identify economic abuse as its own form of abuse (Adams et al., 2008; Riger et al., 2000; Stylianou et al., 2013; Weaver, Sanders, Campbell, & Schnabel, 2009). Economic abuse involved a form of abuse that utilized behaviors that "control a woman's ability to acquire, use, and maintain economic resources, thus threatening her economic security and potential for self-sufficiency" (Adams et al., 2008, p. 564). Economic abuse occurred in three main ways: (1) controlling the victim's access to economic resources; (2) sabotaging the victim's ability to obtain and maintain employment; and (3) exploiting the victim's personal economic situation (Postmus et al., 2015).

Economic control included covert abusive behaviors that controlled the victim's economic situation by preventing the victim from using or accessing available resources. These tactics included behaviors, such as monitoring the money the victim spent, restricting the victim's access to shared financial information, and dictating how the victim might use money (Adams et al., 2008; Postmus et al., 2015; Wettersten et al.,

2004). Employment sabotage included both overt and covert abusive behaviors that aimed to sabotage the victim's ability to obtain and maintain employment by discouraging or actively forbidding education, training, and/or employment of the victim (Adams et al., 2008; Brandwein & Filiano, 2000; Lyons, 2002; Moe & Bell, 2004).

Economic exploitation included overt abusive behaviors that exploited the victim by actively destroying their economic situation. This could occur in a variety of ways, including stealing the victim's money, generating debt under the victim's name, opening up credit cards under the victim's name, stealing the victim's checkbook, ATM, or credit card, gambling shared money, and not paying the utilities or taxes (Adams et al., 2008; Postmus et al., 2015).

### **The Impact of Economic Abuse on Depression**

Little research focused on the impact of economic abuse on depressive symptoms. In fact, it was not until 2008 that the first validated scale to measure economic abuse developed (Adams et al., 2008). To date, three published studies examined the impact of economic abuse on mental health, which Nancarrow et al. (2008), Hamdan-Mansour et al. (2011), and Postmus et al. (2012) conducted.

The Nancarrow et al. (2008) study examined the impact of economic abuse on mental health, which focused on intimate partner abuse among cohabitating, heterosexual partners, living in the Bowen Basin and Mackay region of Central Queensland. The sample consisted of 532 women who completed telephone surveys that included two sets of ten questions, concerning acts of physical and non-physical abuse by current partners. Ten questions from the Conflict Tactics Scale (CTS2) (Straus, 1979) measured physical abuse, which included questions on severe physical abuse, sexual abuse, and all physical

abuse. In addition, ten questions from the General Social Survey on Victimization, Canada (Johnson & Bunge, 2001) measured non-physical abuse, which included five items on psychological abuse, three items on social-psychological abuse, and two items on economic abuse. Severe physical abuse included acts of hitting, kicking, beating, choking, and threatening with a weapon; sexual abuse included forced unwanted sexual activity; and all physical abuse included all the previously mentioned severe physical abuse and sexual abuse behaviors, plus acts that involved threatening to hit, throwing things, slapping, and pushing. Psychological abuse included acts that could belittle, demoralize, frighten, or make the victim feel bad, while socio-psychological abuse included behaviors that limited the social interaction and participation of the victim. Economic abuse included acts that limited the victim's access to the family income and resources and deprived them of spending money in an independent way. Nancarrow et al. (2008) explored two items in the survey on economic abuse, which were as follows:

- (1) He was stingy in giving enough money to run the home, and
- (2) He prevented the victim from knowing about the family income/having access to family income.

Nancarrow et al.'s (2008) findings indicated that women, who reported physical abuse, at any stage of their relationship, were 3.7 times more likely to show evidence of depression, while women who reported physical abuse in the last 12 months were 8.8 times more likely to show evidence of depression. Women who reported severe physical abuse were 10.9 times more likely to show evidence of depression, while women who reported experiencing sexual abuse were 4.8 times more likely to show evidence of depression. Women who reported experiencing psychological abuse were 3.0 times more

likely to show evidence of depression, while women who reported social-psychological abuse were 4.2 times more likely to show evidence of depression. Finally, women who reported experiencing economic abuse were 4.7 times more likely to show evidence of depression.

This Nancarrow et al. (2008) study provided evidence that similar to physical, psychological, and sexual abuse, economic abuse also associated with higher depressive symptoms. This study also provided evidence towards a hierarchy of abuse with severe physical abuse having the greatest effect on depressive symptoms, followed by physical abuse, sexual abuse, economic abuse, psychological-social abuse, and psychological abuse experiences. However, this study did not utilize validated scales to measure abuse experiences. In addition, the two items, measuring economic abuse, focused solely on economic control and did not include items to examine employment sabotage or economic exploitation. Furthermore, the sample resided from Central Queensland; therefore, the findings could not generalize to all women in the United States.

The second study to examine the effects of economic abuse on mental health (Hamdan-Mansour et al., 2011) examined the relationship between marital abuse and psychological well-being among women in the southern region of Jordan. Data resided from a randomly selected sample of 915 women. The mean age of the women was 34.6 years, and almost 35% of the women had secondary or postsecondary education. The interview asked 15 questions, measuring IPV, which consisted of physical abuse (3 items), psychological abuse (7 items), and social and economic abuse (5 items). Hamdan-Mansour et al. (2011) stated that the social and economic abuse items were:

1. Forced to give up your financial rights,

2. Withheld money,
3. Did not participate in household expenditure,
4. Took money, and
5. Did not allow money used for own expenditure.

The results indicated that physical, psychological, and social and economic abuse all had significantly negative impacts on psychological well-being. This research gave further indication that, similar to physical and psychological abuse, economic abuse also had a negative impact on psychological well-being; however, similar to Nancarrow et al.'s study (2008), validated measures of abuse were not utilized. In addition, in Nancarrow et al.'s study (2008) the economic abuse questions focused on economic control and economic exploitation, but did not include questions to assess for employment sabotage. Also similar to Nancarrow et al.'s study (2008), the sample was selected from another country (e.g., Jordan), so that findings could not be generalized to women living in the United States. Furthermore, in this study, the outcome measure was not depression, but rather psychological well-being.

Postmus et al. (2012) conducted a study in the United States, using the Fragile Families and Child Wellbeing Study. This study utilized a longitudinal approach to examine the impact of psychological, physical, and economic abuse on mothers' levels of depression and parenting behaviors. The sample consisted of 2,305 mothers from 20 U.S. cities. Over 40% of the mothers were non-Hispanic Black (42%), with approximately one-quarter as Hispanic (28%) and non-Hispanic White (27%). For educational achievement, 42% had more than a high-school education. Postmus et al. (2012) measured economic abuse by the items: "he withheld money, made you ask for money, or



took your money," and "he tried to prevent you from going to work and/or school."

Postmus et al. (2012) measured psychological abuse by items, such as "he tried to keep you from seeing friends and family," and "he insulted and criticized you." Postmus et al. (2012) measures physical abuse using items that included "he slapped or kicked you, he hit you with his fist or a dangerous object," and "he tried to make you have sex or do sexual things you didn't want to do."

The results of Postmus et al.'s (2012) study indicated that mothers who experienced physical, psychological, or economic abuse at Year 1 were more likely to experience a depressive episode in Year 5. When controlling for demographic variables, mothers who experienced economic abuse at Year 1 were 1.9 times more likely to exhibit depression than mothers who had not experienced abuse. Similarly, mothers who experienced physical or psychological abuse were more likely to experience depression (1.4 and 1.8 times more likely, respectively). Furthermore, when testing for level and changes in abuse over time, only economic abuse significantly predicted maternal depression. These findings suggested that economic abuse had a greater impact on depression over time. However, similar to the Hamdan-Mansour et al. (2011) and Nancarrow et al. (2008) studies, Postmus et al.'s (2012) study did not include validated measures of psychological, physical, or economic abuse. Furthermore, the sample consisted only of mothers; therefore, the results could not generalize to all women.

In sum, the previous studies provided preliminary evidence to the hypothesis that economic abuse influenced depressive symptoms among survivors of IPV. However, these studies had numerous limitations. First, the Hamdan-Mansour et al. (2011) study and the Nancarrow et al. (2008) study were conducted internationally, cross-sectional in

nature, and limited in their ability to be generalized to American women. Second, only the Postmus et al. (2012) study was conducted using longitudinal data. Postmus et al.'s study (2012) was the only study that began to examine whether or not economic abuse led to an increase in depressive symptoms over time. Interestingly, their article found that over time economic and psychological abuse, but not physical abuse, increased victims' level of depression. Third, all of the previously conducted studies on economic abuse used only two to five non-validated items to measure economic abuse. The Nancarrow et al. (2008) study used a measure of economic abuse that could not be conceptually translated to American women (specifically the item, "Forced you to give up your financial rights"). The Postmus et al. (2012) study used only two items that measured economic control, such as "he withheld money, made you ask for money, or took your money," and employment interference, "he tried to prevent you from going to work and/or school," but did not capture any of the other dimensions of economic abuse.

In conclusion, research demonstrated a significant impact of IPV experiences on depressive symptoms (Bonomi et al., 2009; Hathaway et al., 2000; Lipsky et al., 2009; Zlotnick et al., 2006). Research also documented that IPV experiences remained complex and could not accurately conceptualize as a single category of abuse. Rather, it remained important to understand the unique impact of different forms of abuse. Research indicated a significant impact of physical IPV, psychological IPV, and sexual IPV experiences on depressive symptoms (Bonomi et al., 2007; Coker et al., 2002); however, there existed limited evidence on the relationship between economic abuse and depressive symptoms. To date, three published studies examined the impact of economic abuse on mental health (Hamdan-Mansour et al., 2011; Nancarrow et al., 2008; Postmus

et al., 2012); however, further research was needed to understand better the impact of economic abuse on depressive symptoms among survivors of IPV.

### **The Association between Self-Efficacy and Depression**

The following studies documented the research conducted on (a) the connection between self-efficacy and depression and (b) the connection between self-efficacy and psychological outcomes among trauma survivors. There existed no studies currently that examined the association of self-efficacy and depression among victims of IPV; therefore, literature from studies conducted with trauma survivors aided in better understanding the potential association between self-efficacy and depression.

Studies examining the relationship between self-efficacy and depression found that those who scored higher on self-efficacy measures demonstrated significantly fewer depressive symptoms (Luszczynska, Gutierrez-Dona, & Schwarzer, 2005). Two key studies, conducted by Maciejewski, Prigerson, and Mazure (2000), and Saltzman and Holahan (2002), examined the relationship between self-efficacy and depression.

Saltzman and Holahan (2002) investigated factors that mediated the association between social support and psychological adjustment. Their integrative model proposed that the link between social support and psychological adjustment was mediated by self-efficacy and, in turn, by adaptive coping strategies. The model tested 300 undergraduate students at a large southwestern state university, recruited from Introductory Psychology courses, and surveyed over a period of five weeks.

The SES measured self-efficacy (Sherer & Adams, 1983). The SES comprised of 23 items, measuring the participant's expectations of their personal ability to initiate and persist in carrying out desired behaviors. The SES consisted of two factors, involving

general self-efficacy (17 items) and social self-efficacy (6 items). Psychological adjustment was assessed by measuring depressive symptoms through the Beck Depression Inventory (BDI) (Beck, Steer, & Garbin, 1988). The BDI comprised of 21 items, measuring levels of behavioral and emotional symptoms of depression, such as changes in eating and sleeping patterns, decreased energy levels, and worsening moods.

Saltzman and Holahan (2002) accurately predicted that at baseline social support, depressive symptoms decreased at the five-week follow-up, both directly and indirectly, through self-efficacy and adaptive coping strategies. In a prospective model that controlled for initial depressive symptoms, the association between baseline social support and depressive symptoms, at the five-week follow-up, was fully mediated by self-efficacy and coping strategies. This sample restricted the generalizability of these findings to undergraduate psychology students at the large southwestern state university; therefore, they could not be generalized to a larger population.

Maciejewski et al.'s (2000) research studied a sample of 2,858 respondents from the longitudinal Americans' Changing Lives (ACL) study, which was utilized to conduct path analyses to evaluate interrelationships between self-efficacy, life events, and symptoms of depression. The ACL consisted of a multi-state stratified area probability sample of people over the age of 25, living throughout the continental United States. A standardized measure of an 11-item short form of the CES-D assessed depression. A 6-item standardized index, representing a combination of Rosenberg's (1965) self-esteem scale and Pearlin & Schooler's (1978) mastery scale, assessed general self-efficacy. Stressful life events resided from events occurring within the past 12 months and included death of a child, death of a spouse, death of a parent, death of a close friend or

relative, divorce, move to a new residence, loss of a job, serious financial problems, physical attack, and life-threatening illness or injury. The results indicated that high self-efficacy had a strong, significant, and direct effect on decreasing symptoms of depression.

These studies, conducted by Maciejewski et al. (2000) and Saltzman and Holahan (2000), documented the association between self-efficacy and depression. Furthermore, the Maciejewski et al. (2000) study documented the relationship between self-efficacy and depression among individuals who had recently experienced a stressful life event. However, while Maciejewski et al.'s (2000) study examined physical attacks as one of the stressful life events, the study further did not examine any stressful life events that aimed specifically to measure experiences by survivors of IPV. There existed no current literature that examined the impact of self-efficacy on depressive symptoms among survivors of intimate partner violence.

### **The Relationship between Self-Efficacy and Traumatic Situations**

The literature on self-efficacy among individuals, following traumatic events, indicated that the individual's level of self-efficacy influenced that individual's level of distress and ability to recover. As Benight and Bandura (2004) noted, "threat is a relational property concerning the match between perceived coping and capabilities and potentially detrimental aspects of the environment" (p. 1131). Therefore, a traumatic event was frightful to an individual who did not believe they had the capabilities to control the threat, while the same traumatic event was less frightful to an individual who felt assured they could override the threat. For example, in the event of a natural disaster, individuals who believed they had economic resources would feel less frightened about

rebuilding their home, than those who believed they lacked economic resources.

Therefore, the individual's self-efficacy perception affected the individual's subjective experience of the trauma. Then, individuals with high self-efficacy adopted strategies and plans designed to address the impact of traumatic events to reduce the long-term impact of the trauma. On the other hand, an individual with low self-efficacy created a sense of inefficacy in managing the impact of the trauma; this sense of inefficacy became a major barrier to successful adaptation.

The literature on self-efficacy and trauma documented three key findings. First, evidence existed for a moderate to strong negative longitudinal association between self-efficacy and PTSD (Benight, Cieslak, Molton, & Johnson, 2008; Benight & Harper, 2002; Johansen, Wahl, Eilertsen, & Weisaeth, 2007; Singh & Bussey, 2011), meaning that individuals with high levels of self-efficacy experienced less traumatic symptoms; conversely, individuals with low self-efficacy reported more traumatic symptoms. Second, self-efficacy played a predictive role in PTSD or overall distress after trauma exposure (Benight & Harper, 2002; Johansen et al., 2007). This meant that having a high or low degree of self-efficacy, prior to the trauma, seemed to relate to lower or higher PTSD symptoms over time. Third, evidence existed that suggested that self-efficacy mediated the relationship of acute stress/baseline PTSD in subsequent PTSD experiences (Benight et al., 2008; Benight & Harper, 2002).

The literature that focused on trauma and self-efficacy focused heavily on collective traumas of natural disasters and city bombings (Benight & Harper, 2002; Benight, Freyaldenhoven, Hughes, Ruiz, & Zoschke, 2000). However, literature existed that examined the relationship between trauma and self-efficacy among victims of

individual traumas, including motor vehicle accidents (Benight et al., 2008), victims of child sexual abuse (Cieslak et al., 2008), victims of peer victimization (Singh & Bussey, 2011), and physically injured crime victims (Johansen et al., 2007).

As previously mentioned, the most cited literature on self-efficacy and trauma focused on collective traumas (Benight & Harper, 2002; Benight et al., 2000). Benight and Harper (2002) examined the mediating effect of coping self-efficacy perceptions between acute stress response and one-year distress, following two natural disasters. Coping self-efficacy perception was conceptualized as the individual's perceived self-efficacy for coping with challenges and threats. The study surveyed 50 participants who lived in a small mountain community in Colorado. In 1996, two natural disasters occurred in this community. The first disaster consisted of a 12,000-acre fire, and the second disaster involved a flash flood that occurred two months later. Of the 50 participants, 46 of the participants completed the second survey.

To examine coping self-efficacy among this sample, the Natural Disaster Coping Self-Efficacy Scale (NDCSE) was utilized. The NDCSE developed from the Hurricane Coping Self-Efficacy Measure (Benight, Ironson, & Durham, 1999). Items that read, "Caused by the Hurricane," (Benight et al., 1999) were changed to "Caused by the fire and floods" (Benight and Harper, 2002). In addition, three items related specifically to the flood and fire context of the disaster. Benight and Harper (2002) included, "Dealing with the demands of clearing debris," "Maintaining a sense of normalcy in my daily routine," and "Dealing with all the disruption caused by the fire and floods" The Brief Symptoms Inventory and the Impact of Events Scale measured the outcomes. The Brief Symptoms Inventory (Derogatis & Melisaratos, 1983) consisted of a 53-item measure

that asked participants to ascertain the level of distress related to a series of symptoms. The Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979) involved a 15-item measure that assessed the emotional impact of a traumatic event on a person by evaluating intrusive thoughts, emotional numbing, and avoidance behavior.

The results of Benight and Harper's (2002) study indicated that, following the first natural disaster, coping self-efficacy perceptions explained a significant proportion of the variance for both levels of distress and emotional impact of the traumatic event. Furthermore, the longitudinal analysis indicated that following both natural disasters, coping self-efficacy perceptions explained a significant proportion of the variance for both outcome measures. Finally, the study examined coping self-efficacy as a mediator variable and found that coping self-efficacy mediated the relationship between acute stress response and both outcome variables.

These findings suggested that coping self-efficacy remained an important predictor of distress shortly after a natural disaster. However, it is important to note that the sample was not randomly selected; instead, it consisted of a small convenience sample that was homogeneous in age, marital status, location, socioeconomic status, and traumatic experience. This sampling method limited the results of this study to this specific sample; therefore, it cannot be generalized to the general population of trauma survivors. While Benight and Harper's (2002) study found that self-efficacy (specifically, coping self-efficacy) mediated the relationship between the acute stress response and levels of distress and emotional impact of the trauma, similar findings can be found in Benight et al.'s (2000) study on victims of the Oklahoma City bombing.



In Benight et al.'s (2000) study, researchers interviewed a convenience sample of 27 victims of the Oklahoma City bombing, two months after the event. In addition, one year after the event, the participants received a questionnaire packet and a self-addressed envelope to complete the second questionnaire. Out of the initial 27 participants, 17 returned the second questionnaire for a response rate of 63%. For this study, the 17 participants who completed both questionnaires were included in the analysis. To measure self-efficacy, the Coping Self-Efficacy Scale was created by the authors, using 43-items designed to assess the main situational demands of coping with a bombing. Items further divided into four subcategories, including behaviors, thoughts, images, and emotions. The participant's level of distress was measured with the Symptoms Checklist-90, revised (SCL-90R) (Derogatis, 1983), the Impact of Events Scale (Horowitz et al., 1979), and a PTSD measure presented in the *Diagnostic and Statistical Manual* (DSM-III-R) (APA, 1987). The SCL-90R (Derogatis, 1983) consisted of a 90-item self-report measure designed to assess general psychological distress. The Impact of Events Scale (Horowitz et al., 1979) involved a 15-item measure that assessed the emotional influences of a traumatic event on a person by evaluating intrusive thoughts, emotional numbing, and avoidant behavior. PTSD symptoms were assessed utilizing the frequency of experiencing 17 PTSD symptoms derived from the DSM-III-R.

The results of Benight et al.'s (2000) study indicated that, two months after the bombing, coping self-efficacy perceptions accounted for 23% of the variance in predicting general psychological distress, 22% of the variance for predicting the Impact of Events Scale score, and 28% of the variance for predicting the frequency of PTSD symptoms. Furthermore, one year following the bombing, coping self-efficacy

perceptions accounted for 14%, 16%, 12%, and 26% of the variance in explaining general distress, Impact of Events Scale scores, PTSD symptoms frequency, and PTSD symptoms severity, respectively.

While the results of Benight et al.'s (2000) study indicated the important role coping self-efficacy played in the participant's level of distress following the Oklahoma City bombing, it remains important to note critical limitations to the study are the small sample size and convenience sampling method. Therefore, the sample was homogeneous and results of this study could not be generalized to other traumatic events or populations.

In addition to the major studies on self-efficacy and trauma conducted among victims of collective traumas (Benight et al., 2000; Benight & Harper, 2002), the following studies conducted by Benight et al. (2008), Cieslak et al. (2008), Singh and Bussey (2011), and Johansen et al. (2007) focused on victims of individual trauma. Benight et al. (2008) tested the importance of coping self-efficacy perceptions and changes in perceptions of coping self-efficacy for recovery from motor vehicle accident traumas. The researchers collected data for seven days after the motor vehicle accidents, one month after the accidents, and three months after the accidents from a sample of 163 victims of motor vehicle accidents, taken to the emergency room subsequent to the motor vehicle accidents. The final sample consisted of 63% women, aged 18 to 72 years ( $M = 40.21$ ,  $SD = 14.41$ ), with a median income of \$35,000 to \$40,000. Almost half of the participants had at least a bachelor's degree (44.3%), and slightly less than half (48.6%) were married. Participants self-reported as primarily Caucasian (82.9%) with the remainder reporting as Hispanic (5.7%), African American (5.7%), or other (5.7%).

Benight et al. (2008) created a measure of Motor Vehicle Accident Coping Self-Efficacy (MVA-CSE) was created for their study. They found that early changes in motor vehicle accident coping self-efficacy predicted posttraumatic distress at three months after the motor vehicle accidents, even when controlling for Time 1 and Time 2 posttraumatic distress and other trauma-related variables. Consistent with previously mentioned research (Benight et al., 2000; Benight & Harper, 2002), this study found that coping self-efficacy was a predictor of posttraumatic distress. However, the results needed to be understood within the study limitations. The study utilized a relatively restricted sample of mildly injured motor vehicle accident victims. Therefore, the findings might not be generalizable to more injured and/or traumatized victims of motor vehicle accidents or victims of other types of traumas. The attrition rate for the study remained notable and the potentially important differences between study completers, versus those who dropped out, were worth considering. Finally, even though the study design was longitudinal, causal conclusions should not be drawn prematurely. Further studies needed to be conducted to understand further the causal impact of motor vehicle accident coping self-efficacy and posttraumatic stress.

Cieslak et al. (2008) recruited 66 women with a history of child sexual abuse from university classes, correctional facilities, community private practices, and support groups to participate in a study, examining the mechanisms through which cognitive distortions influenced posttraumatic distress. Self-efficacy was measured through the development of the Sexual Abuse Coping Self-Efficacy Scale (SACSE). The SACSE consisted of 42 items, measuring the perceived capability to successfully deal with specific demands related to surviving sexual abuse. Posttraumatic distress was measured

using the Impact of Events Scale–Revised (Weiss, 2004), which measured the presence and severity of posttraumatic symptoms through 22 items in three subcategories: intrusion, avoidance, and hyperarousal. The results indicated that low coping self-efficacy predicted high posttraumatic distress. However, the results of this study remained limited by the small sample and the convenience method of sampling. Caution should be applied before generalizing these results to other traumatic events or populations.

Singh and Bussey (2011) examined coping self-efficacy as a mediator of the relationship between peer victimization and psychological maladjustment among 2,161 children, ranging in ages from 10 to 15. Coping self-efficacy was assessed using the Peer Aggression Coping Self-Efficacy Scale for adolescents (Singh & Bussey, 2009). Items of the Peer Aggression Coping Self-Efficacy Scale reflected four conceptual domains, including proactive behavior, avoiding aggressive behavior, avoiding self-blame, and victim-role disengagement. The study found that greater victimization associated with a reduction in coping self-efficacy, which related to higher symptoms of social anxiety, cognitive depression, and externalizing behaviors.

The results from Singh and Bussey's (2011) study revealed that the more children were victimized, the lower their coping self-efficacy became. This finding was consistent with the previously discussed literature (Benight et al., 2000; Benight et al., 2008; Benight & Harper, 2002; Cieslak et al., 2008) that indicated that individuals' perceptions of their beliefs in their ability to cope with a traumatic event shaped the impact of that event. This specific study provided evidence to the way children's beliefs, in their ability to cope with peer aggression, played a role in understanding how victimization might

contribute to variability in psychological distress. However, the results represented findings from only one study, among a sample of children, ages 10 to 15. Further research was needed to confirm the findings from this research study.

While the five previous studies conducted by Benight et al. (2000), Benight et al. (2008), Benight and Harper (2002), Cieslak et al. (2008), and Singh and Bussey (2011) utilized measures of self-efficacy that focused specifically on coping self-efficacy, the following study, conducted by Johansen et al. (2007), utilized a scale measuring general self-efficacy. Johansen et al. (2007) examined the predictors of PTSD among physically injured victims of non-domestic violence. Over 140 Norwegian-speaking adults were sampled from the communities of Bergen and Oslo, Norway. Individuals, who were 18 years or older, seeking assistance from an emergency unit, or making a police report, following a non-domestic physical assault, were recruited. Interviews and questionnaires were conducted three times throughout a period of 12 months. Perceived self-efficacy was measured using the Generalized Self-Efficacy Scale (GSE) (Schwarzer, 1993). The GSE consisted of 10 items, assessing the strength of an individual's belief of their ability to respond to novel or difficult situations and to deal with a large variety of stressors. PTSD was assessed with the Impact of Event Scale – Revised (Weiss, 2004), which measured the presence and severity of posttraumatic symptoms through 22 items in three subcategories: intrusion, avoidance, and hyperarousal. The results of the study indicated that self-efficacy predicted post-traumatic stress at all three periods. However, the results of this study remain limited by a small sample selected from two cities in Norway; therefore, the results cannot generalize to all individuals.

The previous studies ,conducted by Benight et al. (2000), Benight et al. (2008), Benight and Harper (2002), Cieslak et al. (2008), Singh and Bussey (2011), and Johansen et al. (2007) yielded consistent results for the impact of self-efficacy in mediating the relationship between a traumatic event and posttraumatic distress. The consistency of these findings, across diverse types of traumatization, spoke to the potential generalizability of these findings. However, to date, there exists no studies examining the impact of self-efficacy on psychological outcomes among survivors of intimate partner violence.

While no studies currently exist, examining the impact of self-efficacy on depression among survivors of intimate partner violence, there existed a foundation of literature, documenting the relationship between self-efficacy and depression (Maciejewski et al., 2000; Saltzman & Holahan, 2002). Literature also existed that documented the relationship between self-efficacy and psychological outcomes among survivors of trauma (Benight et al., 2000; Benight et al., 2008; Benight & Harper, 2002; Cieslak et al., 2008; Singh & Bussey, 2011; Johansen et al., 2007). To understand better the impact of self-efficacy and depression among survivors of intimate partner violence, this dissertation (a) examined the specific impact of economic abuse on depressive symptoms among survivors of intimate partner violence and (b) examined whether economic self-efficacy mediated the relationship between economic abuse and depressive symptoms. The following chapter explained the methodology utilized to answer these research objectives.

## **CHAPTER 4: METHODOLOGY**

The specific aims of this dissertation focused on: (1) exploring the prevalence of economic abuse experiences among this sample of victims of domestic violence; (2) understanding the differences in economic abuse experiences based on demographic variables; (3) examining the relationship between economic abuse and depressive symptoms; (4) evaluating the role of economic self-efficacy as a possible mediator between economic abuse and depressive symptomatology; and (5) observing the effects of economic abuse on depression over time. This dissertation provided further evidence that economic abuse occurred in abusive relationships and explored the impact economic abuse had on the victim's depressive symptoms.

### **Research Questions**

While the field of IPV has strong evidence documenting the connection between psychological, physical, and sexual abuse with depressive symptoms (Bonomi et al., 2006; Coker et al., 2002), few studies examine the impact of economic abuse on depressive symptoms (Postmus et al., 2012). This study addressed this gap in the literature by presenting the results of four waves of data collected in a longitudinal randomized control study with a convenience sample of female IPV survivors, receiving services from domestic violence agencies throughout the United States and Puerto Rico. The questions this dissertation examined included:

1. What was the prevalence of economic abuse experiences among this sample of victims of domestic violence?
2. Were there differences in economic abuse experiences based on demographic information of the victims?

3. Was there a cross-sectional relationship between economic abuse and depressive symptoms?
4. Did economic self-efficacy influence the relationship between economic abuse and depressive symptoms?
5. Was there a longitudinal (14-month) relationship between economic abuse and depressive symptoms?

### **Design and Procedures**

This dissertation utilized a secondary data analysis of a dataset from a larger research study, funded by The Allstate Foundation, to conduct a longitudinal, randomized control study, examining the impact of the *Moving Ahead through Financial Management* financial literacy program among survivors of domestic violence. This author served as a research assistant in the larger research study and utilized a component of the data collected for this dissertation. The *Moving Ahead through Financial Management* curriculum, created by The Allstate Foundation in partnership with the National Network to End Domestic Violence (NNEDV), was implemented with IPV survivors receiving services from domestic violence shelters and advocacy organizations across the U.S. and Puerto Rico.

The curriculum was created to help survivors identify the signs of economic abuse and its impact, increase their knowledge of financial issues, enhance their ability to manage their finances, and obtain the confidence they need to rebuild their financial lives. Five modules included in the curriculum covered Understanding Financial Abuse, Learning Financial Fundamentals, Mastering Credit Basics, Building Financial Foundations, and Creating Budgeting Strategies.



### Sample

As experiences of IPV remain difficult to discuss, due to their traumatic nature, a convenient sample of women was selected from the 14 agencies. Advocates were asked to recruit participants by advertising the study within their agency through email, snail mail, group announcement, staff meeting announcements, individual discussions with clients, or any other methods chosen by the agency staff. A sample flyer, approved by the Rutgers' IRB, was provided to the agencies to use in the recruitment process (see attached). Advocates were also provided with a screening checklist to review with potential participants. The checklist included the eligibility criteria, which stated that the woman must: (1) have experienced at least one form of domestic violence within the past 12 months; (2) be 18 years of age or older; (3) have been receiving services from the agency for more than 4 weeks but less than 6 months; (4) have not attended a financial literacy class within the past 2 years; (5) be committed to attend the curriculum group if selected; and (6) be committed to participate in the research project, whether or not they were selected for the curriculum group. Exceptions were later made for the third criterion, the length of time receiving services. This exception made included women who either (a) had received services for less than four weeks, but felt they were not currently in a crisis and were motivated to participate in the research study, or (b) had received services for more than six months, but were currently experiencing abuse from their partner. These criteria were altered in order to support agencies in recruiting additional women for the project.

Women, who met the criteria and expressed interest in participating in the study, completed a contact sheet, which requested personal information, including safe phone

numbers, emails, addresses, and whether they wanted to complete the interview in English or Spanish. In order to obtain safe contact information, women were asked to provide contact information that did not jeopardize their safety; they were also asked whether it was safe to contact them via these methods. Once completed, the sheets were collected by the advocates in each domestic violence agency and provided to the research team. Then, one of the research team members contacted the women to set up the face-to-face interview dates. The research team then coordinated with the agency staff regarding the logistics of arranging the face-to-face pre-test interviews. The initial interviews were conducted at the agency, as this remained a safe location for the participants. For women who needed childcare, the agencies assisted in providing employees or volunteers to watch the children. After completing the initial face-to-face interviews (T1), the follow-up interviews were completed at 2 months (T2), 8 months (T3), and 14 months (T4), either in-person or over the phone, as agreed upon by the researcher and the participant. Recruitment was ongoing, starting in July 2011 and ending in March 2012.

At the first or pre-test interview, the participants were randomly assigned into the experimental or control group. Prior to starting the interview, the researcher had two closed envelopes from which participants chose to determine their random assignment. The first envelope contained a letter explaining to the participant that she was assigned to the control group and was being asked to participate in a series of four interviews over a period of 14 months. The second envelope contained a letter explaining to the participant that she was assigned to the experimental group and was being asked to participate in a financial literacy group, along with a series of four interviews over a period of 14 months.

### **Protection of Human Subjects**

The original study by the PI, Judy L. Postmus, PhD., was approved by the Rutgers University Institutional Review Board (IRB) (Protocol # 08-386M), as well as the IRB at the University of Texas Arlington and at the University of Puerto Rico. All boards reviewed and approved procedures, consent forms, and protocols for the protection of human participants for this study. The research presented minimal risk to the participants. At the initial interview, participants were read the consent form and any questions were answered. For women who were particularly concerned about their confidentiality, pseudonyms were used on all paperwork. For the analysis, participant names were replaced by participant codes to protect further the participants' identities.

As all the participants had recent abuse experiences, the minimal risk of participating in the research project included (a) the possibility of having painful memories and emotions triggered and (b) the possibility of an increase in abuse should the abuser find out about the participant's involvement in a domestic violence research project.

To address the risk of having painful memories and emotions triggered, all the interviewers were instructed to refer the participant back to the domestic violence program for supportive services if the participant appeared distraught during the interview. In addition, each interviewer brought a list of local and national domestic violence agencies and hotline numbers to each interview, in case referrals were needed. During the survey, interviewers were trained to ask the participant if she needed a break if she appeared to become distraught.

To address the possibility of an increase in abuse, should the abuser find out about the participant's involvement in a domestic violence research project, several steps were developed by the research team to protect the women's safety. A pamphlet, "Safety Tips for Researchers," was provided to all members of the research team. It included the following reminders:

- When obtaining contact information for the client ALWAYS verify that this is a safe way to contact her. If the participant supplies a phone number, ask if it is safe to leave a message.
- Ask the woman if it is safe for her to take her copy of the informed consent or any other paperwork given during the interview.
- Make sure you have business cards/brochures/contact information of the agency. If the participant feels distressed or needs further information regarding available resources provide her the agency's information. If the participant does not want to contact the agency for any reason, then provide her with the number to the National Domestic Violence Hotline at 1-800-799-SAFE (7233) for further assistance.
- For the second, third and fourth interviews, find a place where the participant feels comfortable if conducting an in-person interview. Options include the agency, a local library, McDonalds, etc. Do not meet at the client's residence, as this is a safety concern for the participant and the researcher.
- When the participant picks up the phone, prior to starting the interview ask, "Is it safe for you to talk right now?" If the participant answers no, ask if there is a better date/time/place in which to contact her.

- When calling the participant ALWAYS block your call so that the number cannot be traced.
- If someone picks up the phone that is not the participant, do not give any information regarding the study. As a code, we will be stating that we are calling regarding the “Feminine Hygiene Survey.”
- When emailing a participant, please include the following on the bottom of all emails: “Computer use and emails can be monitored. If you are afraid your internet and/or computer usage might be monitored, please close your email account and do not use your personal computer. If you feel in danger or need additional information about safe computer usage, call your local hotline, and/or call the National Domestic Violence Hotline at 1–800–799–SAFE (7233).”
- If at any point, during the research project, you have any concerns about the safety of the participant, please contact the research coordinator immediately for additional assistance.

The research team members had multiple years of experience working with survivors and were trained on the research protocol. Precautions were taken to ensure all contact with survivors was conducted in a safe and sensitive manner. All data collection procedures and forms for this study (i.e. flyers, survey, and contact sheet) were approved by the IRB.

### **Data Collection**

Potential participants were recruited from 14 domestic violence programs, across seven states and Puerto Rico, with one agency from Connecticut, two agencies from

Iowa, three agencies from New Jersey, two agencies from New York, two agencies from Texas, one agency from Wisconsin, one agency from Rhode Island, and two agencies from Puerto Rico. Agencies were selected via a purposive sampling method. The research team selected agencies from areas, representing different socioeconomic backgrounds, from city and suburban locations, and from the Northeast, Midwest, Texas, and Puerto Rico regions. In addition, agencies that provided services targeted to both English-speaking and Spanish-speaking populations were included.

Each agency, participating in the research project, assigned an average of two advocates who recruited female participants and taught the financial curriculum to the experimental group. In order to establish rapport among the advocates and to educate the advocates on the research project and its protocols, a national meeting was held in Chicago, IL from May 23 to 25, 2011. Two advocates from each agency were invited to attend the meeting with all expenses paid. Forty-eight people attended the meeting, including three employees from The Allstate Foundation, 27 advocates, two employees from the National Network to End Domestic Violence, 15 researchers, and one advisory advocate. The conference covered the recruitment of participants, the curriculum protocol, the development of the survey, the role of the researcher and advocate, the rights of the research participants, the consent form, and the confidentiality policy.

Face-to-face interviews lasted approximately one hour, covering a wide range of measures, which included the Abuse Behavior Inventory (ABI), the Scale of Economic Abuse–12 Items (SEA-12), the CES-D, economic self-efficacy (ESE), and numerous demographic variables. These interviews were conducted at various locations, including domestic violence agencies and local libraries. The instrument was available in both

paper and online format through SNAP©, a web-based survey tool. During the interview, the researchers asked the women all the questions. Answers were either typed into the computer or written on the paper survey. All the participants signed IRB approved consent forms prior to beginning the interview. To maximize retention, a number of strategies were employed. First, incentives were given for participants, which included gift cards, starting at \$20 for the first interview, and increasing amounts, thereafter (\$25, \$30, and \$40). Second, the research team maintained, at least, monthly contact with participants between interviews by mail, email, and phone contact. If the interviewers were unable to contact the participants, for any reason, the interviewer then contacted the participant's safe contacts and the domestic violence agency in attempt to reach the participant.

### **Dissertation Methods**

This dissertation remains distinct from the larger study in several ways. First, many more measures in the larger study were beyond the scope of this dissertation. The measures this dissertation used are discussed below. Second, this dissertation did not utilize the theoretical framework of the larger study, which used the Theory of Planned Behavior (Ajzen, 1991), to examine how increasing a survivor's financial knowledge, financial attitudes, and financial norms changed her financial behaviors, quality of life, financial strain, depression, anxiety, and PTSD. Third, this dissertation did not examine the role of the financial literacy intervention, as was the goal of the larger research study. However, this dissertation focused on providing further evidence to the literature on the impact economic abuse had on a victim's depressive symptoms.

## **Measurement**

The survey instrument was developed from several validated or revised scales that measured a number of variables. For this dissertation, the measures used included the SEA-12 (Postmus et al., 2015), the Abusive Behavior Inventory - Revised (ABI-R) (Postmus, Stylianou, & McMahon, 2015), the CES-D (Radloff, 1977), the ESE (Hetling, Hoge, & Stylianou, 2015), and several questions on demographic variables, which included age, education, ethnicity, employment, and difficulty with income and services received. The instrument was initially designed in English and then translated to Spanish. Three bilingual researchers, representing different Latino backgrounds (Mexico, Puerto Rico, and Chile), reviewed the Spanish version of the instrument to address language issues and aid in understanding biases.

### **Economic Abuse**

The original SEA (Adams et al., 2008) involved a 28-item scale that identified the frequency of economic abuse that participants experienced in their relationship. The SEA included two subscales: Economic Control (17 items); and Economic Exploitation (11 items). The original SEA was evaluated through confirmatory and exploratory factor analyses and reduced to the SEA-12 (Postmus et al., 2015), involving a 12-item scale that identified the frequency of economic abuse that participants experienced in their relationships. For this research study, the SEA-12 was utilized to rate how often a partner had exhibited financially abusive behaviors in the past 12 months. Participants indicated such frequency by using a five-point scale with answers ranging from 1 (*never*) to 5 (*quite often*). The SEA-12 included three subscales: Economic Control (5 items); Economic Exploitation (3 items); and Employment Sabotage (4 items) (Postmus et al.,



2015). Both the scale and the subscales demonstrated strong reliability among this sample with an alpha coefficient of 0.89 for the twelve-item scale and alphas of 0.87, 0.86, and 0.81 for the three subscales (Economic Control, Employment Sabotage, and Economic Exploitation). For the purpose of this dissertation, the mean score of the entire scale, not of each subscale, was used to represent economic abuse because there was a high amount of shared variance between the different forms of economic abuse.

### **Intimate Partner Violence**

Intimate partner violence was assessed by using the ABI-R (Postmus et al., 2015). The original ABI (Shepard & Campbell, 1992) represented a commonly used measure to assess for physical and psychological abuse experiences. The ABI included 30 items, encompassing two subscales: Physical Abuse (10 items); and Psychological Abuse (20 items). Interviewers asked participants to indicate how often a partner utilized a range of physical and psychological abuse tactics on a five-point Likert Scale.

The original ABI was tested and the scale was revised to the ABI-R (Postmus et al., 2015), which included 25 items and the three sub-scales of physical abuse (9 items), psychological abuse (13 items), and sexual abuse (3 items). Interviewers asked participants to indicate how often a partner committed specific abusive acts over the last year. The survey used a five-point scale with answers ranging from 1 (*never*) to 5 (*very often*). The ABI-R exhibited good reliability and construct validity in the validation study (Postmus et al., 2015). Among this sample, the ABI-R had a reliability coefficient of 0.95, with the Physical Violence, Psychological Abuse, and Sexual Abuse subscales all demonstrating strong internal consistency, with alpha coefficients of 0.93, 0.92, and 0.85, respectively.

### **Depression Symptomatology**

The CES-D (Radloff, 1977) developed by the National Institute of Health was used to assess current depressive symptomatology in the general population. The instrument consisted of a 20-item, self-report scale and was used previously among victims of IPV (Cobb, Tedeschi, Calhoun, & Cann, 2006; Datner, Weibe, Brensinger, & Nelson, 2007; Schumm, Briggs-Phillips, & Hobfoll, 2006). The CES-D included components of depressed mood, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disorders. Participants reported how often they experienced depressive symptomatology over the past week on a scale of 0 (less than one day) to 3 (five to seven days). A summary score of 16 or greater was considered an indication of depressive symptoms, a cutoff commonly used to identify women experiencing depressive symptoms (Roberts, 1980). Among this sample, the scale demonstrated strong internal reliability with an alpha coefficient of 0.81.

### **Economic Self-Efficacy**

Economic Self-Efficacy (Hetling et al., 2015) was measured by altering Schwarzer and Jerusalem's (1995) General Self-Efficacy scale to include economic language. For example, the first item of Schwarzer and Jerusalem's (1995) General Self-Efficacy scale stated, "I can always manage to solve difficult problems if I try hard enough." The item was rephrased to measure economic self-efficacy by changing the item to state, "I can always manage to solve difficult financial problems if I try hard enough." Response options ranged from 1 (*strongly disagree*) to 5 (*strong agree*) on a five-point Likert scale. Among this sample, the scale demonstrated adequate internal reliability with a Cronbach's alpha of 0.88.

## **Covariates**

Age was measured by asking each participant her year of birth. Length of time she received services from the domestic violence agency was originally measured in a categorical variable with answer responses, which included "less than 4 weeks," "1 month - less than 3 months," "3 months - 6 months," and "more than 6 months." In this analysis the variable was collapsed into a dichotomous variable, which included "less than 3 months," and "3 months and more." To assess services received from the domestic violence agencies, clients were asked to answer yes or no to whether they had received any of the following services: emergency/short-term housing, individual counseling, legal advocacy, support groups, services for children, and advocacy/case-management.

Ethnicity was assessed by asking participants to indicate the racial/ethnic group she considered herself: White, African American, Latina/Hispanic, Asian/Pacific Islander, Native American, or Other. The categories were later collapsed into White, African American, Latina/Hispanic, or Other for analysis. Participants were also asked whether they had children for whom they were financially responsible (yes/no), whether they were born in the United States (yes/no), and whether they had health insurance (yes/no).

To measure whether participants were receiving social services, clients were asked to indicate whether they received any of the following social services: public housing, Section 8/Rental Assistance, food stamps, TANF/GA, Family Violence Options (FVO), heating assistance/LIHEAP, WIC, SSI/SSD, or other. This item was collapsed into a dichotomous variable (yes/no to social services). To measure current employment participants were asked, "Are you currently employed?" Response options included yes, full-time; yes, part-time; or no. The item was created into a dichotomous variable by

combining responses from yes, full-time; yes,-part-time (1=yes); and no (0=no). Finally, to measure the participant's annual household income, a categorical variable was included with response options of \$0 to \$10,000, \$10,001 to \$15,000, \$15,001 to \$25,000, \$25,001 to \$35,000, and more than \$35,000. This variable was collapse for this analysis into a dichotomous variable with \$0 to \$10,000 and \$10,000 and over.

### **Data Analysis**

The specific aims of this dissertation focused on: (1) exploring the prevalence of economic abuse experiences among this sample of victims of domestic violence; (2) understanding the differences in economic abuse experiences based on demographic variables; (3) examining the cross-sectional relationship between economic abuse and depressive symptoms; (4) evaluating the role of economic self-efficacy as a possible mediator between economic abuse and depressive symptoms; and (5) observing the longitudinal (14 months) effects of economic abuse on depressive symptoms over time. This dissertation provides further evidence examining economic abuse occurring in abusive relationships and the impact economic abuse had on the victims' depressive symptoms.

### **Hypotheses**

**Cross-sectional hypothesis #1.** Economic abuse would have a significantly positive impact on depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).

**Cross-sectional hypothesis #2.** Economic self-efficacy would mediate the relationship between economic abuse and depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).

**Longitudinal hypothesis #1.** Change in economic abuse would have a significantly positive impact on change in depressive symptoms. (This hypothesis was examined utilizing the 246 participants, who completed both the T1 and T4 interviews, which were 14 months apart.)

### **Methods of Analysis**

Demographic variables of the sample were calculated by running the mean, standard deviation, and percentage on the following variables: age, time receiving services, types of services received, born in the US, race/ethnicity, employment status, education status, health insurance, social services, number of children, and difficulty with income. Descriptive statistics (including the mean and standard deviation) were calculated on the mean scores of physical abuse, psychological abuse, sexual abuse, economic abuse, economic self-efficacy, and depressive symptoms. In addition, prevalence rates were calculated based on the percentage of women reporting each form of abuse. Bivariate correlations were conducted between the different types of abuse, economic self-efficacy, depression, and demographic variables. The overlap of the experiences of the four different forms of abuse (physical, psychological, sexual, and economic abuse) was examined. Finally, to understand the difference between women who remained in the study compared to women who dropped out of the project, chi-square and *t*-tests were conducted on physical abuse, psychological abuse, economic abuse, economic self-efficacy, depression, and the demographic variables.

*Cross-Sectional Hypothesis #1: Economic abuse would have a significantly positive impact on depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).*

Linear regression analysis was conducted with economic abuse on depressive symptoms, while controlling for physical abuse, psychological abuse, sexual abuse, and demographic variables. In linear regression analysis, researchers could fit an exploratory model to the data and use that model to predict values of the dependent variable (depression) from one or more independent variables. Furthermore, linear regression assessed how powerful a prediction the hypothesized regression model provided.

*Cross-Sectional Hypothesis #2: Economic self-efficacy would mediate the relationship between economic abuse and depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).*

A series of regression analyses were used to examine the mediating effect of economic self-efficacy on the relationship between economic abuse and depressive symptoms. As described by Baron and Kenny (1986), a variable functioned as a mediator when it met the following conditions: (a) the variation in the independent variable significantly accounted for the variation in the mediator; (b) the variation in the mediator significantly accounted for the variation in the dependent variable; and (c) when a and b were controlled, the previously significant relationship between the independent and dependent variables was no longer significant (full mediation) or less significant (partial mediation).

In this study, economic abuse represented the independent variable, economic self-efficacy represented the mediating variable, and a measure of depressive symptoms represented the dependent variable. First, a regression analysis was run for economic abuse on economic self-efficacy, while controlling for physical abuse, psychological abuse, sexual abuse, and demographic variables. Second, a regression analysis was run

with economic self-efficacy on depression. And third, a regression analysis was run with economic abuse, economic self-efficacy, and the control variables on depression to see if the effect and significance of the effects of abuse on depression found in step 1 had disappeared (full mediation) or decreased (partial mediation).

*Longitudinal Hypothesis #1: Change in economic abuse would have a significantly positive impact on change in depressive symptoms. (This hypothesis was examined utilizing the 246 participants, who completed both the T1 and T4 interviews, which were 14 months apart.)*

Prior to beginning the longitudinal analyses, demographic variables of the longitudinal sample (participants, who completed both T1 and T4,  $n = 246$ ) were reported by running the mean, standard deviation, and percentage on the following variables: age, time receiving services, types of services received, ethnicity, employment status, number of children, and difficulty with income. Descriptive statistics (including the mean and standard deviation) were run on the T4 mean scores of physical abuse, psychological abuse, sexual abuse, economic abuse, economic self-efficacy, and depressive symptoms. Next,  $t$ -tests and chi-square tests were conducted for demographic variables on the participants, who completed the T4 interview ( $n = 246$ ), and participants, who did not complete the T4 interview ( $n = 210$ ). These analyses provided information on the differences between participants, who completed the T4 interview, compared to participants, who did not complete the T4 interview.

Next, chi-square and  $t$ -tests were utilized to examine the change in employment, student status, income, social services, psychological abuse, physical abuse, sexual abuse, economic abuse, economic self-efficacy, and depression of the participants from T1 to T4

( $n = 246$ ). These tests provided evidence as to which variables changed significantly over time. Finally, linear regression analysis was conducted with change in economic abuse on change in depressive symptoms, while controlling for change in physical abuse, change in psychological abuse, change in sexual abuse, and demographic variables. As mentioned previously, in linear regression analysis researchers could fit an exploratory model to the data and use that model to predict values of the dependent variable (depression) from one or more independent variables. Furthermore, linear regression assessed how powerful a prediction the hypothesized regression model provided.



## CHAPTER 5: RESULTS

### Characteristics of the Sample at T1

There were 457 female IPV survivors who participated in the pre-test interviews. Table 1 presented the sample demographics. The mean age was 36 years ( $SD = 9.15$ ). The participants were racially diverse, with 17.5% of the women identifying as Caucasian, 20.2% as African American, 53.9% as Latina/Hispanic, and 8.3% as “Other,” reflecting the demographics of the study cities in states, such as Texas, New York, and New Jersey, and Puerto Rico. Approximately half (51.9%) of the respondents were born in the United States. Almost half (48%) reported a yearly income under \$10,000. Just over 45% of the participants were employed and over 13% were currently students. Almost half (48.2%) of the respondents received services for less than three months from the IPV organization and received a wide range of services, including 14% received emergency/short-term housing, 59.3% received individual counseling, 28.7% received legal advocacy, 58.4% received support group counseling, 31.7% received services for children, and 26.3% received advocacy/case-management. Eighty percent of the women reported having children, 55.4% reported having health insurance, and 71.6% reported currently receiving social services. Overall, the women reported moderate levels of psychological, physical, sexual, and economic abuse within the year prior to the T1 interview, with mean scores, respectively, at 3.51 ( $SD = 1.00$ ), 2.46 ( $SD = 1.14$ ), 2.16 ( $SD = 1.25$ ), and 2.64 ( $SD = 0.99$ ) (note, that the abuse was measured using a Likert scale ranging from 1-5). Similarly, as a whole, women reported a moderate level of economic self-efficacy, with a mean score of 3.21 ( $SD = 0.72$ ) (note that economic self-efficacy was measured using a Likert scale ranging from 1-5). Women, as a whole, also reported

moderate levels of depression with a mean score of 22.33 ( $SD = 13.35$ ). According to Lewinsohn, Seeley, Roberts, and Allen (1997), the clinical cut-off score for depression was 16. Of the 457 women, 63% met the clinical cut-off for depression.

Table 2 contained results of analysis, examining the overlap between the four types of abuse (physical, psychological, sexual, and economic). Findings revealed that, in most cases, participants who reported experiencing one form of IPV, also reported experiencing other forms of IPV. There were less than 4% that reported only one form of abuse (0.2% reported only experiencing physical abuse, 1.8% reported only experiencing psychological abuse, and 1.3% reported only experiencing economic abuse) and not a single participant reported only experiencing sexual abuse. Less than 14% reported experienced only two forms of abuse, and the majority of participants, who experienced only two forms of abuse, reported experiencing psychological and economic abuse (10.5%). Less than 35% of participants reported experiencing only three forms of abuse, with the majority of participants, who only experienced three forms of abuse, reporting that they experienced physical, psychological, and economic abuse (29.8%). Finally, almost half (47.7%) of participants reported experiencing all four forms of abuse. In addition, it remained important to note that 93% of clients reported economic abuse (whether the client only reported economic abuse or whether the client reported economic abuse along with other forms of abuse). Furthermore, it remained important to note that six women (1.3%) were categorized as rarely abused, in that they experienced abuse in the past 12 months, but rated the abuse as having occurred “rarely.” In order to count for abuse in this analysis, the participant must have experienced abuse “sometimes, often, and/or very often.”

### Cross-Sectional Correlations

Next, correlations and one-way ANOVAs were conducted between all of the variables for T1. Table 3 presented the correlations between age and income and IPV, economic self-efficacy, and depressive symptoms. The results demonstrated that age had a significantly negative correlation with physical abuse experiences ( $r = -0.11, p < 0.05$ ). However, age did not have a significant correlation with psychological abuse, sexual abuse, economic abuse, economic self-efficacy, or depressive symptoms. In addition, the results demonstrated that income had a significantly negative correlation with physical abuse experiences ( $r = -0.16, p < 0.01$ ) and sexual abuse experiences ( $r = -0.18, p < 0.001$ ). However, there were no significant correlations between income and psychological abuse, economic abuse, economic self-efficacy, and depressive symptoms.

One-way ANOVAs were used to analyze the differences between race/ethnicity groups on IPV, economic self-efficacy, and depressive symptoms, was presented in Table 4. While the one-way ANOVAs revealed no differences in psychological abuse, sexual abuse, economic abuse, economic self-efficacy, and depressive symptoms between the different race/ethnicities, there were significant differences in physical abuse experiences ( $F[3, 451] = 5.88, p < 0.01$ ). Post hoc tests, using Bonferroni correction, revealed that White, Non-Hispanic women reported lower rates of physical abuse experiences than Black or African-American, Non-Hispanic women did (2.38 and 2.85, respectively,  $p < 0.05$ ). Hispanic or Latina women also reported lower rates of physical abuse experiences than Black or African-American, Non-Hispanic women did (2.30 and 2.85, respectively,  $p < 0.01$ ).

Next, *t*-tests were utilized to examine the differences between individuals born in the United States and individuals not born in the United States on IPV, economic self-efficacy, and depressive symptoms. These results were presented in Table 5. These results indicated that there were no significant differences between individuals born in the United States versus individuals born in another country in economic abuse experiences ( $t[453] = -0.31, p = 0.757$ ), psychological abuse experiences ( $t[452] = -0.55, p = 0.586$ ), and depressive symptoms ( $t[453] = -0.69, p = 0.491$ ). However, there were significant differences between individuals born in the United States versus individuals born in another country in physical abuse experiences, sexual abuse experiences, and economic self-efficacy. Individuals born in the United States reported significantly higher levels of physical abuse ( $t[452] = -2.87, p < 0.01$ ), significantly lower levels of sexual abuse ( $t[452] = 2.42, p < 0.05$ ), and significantly lower levels of economic self-efficacy ( $t[453] = 2.56, p < 0.05$ ), than individuals born in another country reported.

The results on differences based on employment status on IPV, economic self-efficacy, and depressive symptoms were illustrated in Table 6. The results of the *t*-tests indicated that there was no significant difference between individuals who had employment (either full-time or part-time), compared to individuals who had no employment in sexual abuse experiences ( $t[452] = -.16, p = 0.877$ ) or economic self-efficacy ( $t[453] = -1.02, p = 0.308$ ). However, there were significant differences between individuals who had employment, compared to individuals who had no employment in economic abuse experiences, psychological abuse experiences, physical abuse experiences, and depressive symptoms. Participants, with current employment, reported lower levels of economic abuse experiences ( $t[453] = 2.41, p < 0.05$ ), lower levels of

psychological abuse experiences ( $t[452] = 2.03, p < 0.05$ ), lower levels of physical abuse experiences ( $t[452] = 2.59, p < 0.05$ ), and lower levels of depressive symptoms ( $t[453] = 2.54, p < 0.05$ ).

The results on differences based on student status on IPV, economic self-efficacy, and depressive symptoms were illustrated in Table 7. The results of the  $t$ -tests indicated that there were no significant differences between participants who were currently students (full-time or part-time), compared to participants who were not currently students in economic abuse experiences ( $t[452] = -0.92, p = 0.359$ ), psychological abuse experiences ( $t[451] = -0.194, p = 0.053$ ), sexual abuse experiences ( $t[451] = -1.39, p = 0.165$ ), economic self-efficacy ( $t[452] = -0.81, p = 0.417$ ), or depressive symptoms ( $t[452] = 1.70, p = 0.090$ ). However, participants, who were currently students, reported significantly lower levels of physical abuse experiences ( $t[451] = -2.08, p < 0.05$ ).

The results on differences found from whether the participant had children on IPV, economic self-efficacy and depressive symptoms were illustrated in Table 8. The  $t$ -tests results indicated there were no significant differences between participants who had children, compared to participants who did not have children in economic abuse experiences ( $t[454] = 0.68, p = 0.498$ ), psychological abuse experiences ( $t[453] = 0.57, p = 0.568$ ), physical abuse experiences ( $t[453] = 1.50, p = 0.135$ ), sexual abuse experiences ( $t[453] = 1.61, p = 0.108$ ), or economic self-efficacy ( $t[454] = 0.48, p = 0.635$ ). However, participants with children reported significantly lower levels of depressive symptoms ( $t[454] = 2.04, p < 0.05$ ).

The results of the differences between participants receiving social services, compared to participants not receiving social services on IPV, economic self-efficacy,

and depressive symptoms were presented in Table 9. The *t*-tests results indicated that there were no significant differences between individuals receiving social services, compared to individuals not receiving social services in economic abuse experiences ( $t[454] = -0.01, p = 0.991$ ), psychological abuse experiences ( $t[453] = -1.16, p = 0.246$ ), sexual abuse experiences ( $t[453] = -0.43, p = 0.668$ ), economic self-efficacy ( $t[455] = -0.26, p = 0.792$ ), and depressive symptoms ( $t[454] = 0.33, p = 0.745$ ). However, participants receiving social services reported significantly higher levels of physical abuse experiences ( $t[453] = -0.327, p < 0.01$ ) than participants not receiving social services.

Table 10 illustrated the correlations between psychological abuse, physical abuse, economic abuse, economic self-efficacy, and depression. Psychological abuse was significantly correlated with physical abuse ( $r = 0.69, p < 0.001$ ), sexual abuse ( $r = 0.55, p < 0.001$ ), economic abuse ( $r = 0.70, p < 0.001$ ), economic self-efficacy ( $r = -.09, p < 0.05$ ), and depression ( $r = 0.29, p < 0.001$ ). Physical abuse was significantly correlated with sexual abuse ( $r = 0.59, p < 0.001$ ), economic abuse ( $r = 0.51, p < 0.001$ ), and depression ( $r = .25, p < 0.001$ ). Sexual abuse was significantly correlated with economic abuse ( $r = 0.45, p < 0.001$ ) and depression ( $r = 0.18, p < 0.001$ ). Economic abuse was significantly correlated with economic self-efficacy ( $r = -.10, p < 0.05$ ) and depression ( $r = 0.30, p < 0.001$ ). Economic self-efficacy and depression were also significantly negatively correlated ( $r = -0.30, p < 0.001$ ).

### **Cross-Sectional Regression Analyses**

First, Little's Missing Completely at Random (Little & Rubin, 2014) test was performed and found to be nonsignificant ( $p = 0.46$ ), indicating that the pattern of

missing data was not significantly different from a pattern of randomly missing data. There was less than 1% missing data on each variable with the exception of income in which 2% ( $n = 9$ ) was missing. Due to the small amount of randomly missing data, all analyses were run utilizing listwise deletion, which excluded the entire record from the analysis if any single value was missing.

*Cross-Sectional Hypothesis #1: Economic abuse would have a significantly positive impact on depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).*

As hypothesized, the results of the cross-sectional multiple regression model indicated that, when controlling for demographic variables, higher levels of economic abuse resulted in significantly higher levels of depressive symptoms ( $B = 2.34, p < 0.01$ ) (see Table 11). In addition, being a student resulted in significantly lower levels of depressive symptoms ( $b = -3.78, p < 0.05$ ). The model accounted for 13% of the variance in depressive symptoms.

*Cross-Sectional Hypothesis #2: Economic self-efficacy would mediate the relationship between economic abuse and depressive symptoms. (This hypothesis was examined utilizing the T1 dataset, which included 457 participants).*

To test cross-sectional hypothesis 2, multiple regressions were run on the mediating effect of economic self-efficacy. Baron and Kenny's (1986) first condition of mediation required that the independent variables affected the mediating variable (See Table 12). In contrast to the hypothesis, higher levels of economic abuse did not result in significantly lower levels of economic self-efficacy ( $b = -0.07, p = 0.17$ ). However, it remained interesting to note that participants who were born in the United States had

significantly lower levels of depressive symptoms, than participants born outside of the United States ( $b = -0.23, p < 0.05$ ).

Baron and Kenny's (1986) second condition for mediation consisted of the mediator variable needing to affect the dependent variable. The result of this analysis was reported in Table 13, Model A. As expected, economic self-efficacy resulted in significantly lower levels of depressive symptoms ( $b = -5.57, p < 0.001$ ), with the model explaining 9% of the variance in depressive symptoms.

Baron and Kenny's (1986) third condition for mediation consisted of the significant relationship between the independent and dependent variables needing to be no longer significant (full mediation) or less significant (partial mediation) when the mediating variable was included in the analysis. The result of this analysis was reported in Table 13, Model B. The results indicated that economic self-efficacy did not mediate the relationship between the independent variable of economic abuse and the dependent variable of depressive symptoms. (Note: This is not surprising, as the first condition for mediation, that the independent variables significantly affected the mediating variable and was not present).

### **Characteristics of the Longitudinal Sample ( $n = 246$ )**

There were 246 who participated in the T1 and the T4 interviews. Table 14 presents the sample ( $n = 246$ ) demographics. The mean age was 37 years ( $SD = 8.95$ ). The participants were racially diverse, with 14.2% of the women identifying as Caucasian, 19.1% as African American, 60.2% as Latina/Hispanic, and 6.5% as "Other." Approximately half (52%) of the respondents were born in the United States. Almost half (46.5%) reported a yearly income under \$10,000. Just over 50% of the participants were



employed and over 13% were currently students. Over a third (37.1%) of the respondents received services for less than three months from the IPV organization and received a wide range of services, including 9.3% received emergency/short-term housing, 59.8% received individual counseling, 29.3% received legal advocacy, 63.8% received group support counseling, 35.4% received services for children, and 26.4% received advocacy/case-management services. Eighty-two percent of the women reported having children, 58% reported having health insurance, and 68.7% reported currently receiving social services. Overall, the women reported moderate levels of psychological, physical, sexual, and economic abuse within the past year with mean scores, respectively, at 3.43 ( $SD = 1.01$ ), 2.25 ( $SD = 1.04$ ), 2.6 ( $SD = 1.17$ ), and 2.61 ( $SD = 0.94$ ) (note, that the abuse was measured using a Likert scale ranging from 1-5). Similarly, as a whole, women reported a moderate level of economic self-efficacy with a mean score of 3.17 ( $SD = 0.73$ ) (note, that economic self-efficacy was measured using a Likert scale ranging from 1-5). Women, as a whole, also reported moderate levels of depression with a mean score of 21.40 ( $SD = 13.00$ ). According to Lewinsohn et al. (1997), the clinical cut-off score for depression was 16. Of the 246 women, 60.6% met the clinical cut-off for depression.

### **Differences Between Completers and Non-Completers**

To test for differences, *t*-tests and chi-square tests were run for demographic variables on the clients who completed the T4 interview ( $n = 246$ ) and participants who did not complete the T4 interview ( $n = 211$ ). The results for the chi-square tests are presented in Tables 15 through 17. There were significant differences between the completers and the non-completers in the services received from the agency, ethnicity, and employment. Participants who received emergency/short-term shelter services were

more likely to be non-completers ( $\chi^2 [1, 457] = 9.59, p < 0.01$ ), while participants receiving support group services were more likely to be completers ( $\chi^2 [1, 457] = 6.39, p < 0.05$ ). These results were presented in Table 15. Table 16 presented the differences in completers versus non-completers based on race/ethnicity. The results indicated that participants who identified as White were significantly more likely to not complete the T4 interview ( $\chi^2 [1, 456] = 4.06, p < 0.05$ ), while participants who identified as Latina were significantly more likely to complete the T4 interview ( $\chi^2 (1, 456) = 8.31, p < 0.01$ ). Table 17 presented the differences in completers versus non-completers based on employment status. The results indicated that participants with employment were more likely to complete the T4 interview ( $\chi^2 [1, 455] = 5.69, p < 0.05$ ).

Table 18 presented the results of the *t*-tests between the characteristics of participants who completed the T4 interview compared to participants who did not complete the T4 interview. The results indicated that participants who completed the T4 interview were significantly older ( $t[454] = -2.75, p < 0.01$ ) and reported significantly less physical abuse experiences ( $t[453] = 4.31, p < 0.001$ ).

### **Change in Variables over Time**

The change in employment, student status, income, social services, psychological abuse, physical abuse, sexual abuse, economic abuse, economic self-efficacy, and depression were assessed using chi-square and paired *t*-tests. The result of this analysis was reported in Table 19. Results indicated that all variables changed significantly from T1 to T4, so that there was a significant increase in economic self-efficacy ( $t = -8.04, p < 0.001$ ), employment ( $\chi^2 = 51.79, p < 0.001$ ), student status ( $\chi^2 = 25.05, p < 0.001$ ), and income ( $\chi^2 = 46.08, p < 0.001$ ). Furthermore, there was a significant decrease in

psychological abuse experiences ( $t = 21.80, p < 0.001$ ), physical abuse experiences ( $t = 14.81, p < 0.001$ ), sexual abuse experiences ( $t = 11.83, p < 0.001$ ), economic abuse experiences ( $t = 16.89, p < 0.001$ ), and depressive symptoms ( $t = 7.34, p < 0.001$ ). Note that the additional demographic variables, age, ethnicity, children, time obtaining services, born in the United States, were not included in this analysis, as there were no expected changes in these variables to occur.

### **Longitudinal Regression Model**

*Longitudinal Hypothesis #1: A decrease in economic abuse would have a significantly positive impact on a decrease in depressive symptoms. (This hypothesis was examined utilizing the 246 participants, who completed both the T1 and T4 interviews, which were 14 months apart.)*

Contrary to the hypothesis, the results of the longitudinal multiple regression model did not indicate that a decrease in levels of economic abuse resulted in significantly decreased levels of depressive symptoms ( $B = 1.25, p = 0.249$ ). The only variable that had any significant impact was student status, so that if a participant enrolled in school this led to a significant decrease in depressive symptoms ( $B = -4.51, p < 0.05$ ). The model accounted for 8% of the variance in depressive symptoms.

## **CHAPTER 6: DISCUSSION**

### **Summary of Key Findings**

The findings from this dissertation suggest that economic abuse was a common experience among this sample of IPV survivors. In fact, 93% of the IPV survivors reported experiencing economic abuse “sometimes,” “often,” or “very often” in the past 12 months. Almost half (47.7%) reported experiencing physical, psychological, sexual, and economic abuse in the past 12 months and almost one third (29.8%) reported experiencing physical, psychological, and economic abuse experiences in the past 12 months.

Initial analysis on the T1 data ( $n = 457$ ) revealed that the age of the participant was significantly, negatively correlated with the client's physical abuse experiences, while income of the participant was also significantly, negatively correlated with physical abuse and sexual abuse experiences. These results suggest that younger women were more likely to experience physical abuse, while women with less income were more likely to experience both physical and sexual abuse experiences.

Furthermore, there were significant differences in physical abuse experiences between participants of different racial/ethnic backgrounds, with those who identified as Black/African-American, reporting significantly higher rates of physical abuse experiences. In addition, participants who reported being born in the United States reported significantly higher rates of physical abuse, whereas participants who reported being born in another country reported significantly higher rates of sexual abuse experiences.

When examining the impact of employment status, results indicated that participants who were not employed reported higher levels of economic abuse, physical abuse, and psychological abuse experiences. As this was a cross-sectional model, it was not conclusive whether abuse experiences made it less likely that a victim obtained and maintained employment or whether unemployment placed women at a higher risk of being abused by a partner. Further research is needed to determine the direction of the relationship between abuse experiences and employment status. Furthermore, when examining the impact of employment status, results also found that participants who were not employed reported significantly higher rates of depressive symptoms. Again, it was not possible to tell from this analysis, the direction of the relationship between unemployment, abuse experiences, and depressive symptoms. It was possible that unemployment led to an increase in depressive symptoms among victims of IPV, and it was also possible that abuse experiences led to depressive symptoms, which made employment difficult among this sample of abused women. Further research is needed to explore the relationship between abuse experiences, employment status, and depressive symptoms.

When examining the impact of having children, results indicate that participants with children reported significantly higher rates of depressive symptoms than participants who did not have children. In addition, participants receiving social services reported higher rates of physical abuse experiences than participants not receiving social services did.

In the correlational analysis, results revealed that all forms of abuse were moderately, significantly, and positively correlated with each other. This result provided

evidence that each form of abuse (psychological, physical, sexual, and economic) represented a unique form of abuse, but as a participant experienced one form of abuse she was likely to experience other forms of abuse as well. Economic self-efficacy was significantly, negatively correlated to economic abuse but the correlation was low ( $r = -0.10$ ). Finally, depressive symptoms was significantly, positively correlated with all forms of abuse (physical, psychological, sexual, and economic) and negatively, significantly correlated with economic self-efficacy.

The cross-sectional linear regression revealed that economic abuse experiences were related to a significant increase in depressive symptoms. Furthermore, economic abuse was the only form of abuse (i.e. not physical abuse, psychological abuse, or sexual abuse) that had a significant cross-sectional impact on depressive symptoms. The cross-sectional linear regression also revealed that being a current student was related to a significant decrease in depressive symptoms. While economic abuse was related to a significant increase in depressive symptoms at T1, this relationship was not mediated by economic self-efficacy. In fact, economic abuse had no significant impact on economic self-efficacy in the cross-sectional regression model.

When analyzing the data from a longitudinal perspective, the sample of 246 participants who completed T1 and T4 were included in the analysis. Analyses that examined differences between participants who completed T4, versus participants who did not complete T4, revealed that participants who did not complete T4 were more likely to receive emergency/short-term shelter services, identify as White, be unemployed at T1, and be a younger age (with a mean age of 34.96 for participants, who did not complete T4). Whereas, participants who completed T4 were more likely to have received support

group services, identify as Latina, be employed at T1, to be of an older age (with a mean age of 37.31 for participants who completed T4), and report lower rates of physical abuse experiences than participants who did not complete T4. Therefore, it was important to keep these findings in light when considering the results of the longitudinal analysis that participants who faced more financial difficulties (homelessness and unemployment), who were younger, and who identified as White were more likely to drop out of the analysis.

When examining change in the variables over time, there were numerous significant changes in the participants over the 14-month period. Results indicate that all variables changed significantly from T1 to T4, so that there was a significant increase in economic self-efficacy, employment, student status, and income. Furthermore, there was a significant decrease in psychological abuse experiences, physical abuse experiences, sexual abuse experiences, economic abuse experiences, and depressive symptoms. However, when examining the longitudinal linear regression, a change in economic abuse experiences was not significantly related to a change in depressive symptoms over the 14-month period. Interestingly, the longitudinal analysis did not find a change in any form of abuse, whether physical, psychological, sexual, or economic, was significantly related to a change in depressive symptoms. The only significant relationship found in the longitudinal regression was that individuals, who became a student, experienced a significant decrease in depressive symptoms. It is possible that T1 through T4 victims faced new issues in planning for their safety, which influenced their depressive symptomatology. It is possible that T4 respondents, no longer receiving services from domestic violence agencies, found it difficult to manage their depressive feelings without

the support of the domestic violence agency services. It may be that respondents, who had left the abusive partner, began to face financial difficulties from a decrease in household income, or face difficulties in co-parenting with their ex-partner. These new struggles might have a greater impact on depressive symptomatology than economic abuse experiences did. It is also likely that some respondents remained in an abusive relationship or returned to an abusive relationship after finding too many barriers in leaving. This choice might also cause additional strain that could influence depressive symptoms. Further research is needed to understand the pattern of depressive symptoms among victims of IPV and the ways economic abuse experiences influenced depressive symptoms over time.

### **Limitations**

Overall, the findings from this dissertation need to be understood within the limitations of the study. First, the sample consisted of self-selecting female survivors of IPV who were receiving services from a domestic violence agency and volunteered to participate in a financial literacy program. Therefore, these women did not represent all women who experienced IPV; instead, they represented a select group of women who sought services and were willing and able to participate in a research study and a financial literacy program.

Second, over half (53.9%) of the sample identified as Latina/Hispanic, over half (51.9%) reported being born outside of the United States, and almost half (48%) reported an annual income of \$10,000 or less. The overrepresentation in some of the sample demographics limits the generalizability of the findings to all victims of IPV.



Third, as common with many longitudinal datasets, attrition rates decreased the generalizability of the findings because there were often qualitative differences between those who finished a research study and those who dropped out prematurely (Issakidis & Andrews, 2004; Pagnin, de Queiroz, & Saggese, 2005). Research indicates that those who leave treatment early may have worse treatment outcomes than completers (Bleiberg, Devlin, Croan, & Briscoe, 1994; Messina, Wish, & Nemes, 2000). In this particular sample, participants who received emergency/short-term shelter services and participants who identified as White were more likely to drop out of the study, while participants who received support group services, identified as Latina, and were employed were more likely to complete the T4 interview. Furthermore, participants who completed the T4 interview were significantly older, and they reported significantly less physical abuse experiences.

In addition to the sample limitations, there were also measurement limitations that need to be considered. While the instrument was translated and available in both English and Spanish, to date, the reliability and validity of the Spanish scales has not been tested. Further research was needed to examine the reliability, validity, and factor structure of the Spanish scales in comparison to the English scales.

The abuse measures utilized in this study, the ABI and SEA-12, only asked about abuse experiences that occurred within the previous 12-months. Therefore, any childhood or adult abuse experiences that occurred prior to that 12-month period were not captured in the data. Without being able to control for any earlier traumatic experiences, it is possible that these unmeasured traumatic experiences also influenced the outcome variable of depression. Furthermore, there were no questions about mental health services

(whether therapeutic or medical services) provided to these participants. Therefore, it is not possible to control for any clients receiving mental health treatment within the domestic violence agency, with an outside mental health, or at a primary care practitioner. Furthermore, the data most likely contain respondent biases, inherent to all interview data, which involves either underreporting or over-reporting on issues, such as experiences of intimate partner violence and depressive symptoms.

### **Contributions to the Literature**

The findings contribute to the literature through the following means: (a) an increase in our understanding of the impact of economic abuse on depressive symptoms; (b) a lens of stress theory, reaching an understanding of how economic abuse impacted depressive symptoms; and (c) a rejection of the hypothesis that economic self-efficacy mediated the relationship of economic abuse and depressive symptoms.

### **The Impact of Economic Abuse on Depressive Symptoms**

These findings contribute to the literature on the topic of economic abuse and suggested several areas for future research, with implications for policy and practice. This dissertation, which is the first study to examine the impact of economic abuse on depressive symptoms among survivors of IPV, using validated measures of abuse and depression, joined Nancarrow et al. (2008), Hamdan-Mansour et al. (2011), and Postmus et al. (2012) in finding a significant relationship between economic abuse experiences and depression and/or psychological well-being. Interestingly, all three of these studies (Nancarrow et al., 2008; Hamdan-Mansour et al., 2001; Postmus et al., 2012) found significant impacts of multiple forms of abuse experiences on depression and/or psychological well-being, while this dissertation only found a significant impact from

economic abuse experiences, and not physical, psychological, or sexual abuse experiences, on depressive symptoms at T1. Furthermore, Postmus et al. (2012) found that when testing for level and changes in abuse experiences over time, only economic abuse experiences significantly predicted depression. In contrast, this dissertation found a significant relationship between economic abuse and depressive symptoms at T1 and found no significant relationship between any forms of abuse, whether physical, psychological, sexual, or economic, over time. Further research is needed to understand better the relationship between economic abuse and depressive symptoms over time. In particular, this study was limited to a 14-month period. While the mean score for both economic abuse experiences and depressive symptoms, significantly decreased over that 14-month period, it was possible that the full impact of a decrease of economic abuse experiences on depressive symptoms would not be seen unless a longer period was observed. This was especially true for experiences of economic abuse because even if the economic abuse experiences decreased or stopped, the economic impact of the abusive behavior might remain for a much longer period. For example, if an abuser destroyed the victim's credit, even if the abuser was no longer actively engaging in economically exploitative behaviors, the victim's credit was still ruined, and this low credit score could have a significant impact on numerous areas of the victim's financial life. Therefore, research is needed to examine whether a decrease of economic abuse experiences led to a decrease in depressive symptoms, if examined in a period longer than 14-months, and to study what potential moderating variables exist in the relationship between economic abuse experiences and depressive symptoms.

The cross-sectional finding of the significant impact of economic abuse on depressive symptoms has important practice implications in the field of IPV. As this sample was recruited from domestic violence agencies with almost half (48%) of the women having received services for three months or less, these findings suggested that victims of IPV, who sought services from domestic violence agencies, might need support protecting themselves from economic abuse to help decrease their depressive symptoms. While most IPV agencies focused on supportive counseling and empowerment interventions to address depressive symptoms among survivors, these agencies might want to spend more time collaborating with survivors by protecting their financial situation from their abuser, which might help increase the survivor's emotional health. In order to do this, agencies needed to assess economic abuse and develop financial safety plans with clients. The field needs to identify practical assessment tools that could be utilized in domestic violence advocacy and mental health programs to assess for survivors' economic abuse experiences. Staff could be trained on how to engage a survivor in a discussion on economic abuse experiences and on how to collaborate with the survivor in developing a financial safety plan.

Furthermore, policies should be developed to protect better survivors of IPV from the devastating impact of economic abuse. Policies should be written to support survivors in improving damaged credit scores, to provide financial literacy and job training services to survivors, to develop stronger financial protections, to prevent abusers from accessing survivors' financial information, and to enforce stronger legal consequences for the perpetrators who utilized economic abuse strategies.

### **Economic Abuse and Stress Theory**

According to stress theory, mental illness occurs due to a breakdown in the face of overwhelming environmental stress (Thoits, 2010). It has long been acknowledged that abuse experiences are overwhelmingly stressful experiences. However, in addition to the abusive experience(s), Pearlin et al. (1981) suggested that the stressful events did not necessarily influence the individual directly, but might exert their effects through a wider net of life strains instead. Thus, the combination of the stressful event and life strains converge in producing stress (Pearlin et al., 1981). This theory might explain why economic abuse had a significant impact on depressive symptoms in the cross-sectional analysis, as economic abuse experiences might lead to a wider net of life strains that could include financial debt, inability to pay for necessities, poor credit, and low education/employment experiences. However, when utilizing stress theory, one would assume that as the economic abuse experiences decreased over time, a decrease in depressive symptoms would also occur over time. It remains possible that the period of 14-months was too short to observe the decrease in depressive symptoms, especially in situations in which the economic abuse experiences had decreased, but the broader net of life strains that occurred as a result had not yet dissipated. Further research is needed to examine the relationship between economic abuse, stress, and depressive symptoms over a longer period to understand further the applicability of stress theory to researchers' understandings of the impact of economic abuse experiences.

### **Economic Abuse and Economic Self-Efficacy**

While stress theory focuses on sociological perspectives of mental health, self-efficacy theory focused on the individual contributors to mental health. Self-efficacy, the

central construct of Bandura's (1997) social cognitive theory, refers to the perceived ability to produce a desired action. Economic self-efficacy beliefs regulate an individual's functioning around economic behaviors and affect whether individuals thought in economically self-enhancing or self-debilitating ways. Economic self-efficacy could motivate individuals to engage in positive financial behaviors, support individuals to financially persevere during difficult times, alleviate experiences of stress and depression during financially vulnerable times, and increase resiliency following economic traumatic events.

This dissertation hypothesized that economic self-efficacy would mediate the relationship between economic abuse experiences and depressive symptoms among survivors of IPV. However, results from this study did not support this hypothesis. In fact, economic abuse experiences did not significantly predict economic self-efficacy during T1. Therefore, further research is needed to understand what factors mediated the relationship between economic abuse experiences and depressive symptoms. Perhaps, the sociological perspective of stress theory provides a better theoretical framework for understanding the impact of economic abuse experiences on depressive symptoms than did the cognitive theory of self-efficacy. Further research is needed to examine whether the relationship between economic abuse and depressive symptoms is mediated by the financial impact of economic abuse (such as economic self-sufficiency), rather than internal constructs (such as economic self-efficacy).

### **Summary**

In sum, this dissertation addressed a gap in the literature on depressive symptoms among survivors of intimate partner violence. This knowledge remained critical to the

field in understanding the specific impact of economic abuse on depressive symptoms of survivors. With this richer understanding of the impact of economic abuse on the lives of abused women, researchers could develop assessments and interventions to address the unique experiences and needs of women whose financial situation had been exploited by an abusive partner.

Furthermore, this dissertation found that there was no mediating effect of economic self-efficacy on the relationship between economic abuse and depression. Among this sample of 457 survivors of IPV, economic abuse experiences did not have a significant impact on economic self-efficacy. Therefore, further research was needed to examine other potential mediator factors to develop specific interventions, addressing the effect of economic abuse on survivors of intimate partner violence.

Finally, this dissertation found that over a 14-month period, there was no significant impact of the change of economic abuse experiences on the change in depressive symptoms among survivors of IPV. This was in contrast to a previous study, conducted by Postmus et al. (2012), that found that, when testing for level and changes in abuse experiences over a five-year period, economic abuse experiences significantly predicted depression. It was possible that, due to the short timeframe utilized in this dissertation (14-months), the longer-term impact of a decrease in economic abuse experiences could not be demonstrated. Further research was needed to understand more fully the long-term impact of economic abuse experiences on depressive symptoms among survivors of IPV.

Overall, while the study of economic abuse remains a new literature in the field of IPV, there remains a gap in the understanding of the relationship between economic

abuse and depression among survivors. This dissertation provides greater knowledge in understanding the impact of economic abuse on survivors, and this knowledge could be used to create opportunities for improved services and policies to support survivors of IPV to rebuild their lives.

### **Implications for Policy, Practice, and Research**

There are several important practices, policies, and research implications for the present study, including assessing for economic abuse among survivors of IPV in practice and research settings, providing employment opportunities for survivors of IPV, having places of employment provide resources to survivors to maintain employment and remain safe at work, and increasing awareness of economic abuse experience and the impact on depressive symptoms among mental health providers.

### **Assessing for Economic Abuse**

Among this sample of 457 female IPV survivors, women reported moderate levels of recent psychological, physical, sexual, and economic abuse experiences with mean scores, respectively, at 3.51 ( $SD = 1.00$ ), 2.46 ( $SD = 1.14$ ), 2.16 ( $SD = 1.25$ ), and 2.64 ( $SD = 0.99$ ) (note, that the abuse was measured using a Likert scale ranging from 1-5). Furthermore, among this sample of survivors, almost a third reported experiencing three forms of recent abuse, including physical, psychological, and economic abuse, while almost half reported experiencing four forms of recent abuse, including physical, psychological, economic, and sexual abuse. This finding has important practice implications for advocates working in the field of domestic violence and sexual assault services. While domestic violence agencies, in particular, often focus heavily on screening and providing services for victims of emotional and physical abuse, it remains



imperative that staff are trained to assess and service across a range of victimizations, as these victimization types were often co-occurring. Specifically, domestic violence advocates need training in assessing and servicing victims of economic abuse.

In order to better train advocates in working with victims of economic abuse, agencies first should focus on training advocates to assess for economic abuse. Domestic violence agencies often conduct initial trainings for new staff, which might include Domestic Violence 101 trainings or more in-depth 30 or 40-hour domestic violence content trainings. Ensuring that economic abuse is discussed in these initial trainings aided agencies in incorporating an understanding of economic abuse early in the advocate's career. Further, need-to-know economic abuse trainings could also be offered throughout an advocate's career as a refresher-training course. Training should focus on the types of economic abuse, including economic control, economic sabotage, and economic exploitation, along with supporting staff in identifying specific types of economic abuse behaviors. Validated measures, such as the SEA (Adams et al., 2008) or the revised SEA-12 (Postmus et al., 2015) could be used as practical tools in assessing economic abuse among survivors.

Advocates not only need training in identifying economic abuse behaviors, but also need it in facilitating a conversation to assess for economic abuse among survivors. Survivors might be more likely to report episodes of physical violence, because either it was a more overt form of abuse, or because physical violence afforded the victim more criminal justice protections; therefore, advocates needed the ability to explore potential economic abuse experiences among survivors. For example, asking questions, such as, "How do you and your partner manage your finances?" or "What are you most concerned

about in regards to your current financial situation?” might help create a safe environment for the client to explore her partner’s use of finances.

### **Employment Opportunities**

#### **Practice Implications**

In addition to training staff on identifying and assessing for economic abuse among survivors, there also must be interventions available for survivors of economic abuse. Among this sample of 457 female IPV survivors, survivors with current employment reported lower levels of economic abuse experiences, lower levels of psychological abuse experiences, lower levels of physical abuse experiences, and lower levels of depressive symptoms. For many women, employment provided an opportunity to escape violent and abusive relationships. While this research does not provide enough evidence to know whether starting employment reduced the frequency and intensity of abusive experiences among survivors, it did provide initial evidence to the link, specifically, between employment and economic abuse experiences. Therefore, it is imperative that domestic violence agencies provide employment training and preparedness training to survivors of abuse to decrease the survivor’s financial dependency on the perpetrator.

#### **Policy Implications**

Currently, there is no federal law that directly addresses employer obligations to employees who are survivors of IPV. However, places of employment should develop policies that focused on providing opportunities and resources to survivors of domestic violence to gain and maintain full-time and part-time employment opportunities. Places of employment should be encouraged to develop and implement domestic violence work

place policies that supported the safety of employees who were survivors of domestic violence. These policies should include paid and unpaid leave options that allowed survivors to take leave to address their children's safety concerns, alternative worksite or work schedule assignments, increased workplace security, employee assistance program services, and employee education around domestic violence awareness, identification, and resources. Furthermore, while numerous states have enacted laws requiring some form of reasonable accommodation, including time off, for employees who were survivors of domestic violence, the government needs to enact policies to protect survivors of domestic violence in the workplace. In addition, places of employment could find creative ways to build policies to protect the financial safety of survivors. For example, directly depositing money earned during overtime into a separate bank account for the victim or providing a pay advance that might provide the financial assistance needed for a victim to leave an abusive relationship. Having places of employment that understand the needs of victims of IPV and provide supportive and creative ways to help victims maintain employment, stay safe, and work, and build a financial foundation could significantly influence the ability of a survivor to build independence.

### **Mental Health Services for Survivors.**

#### **Practice Implications**

Among this sample of 457 female IPV survivors, the mean score on the CES-D (Radloff, 1977) was a 22.33 ( $SD = 13.35$ ) and 63% of the survivors met the clinical cut-off score for depression. These rates were much higher than rates of depressive symptoms found in studies that used the CES-D scale to screen for depression in the general population (point prevalence of 3%-9% (Eaton & Kessler, 1981) or primary care

populations (point prevalence of 10%-15% (Coyne, Fechner-Bates, & Schwenk, 1994). This represents a very high percentage of survivors who were meeting the clinical cut-off for depression. While examining the relationships between variables among this sample of survivors, survivors with current employment reported significantly lower levels of depressive symptoms. This suggests the possibility that unemployed survivors were at a higher risk to develop depressive symptoms, compared to employed survivors. Furthermore, survivors with children also reported significantly lower levels of depressive symptoms ( $t[454] = 2.04, p < 0.05$ ). This suggests the possibility that survivors without children were also at a higher risk to develop depressive symptoms compared to survivors with children. It was also important to note that among this sample all forms of abuse were correlated with depressive symptoms. Economic abuse had the strongest correlation with depressive symptoms ( $r = 0.30, p < 0.001$ ) followed by psychological abuse ( $r = 0.29, p < 0.001$ ), followed by physical abuse ( $r = 0.25, p < 0.001$ ), and finally by sexual abuse ( $r = 0.18, p < 0.001$ ). The cross-sectional linear regression model also demonstrated that controlling for demographic factors higher levels of economic abuse resulted in significantly higher levels of depressive symptoms ( $B = 2.34, p < 0.01$ ). This study provides evidence that recent experiences of economic abuse contributed to a significant increase in depressive symptoms, beyond the impact of physical, psychological, and sexual abuse experiences.

These findings suggest that clients who were unemployed, single, and, in particular, recent survivors of economic abuse are at higher risk for increased depressive symptoms. With almost 63% of the survivors in this sample meeting the clinical cut-off for depression, early monitoring and interventions for high-risk survivors, and,

specifically, for survivors with recent economic abuse experiences should decrease depressive symptoms among these clients.

### **Research Implications**

While this sample of female IPV survivors of economic abuse had a significant impact on depressive symptoms in the cross-sectional model, this impact did not remain significant over the 14-month period even though both economic abuse and depressive symptoms significantly decreased over the 14-month period. Further research is needed to understand better this non-significant finding. Through both quantitative and qualitative methods, further research is needed to explore the ways that economic abuse experiences impact depressive symptoms over time and to better understand the other variables that influence the relationship between economic abuse experiences and depressive symptoms over time. Having a better understanding of the impact of economic abuse experiences on depressive symptoms over time, would allow the field to develop interventions that were more specialized to survivors of economic abuse.

### **Summary**

In sum, this dissertation examined the impact of economic abuse and the potential mediating role of economic self-efficacy on depressive symptoms among a sample of 457 female survivors of IPV, recruited from 14 domestic violence programs, across 10 states and Puerto Rico. The findings revealed that, from a cross-sectional perspective, higher levels of economic abuse experiences led to higher levels of depressive symptoms; however, this relationship was not mediated by economic self-efficacy. Furthermore, from a longitudinal, 14-month perspective, there was no significant impact of the change in economic abuse experiences on the change in depressive symptoms. In examining the impact of economic abuse on depressive symptoms among survivors of IPV, this study adds to the knowledge base of the social sciences, furthers understanding of the impact of economic abuse on depressive symptoms, and provides critical information that the field of IPV could utilize in developing programs and policies to support survivors.

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## TABLES

Table 1

*Sample characteristics (n=457)*

Variable	% or Mean (S.D.)
Age	36 (9.15)
<i>Time obtaining services [%]</i>	
Less than 3 months	48.2%
<i>Services received [%]</i>	
Emergency/Short-term Housing	14.0%
Individual Counseling	59.3%
Legal Advocacy	28.7%
Support Groups	58.4%
Services for Children	31.7%
Advocacy/Case-Management	26.3%
<i>Race/Ethnicity [%]</i>	
White, Non-Hispanic	17.5%
Black or African-American, Non-Hispanic	20.2%
Latina or Hispanic	53.9%
Other	8.3%
Born in the U.S. [%]	51.9%
Employed [%]	45.1%
Student [%]	13.7%
Children [%]	80.0%
Health Insurance [%]	55.4%
Receiving Social Services [%]	71.6%
Income Less than \$10,000 [%]	48.0%
Psychological Abuse	3.51 (1.00)
Physical Abuse	2.46 (1.14)
Sexual Abuse	2.16 (1.25)
Economic Abuse	2.64 (0.99)
Economic Self-Efficacy	3.21 (0.72)
Depression	22.33 (13.35)



Table 2

*Prevalence of the overlap and frequency between abuse types*

Combination Type	Frequency (%)
Rarely abused	6 (1.3%)
Physical only	1 (0.2%)
Psychological only	8 (1.8%)
Economic only	6 (1.3%)
Psychological + Physical	10 (2.2%)
Psychological + Sexual	1 (0.2%)
Psychological + Economic	48 (10.5%)
Physical + Economic	1 (0.2%)
Physical + Psychological + Economic	136 (29.8%)
Physical + Psychological + Sexual	4 (0.9%)
Psychological + Economic + Sexual	16 (3.5%)
Psychological + Physical + Sexual	1 (0.2%)
Psychological + Physical + Sexual + Economic	218 (47.7%)

Note: Combinations that yielded 0 were eliminated from the chart. The rarely abused category represents 6 women who experienced abuse but rated the abuse as having occurred "rarely" over the past 12 months. To count for abuse in this analysis, the participant must have experienced abuse "sometimes, often, and/or very often." Also note that all of the women in this study were recruited from domestic violence agencies; hence, it is expected that all of the women had experienced at least one form of abuse.

Table 3

*Correlations between age and income and IPV, economic self-efficacy, and depressive symptoms*

	Psychological Abuse	Physical Abuse	Sexual Abuse	Economic Abuse	Economic Self-Efficacy	Depressive Symptoms
Age	0.01	-0.11*	0.04	0.05	-0.07	0.05
Income	-0.08	-0.16**	-0.18***	-0.04	-0.05	-0.04

\*p<.05, \*\*p<.01, \*\*\*p<.001.

Table 4

*One-way ANOVA results of IPV, economic self-efficacy, and depression for race/ethnicity*

	White	Black/ African- American	Latina	Other	<i>F</i>
Psychological Abuse	3.58	3.44	3.48	3.73	1.02
Physical Abuse	2.38	2.85	2.30	2.69	5.88**
Sexual Abuse	1.71	2.20	2.26	2.37	4.37
Economic Abuse	2.63	2.63	2.60	2.97	1.53
Economic Self-Efficacy	3.10	3.19	3.29	3.59	4.30
Depression	23.28	21.34	22.57	21.13	0.43

\*\* $p < 0.01$

Table 5

*T-tests between born in the United States and IPV, economic self-efficacy, and depressive symptoms*

	N	Mean	SD	<i>T</i>
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<i>Economic Abuse</i>				
US Born	236	2.66	1.01	-0.31
US Immigrant	219	2.63	0.97	
<i>Psychological Abuse</i>				
Born in the United States	236	3.54	1.01	-0.55
Born in another country	218	3.48	1.00	
<i>Physical Abuse</i>				
Born in the United States	236	2.60	1.19	-2.87**
Born in another country	218	2.30	1.07	
<i>Sexual Abuse</i>				
Born in the United States	236	2.02	1.23	2.42*
Born in another country	218	2.31	1.27	
<i>Economic Self-Efficacy</i>				
Born in the United States	236	3.13	0.71	2.56*
Born in another country	219	3.30	0.73	
<i>Depressive Symptoms</i>				
Born in the United States	236	22.74	13.18	-0.69
Born in another country	219	21.88	13.57	

\*\* $p < 0.01$ , \* $p < 0.05$

Table 6

*T-tests between employment status and IPV, economic self-efficacy, and depressive symptoms*

	N	Mean	SD	T
<i>Economic</i>				

<i>Abuse</i>				
Employed	205	2.52	0.95	2.41*
Not Employed	250	2.74	1.01	
<i>Psychological Abuse</i>				
Employed	205	3.40	1.02	2.03*
Not Employed	249	3.59	0.99	
<i>Physical Abuse</i>				
Employed	205	2.30	1.07	2.59*
Not Employed	249	2.58	1.18	
<i>Sexual Abuse</i>				
Employed	205	2.16	1.24	-0.16
Not Employed	249	2.15	1.24	
<i>Economic Self-Efficacy</i>				
Employed	205	3.25	0.72	-1.02
Not Employed	250	3.18	0.73	
<i>Depressive Symptoms</i>				
Employed	205	20.54	13.17	2.54*
Not Employed	250	23.71	13.31	

\* $p < 0.05$

Table 7

*T-tests between student status and IPV, economic self-efficacy, and depressive symptoms*

	N	Mean	SD	<i>t</i>
<i>Economic Abuse</i>				
Student	62	2.75	1.03	-0.92
Not a Student	392	2.63	0.99	

<i>Psychological Abuse</i>				
Student	62	3.74	0.91	-1.94
Not a Student	391	3.47	1.02	
<i>Physical Abuse</i>				
Student	391	2.41	1.13	-2.08*
Not a Student	62	2.74	1.18	
<i>Sexual Abuse</i>				
Student	6	2.37	1.28	-1.39
Not a Student	391	2.13	1.25	
<i>Economic Self-Efficacy</i>				
Student	392	3.20	0.73	-0.81
Not a Student	62	3.28	0.67	
<i>Depressive Symptoms</i>				
Student	62	19.69	12.71	1.70
Not a Student	392	22.79	13.43	

\* $p < 0.05$ .

Table 8

*T-tests between mother status and IPV, economic self-efficacy, and depressive symptoms*

	N	Mean	SD	<i>t</i>
<i>Economic Abuse</i>				
Children	365	2.63	1.00	0.68
No Children	91	2.71	0.97	
<i>Psychological Abuse</i>				

Children	364	3.50	1.00	0.57
No Children	91	3.56	1.00	
<i>Physical Abuse</i>				
Children	364	2.42	1.14	1.50
No Children	91	2.62	1.15	
<i>Sexual Abuse</i>				
Children	364	2.11	1.25	1.61
No Children	91	2.35	1.25	
<i>Economic Self-Efficacy</i>				
Children	365	3.22	0.71	-0.48
No Children	91	3.18	0.78	
<i>Depressive Symptoms</i>				
Children	365	21.69	13.26	2.04*
No Children	91	24.87	13.45	

\*p < 0.05

Table 9

*T-tests between social service recipient status and IPV, economic self-efficacy, and depressive symptoms*

	N	Mean	SD	<i>t</i>
<i>Economic Abuse</i>				
Social Services	327	2.64	1.00	
No Social Services	129	2.64	0.95	-0.01
<i>Psychological</i>				

<i>Abuse</i>				
Social Services	326	3.54	1.00	
No Social Services	129	3.42	1.00	-1.16
<i>Physical Abuse</i>				
Social Services	326	2.57	1.15	
No Social Services	129	2.18	1.07	-3.27**
<i>Sexual Abuse</i>				
Social Services	326	2.17	1.25	
No Social Services	129	2.12	1.26	-0.43
<i>Economic Self-Efficacy</i>				
Social Services	327	3.22	0.70	
No Social Services	130	3.20	0.78	-0.26
<i>Depressive Symptoms</i>				
Social Services	327	22.20	13.32	
No Social Services	129	22.65	13.46	0.33

\*\*p < 0.01.

Table 10

*Correlations with IPV, economic self-efficacy, and depression*

	Psychological Abuse	Physical Abuse	Sexual abuse	Economic Abuse	Economic Self-Efficacy	Depression
Psychological Abuse	1					
Physical Abuse	0.69***	1				
Sexual Abuse	0.55***	0.59***	1			
Economic Abuse	0.70***	0.51***	0.45***	1		

Economic Self-Efficacy	-0.09*	-0.00	0.02	-0.10*	1	
Depression	0.29***	0.25***	0.18***	0.30***	-0.30***	1

\*\*\*  $p < 0.001$ , \* $p < 0.05$

Table 11

*T1 linear regression results to predict depressive symptoms*

T1 Variables	B	SE
Constant	12.16*	5.31
<i>Race/Ethnicity</i>		
Black/African-American	-0.79	2.08
Latina	1.70	2.03
Other	-2.22	2.79
Age	0.02	0.08
Born in the U.S.	0.96	1.61
Employed	-2.41	1.31
Current Student	-3.78*	1.84
Children	-2.14	1.71
Social Services	-1.62	1.52
<i>Income</i>		
Less than \$10,000	-0.48	1.31
Psychological Abuse	1.36	1.03
Physical Abuse	1.10	0.83
Sexual Abuse	-0.12	0.65
Economic Abuse	2.34**	0.87
R <sup>2</sup> (adjusted R <sup>2</sup> )	0.13 (0.10)	

\*\*  $p < 0.01$ , \*  $p < 0.05$ ,  $B$  = Unstandardized Beta,  $SE$  = Standard Error

Table 12

*T1 linear regression results to predict economic self-efficacy*

T1 Variables	B	SE
Constant	3.90***	0.30
<i>Race/Ethnicity</i>		
Black/African-American	-0.03	0.12
Latina	-0.12	0.11
Other	0.30	0.16
Age	-0.01	0.00
Born in the U.S.	-0.23*	0.09
Employed	0.08	0.07
Current Student	0.07	0.10



Children	-0.04	0.10
Social Services	0.02	0.09
<i>Income</i>		
Less than \$10,000	-0.06	0.07
Psychological Abuse	-0.09	0.06
Physical Abuse	0.06	0.05
Sexual Abuse	0.03	0.04
Economic Abuse	-0.07	0.05
R <sup>2</sup> (adjusted R <sup>2</sup> )	0.04	

\*\*  $p < 0.01$ , \*  $p < 0.05$ ,  $B$  = Unstandardized Beta,  $SE$  = Standard Error

Table 13

*T1 linear regression results – to test the mediating role of economic self-efficacy*

T1 Variables	Model A		Model B	
	B	SE	B	SE
Constant	40.22***	2.71	34.14***	7.04
<i>Time Receiving Services</i>				
Less than 3 Months			-1.34	1.95
<i>Race/Ethnicity</i>				
Black/African-American			-0.82	2.01
Latina			1.19	1.95
Other			-0.75	2.69
Age			0.00	0.07
Born in the U.S.			-0.39	1.56

Employed			-1.90	1.26
Current Student			-3.54*	1.77
Children			-2.27	1.64
Social Services			-1.58	1.47
<i>Income</i>				
Less than \$10,000			-0.81	1.26
Psychological Abuse			0.96	1.00
Physical Abuse			1.39	0.08
Sexual Abuse			0.02	0.63
Economic Abuse			2.01*	0.83
Economic Self-Efficacy	-5.57***	0.83	-0.50***	0.08
R <sup>2</sup> (adjusted R <sup>2</sup> )	0.09 (0.09)		0.20 (0.17)	

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\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ,  $B$  = Unstandardized Beta,  $SE$  = Standard Error

Table 14

*Sample characteristics (n=246)*

Variables	% or Mean (S.D.)
Age	37.31 (8.95)
<i>Time obtaining services [%]</i>	
Less than 3 months	37.1%
<i>Services received [%]</i>	
Emergency/Short-term Housing	9.3%
Individual Counseling	59.8%
Legal Advocacy	29.3%
Support Groups	63.8%
Services for Children	35.4%
Advocacy/Case-Management	26.4%
<i>Race/Ethnicity [%]</i>	
White, Non-Hispanic	14.2%

Black or African-American, Non-Hispanic	19.1%
Latina or Hispanic	60.2%
Other	6.5%
Born in the U.S. [%]	52.0%
Employed [%]	50.2%
Student [%]	13.1%
Children [%]	81.7%
Health Insurance [%]	58.0%
Receiving Social Services [%]	68.7%
Income Less than \$10,000 [%]	46.5%
Psychological Abuse	3.43 (1.01)
Physical Abuse	2.25 (1.04)
Sexual Abuse	2.06 (1.17)
Economic Abuse	2.61 (0.94)
Economic Self-Efficacy	3.17 (0.73)
Depression	44.08 (13.73)

Table 15

*Significant chi-square tests between participants who completed T4 versus participants who did not complete T4 – services obtained*

	Yes	No	Total N	$X^2$
<i>Emergency/Short-term Shelter</i>				
Completed	23	223	246	9.59**
Dropped	41	170	211	
<i>Individual Counseling</i>				
Completed	147	99	246	0.05
Dropped	124	87	211	
<i>Legal Advocacy</i>				
Completed	27	174	246	0.10
Dropped	59	152	211	

<i>Support Groups</i>				
Completed	157	89	246	6.39*
Dropped	110	101	211	
<i>Services for Children</i>				
Completed	87	159	246	3.25
Dropped	58	153	211	
<i>Advocacy/Case Management</i>				
Completed	65	181	246	0.01
Dropped	55	156	211	
<i>Other</i>				
Completed	31	215	246	0.79
Dropped	21	190	211	

\*\*  $p < 0.01$ , \* $p < 0.05$

Table 16

*Significant chi-square tests between participants who completed T4 versus participants who did not complete T4 – ethnicity*

	Count	Total N	$X^2$
<i>White</i>			
Completed	35	80	4.06*
Dropped	45		
<i>Black</i>			
Completed	47	92	0.38
Dropped	45		
<i>Latina</i>			
Completed	148	246	8.31**
Dropped	98		
<i>Other</i>			

Completed	16	38	2.34
Dropped	22		
** $p < 0.01$ , * $p < 0.05$			

Table 17

*Significant chi-square tests between participants who completed T4 versus participants who did not complete T4 – employment*

	No	Yes	Total N	$\chi^2$
Completed	122	123	245	5.69*
Dropped	128	82	210	
* $p < 0.05$				

Table 18

*T-tests between participants who completed T4 versus participants who did not complete T4 – Age, IPV, Economic Self-Efficacy, and Depression*

	N	Mean	SD	$t$
<i>Age</i>				
Completed	246	37.31	8.95	-2.75**
Dropped	210	34.96	9.24	
<i>Psychological Abuse</i>				
Completed	245	3.43	1.01	1.77
Dropped	210	3.60	1.00	
<i>Physical Abuse</i>				
Completed	245	2.25	1.04	4.31***
Dropped	210	2.70	1.21	
<i>Sexual Abuse</i>				

Completed	245	2.06	1.17	1.78
Dropped	210	2.27	1.34	
<i>Economic Abuse</i>				
Completed	245	2.61	0.91	2.89
Dropped	210	2.68	0.98	
<i>Economic Self-Efficacy</i>				
Completed	246	3.17	0.73	1.22
Dropped	211	3.25	0.71	
<i>Depression</i>				
Completed	246	21.40	13.00	1.61
Dropped	210	23.41	13.74	

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

Table 19

*Comparisons of variables at T1 and T4*

Variables	T1		T4		<i>t</i>
	M	SD	M	SD	
Employment [N, X <sup>2</sup> ]	122		155		51.79***
Student [N, X <sup>2</sup> ]	32		53		25.05***
Income Less than \$10,000 [N, X <sup>2</sup> ]	111		110		46.08***
Social Services [N, X <sup>2</sup> ]	168		159		113.64***
Psychological Abuse	3.43	1.01	1.65	0.99	21.80***
Physical Abuse	2.25	1.04	1.20	0.58	14.81***
Sexual Abuse	2.06	1.17	1.15	0.56	11.83***
Economic Abuse	2.61	0.94	1.43	0.75	16.89***
Economic Self-Efficacy	3.17	0.73	3.59	0.70	-8.04***
Depressive Symptoms	21.40	12.96	15.60	13.17	7.34***

*Note:* *m* = mean, *SD* = standard deviation, \*\*\* $p < 0.001$ .

Table 20

*Longitudinal linear regression results to predict change in depressive symptoms over 14 months*

Change Variables (T4-T1)	B	SE
Constant	-1.38	1.39
Employed	0.08	1.53
Current Student	-4.51*	1.77
Social Services	0.71	2.10
<i>Income</i>		
Less than \$10,000	1.11	1.46
Psychological Abuse	1.55	1.05
Physical Abuse	0.27	1.06
Sexual Abuse	-0.35	0.87
Economic Abuse	1.25	1.09
R <sup>2</sup> (adjusted R <sup>2</sup> )	0.08 (0.05)	

\*  $p < 0.05$ ,  $B$  = Unstandardized Beta,  $SE$  = Standard Error

## APPENDIX

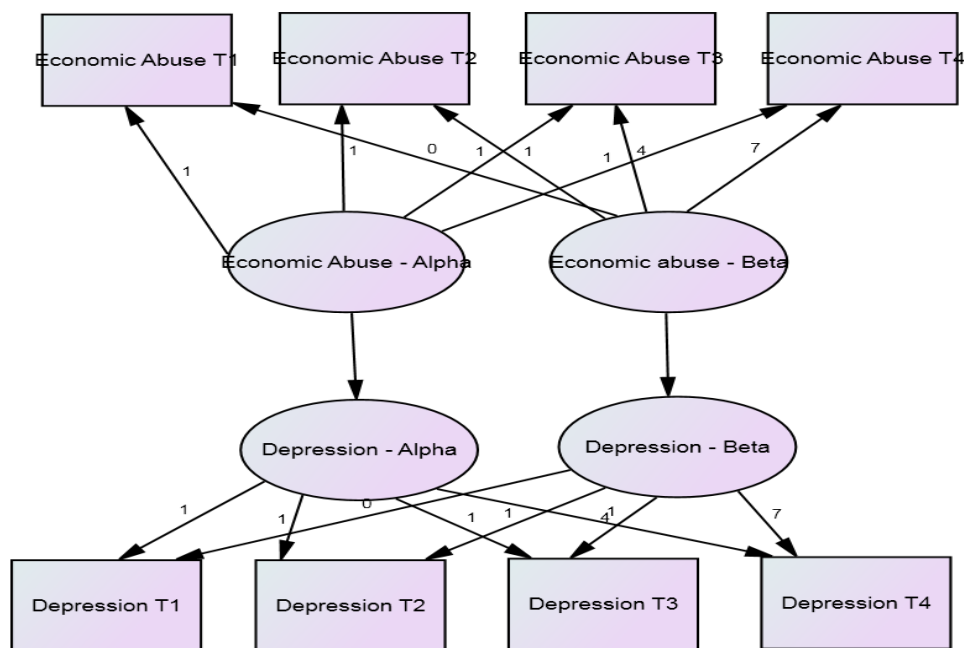
The purpose of this appendix is to explain additional analyses attempted during my dissertation research. The dissertation proposal included a latent growth curve model for the longitudinal analysis of the dataset. The latent growth curve method was going to be used to examine whether trajectories of economic abuse over the four periods predicted trajectories of depressive symptoms. However, the method was deemed inappropriate for this dataset.

In a latent growth curve model, individual trajectories of both economic abuse and depressive symptoms are constructed and illustrated as observed indicators of a latent growth process. Across individuals, economic abuse and depression trajectories vary both at baseline and in change over time. In a latent growth curve model, observed measures contain information from both the latent process and measurement error. In this analysis, one assumes that the growth process follows a linear trajectory over time and therefore there are two growth parameters: a latent intercept and a slope ( $\alpha$  and  $\beta$ ). The Level 1 models individual trajectories of economic abuse and depression. The mean vector relates the average initial level of economic abuse and depression and change in economic abuse and depression across time, whereas the covariance matrix  $\Sigma_{\mu}$  relates between individual variations in trajectories.

From this equation, an individual's latent intercept and slope can be viewed as a linear combination of aggregate mean of the true intercept and slope, the effect of regressors, and an error term. Therefore, in this analysis, I first estimated a univariate growth curve across all four periods for economic abuse to determine whether an increase or decrease in economic abuse occurs. Second, I estimated a similar univariate growth



curve for depression. The next step would have been estimating a set of models that relate change in economic abuse to change in depression. Figure 1 provided a graphic depiction of the full SEM model.



*Figure 1.*

The assumption needed to test these models, in order to determine whether trajectories of economic abuse predicted the trajectories of depressive symptoms, is that both trajectories (for economic abuse and depressive symptoms) need to follow a linear trajectory over time. However, it was interesting to note that while economic abuse followed a linear trajectory over time, this was not the case for depressive symptoms.

Rather the trajectory for depressive symptoms formed a quadratic trajectory in which the depressive symptoms decreased in a linear fashion between T1 and T3, but then increased between T3 and T4.

In order for me to better understand the dataset and to further explore the quadratic trajectory of depressive symptoms, I utilized the T4 database ( $n = 246^1$ ) (note, two cases did not contain data for depressive symptoms and were excluded from the analysis) to understand the different characteristics between individuals whose depressive symptoms increased over time and those whose depressive symptoms decreased over time. I created a change variable in depression by subtracting the T4 Depression Mean by the T1 Depression Mean. I then created a dichotomous change depression variable (decrease in depression/increase in depression). There were 107 cases in which the mean score for depressive symptoms increased between T1 and T4, 131 cases in which the mean score for depressive symptoms decreased between T1 and T4, and six cases in which there was no change in depression. For individuals who experienced an increase in depressive symptoms the mean increase in depressive symptoms was 0.44. For individuals who experienced a decrease in depressive symptoms the mean decrease in symptoms -0.58. The six cases in which there was no change in depressive symptoms were dropped for this analysis.

Next I ran independent t-tests for on the following change variables: Change in Economic Abuse – 12, Change in Abusive Behavior Inventory – Revised, Change in Economic Self-Efficacy (see Measurement Section for detailed information on these measures) to explore if there were differences in the mean scores on the change variables between individuals whose depressive symptoms decreased over time and those whose

depressive symptoms increased over time. The findings indicated no significant differences between individuals whose depressive symptoms increased over time and those whose depressive symptoms decreased over time.

Further research, both from a quantitative and qualitative approach, is needed to understand better the factors that influenced the decrease and/or increase in depressive symptoms among domestic violence victims in this sample. Victims of domestic violence are often continually balancing numerous risks and decisions and further research is needed to explore the ways in which those risks and dynamics alter overtime and how those risks and dynamics influences victims' level of depressive symptomatology over time.

Furthermore, it is important to note that as statistical methods are further developed and refined, specifically, as software packages add new features to handle quadratic functions within the growth curve approach, these preliminary may be useful in guiding model development and testing.