## A LONGITUDINAL EXAMINATION OF MOTHERS' DEPRESSION AND PTSD AS IMPACTED BY PARTNER-ABUSIVE MEN'S HARM TO THEIR CHILDREN

By

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## A DISSERTATION

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## ABSTRACT

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Intimate partner violence (IPV) is a form of gender-based violence that disproportionately affects women compared to men. It is well established that IPV contributes to depression and PTSD, and that many partner-abusive men continue to perpetuate abuse even after relationships end. Additionally, when men harm their partners, they are more likely to harm their children, and evidence suggests that this harm continues post-separation. Yet, little research has been conducted on men's harm to their children as an extension of IPV perpetration, with even less known about the mental health impact this form of abuse has on women. For this study, 40 partner-abused mothers who had separated, or were planning to separate, from an abusive partner with whom they shared children were recruited. In this longitudinal, cohort study women were interviewed four times over one year. Multi-level modeling (MLM) was used to nest time within participants. Between-women differences, as well as intraindividual change over time, on women's depression and PTSD were investigated. Using MLM, the author examined the impact of physical IPV, nonphysical IPV, and harm to children on women's depression and PTSD. In general, higher levels of physical IPV and nonphysical IPV were related to higher levels of depression and PTSD; however, once men's harm to children was entered into the model, only men's harm to children remained significant. Men's physical abuse perpetration over time was related to subsequent increases in depression and PTSD over time. The results of

this study provide preliminary evidence that men's harm to children is an important form of IPV and should be included in future research.

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### **CHAPTER 1: INTRODUCTION**

Intimate partner violence (IPV) is a social justice concern: millions of women are harmed by current or former intimate partners each year, and IPV victimization significantly contributes to women's short- and long-term depression and/or Post Traumatic Stress Disorder (PTSD) symptoms<sup>1</sup> (Black et al., 2011). Depression and PTSD are more common among women than men, and often negatively impact women's quality of life (Kessler et al., 2003). Thus far, a plethora of research exists that establishes strong relationships among physical, sexual, and psychological violence, depression and PTSD (Dutton et al., 2006; Golding, 1999; Jones, Hughes, & Unterstaller, 2001). What remains to be investigated, however, is how women's depression and PTSD may be directly impacted by abusive men's harm to their children.

Millions of children are victims of abuse and neglect each year, and there is a high cooccurrence of IPV and child abuse (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008). That is, men who abuse their partners and ex-partners are also more likely to abuse their children. While some women stay in their intimate relationships as a means of protecting children, many women end intimate relationships for the same reason (McCaw et al., 2002). However, risk of harm to children may be particularly high in post-separation contexts.

Many abusive men continue to harm women after their intimate relationships end (Fleury, Sullivan, & Bybee, 2000). Post-separation, however, abusive men may have limited access to their ex-partners and, therefore, may be more likely to manipulate or harm their children as an extension of their PSV perpetration (Beeble, Bybee, & Sullivan, 2007). When couples who share children in common dissolve their intimate relationship, family court may

<sup>&</sup>lt;sup>1</sup> Use of "women" to refer to survivors and "men" as perpetrators is not meant to minimize the experience of samesex couples or male victims. Rather, these pronouns reflect that intimate partner violence (IPV) is a gendered social problem. Most IPV that involves power and control is perpetrated by men against women. In addition, women report higher levels of negative mental and physical health consequences than do men.

become involved in order to establish custody and parenting time court orders. Research indicates that abusive men often gain custody of, or liberal contact with, their children, which creates additional stressors for women over and above ongoing PSV. Abusive men often use opportunities provided by the court order to perpetrate PSV or child abuse (Bemiller, 2008; Hardesty & Ganong, 2006; Kaye, Stubbs, & Tolmie, 2003; Shalansky, Ericksen, & Henderson, 1999; Slote et al., 2005; Wuest, Ford-Gilboe, Merritt-Gray, & Berman, 2003).

When men harm children, or use children to harm their ex-partners, this will likely contribute to women's mental health distress. Yet, little is known about men's use of children, especially in regards to how such abusive tactics may further impact women's depression or PTSD symptoms. Most research on post-separation experiences of survivors when children are involved is from cross-sectional, qualitative studies. The longitudinal, quantitative survey reported here addressed this gap by investigating the impact of men's use of children on women's depression and PTSD.

First, IPV will be discussed with a particular focus on the impact of IPV on women's depression and PTSD. The connection between child abuse and IPV will be made, with an emphasis on abuse that continues once intimate relationships end. The gap in the literature regarding the impact of men's use of and harm to children on women's depression and PTSD will be highlighted. Then, the Civil Legal Custody Project will be described and the methods and results of this study will be presented.

#### **Intimate Partner Violence**

**Extent of the problem**. According to the National Crime Victimization Survey (NCVS), approximately 5.9 women per 1,000 experience assault, rape, or robbery by an intimate partner every year (Catalano, 2012). This translates into approximately 775,000 women. Results of the

most recent National Intimate Partner and Sexual Violence Survey (NISVS) similarly found a 12-month prevalence rate of physical assault, sexual assault, and/or stalking by an intimate partner at nearly 6% (Black et al., 2011). In all, approximately 42.4 million, or 36%, of women in the United States have been physically assaulted, sexually assaulted, and/or stalked by an intimate partner in their lifetime (Black et al., 2011).

**Definition of IPV**. A variety of terms exist to describe IPV (e.g., domestic violence, interpersonal violence, spouse abuse). Power must be central to our understanding of IPV (Davies, Ford-Gilboe, & Hammerton, 2009); therefore, the IPV under investigation in this study is defined as follows:

[IPV is] a pattern of coercive control that may be primarily made up of psychological abuse, sexual coercion, or economic abuse, that is punctuated by one or more acts of frightening physical violence, credible threat of physical harm, or sexual assault (Bancroft, 2010).

This definition includes tactics beyond physical violence to more adequately capture the range of abusive tactics used by perpetrators. In addition, it is important to note that IPV is a form of gender-based violence and the pronouns she/her/women are used to indicate survivors, and the pronouns he/him/men indicate perpetrators. This is not to minimize the impact of violence against men or within same-sex couples, but rather serves to reflect the gendered nature of IPV.

Gendered nature of IPV. IPV is a form of gender-based violence and is rooted in inequality (Davies et al., 2009). Women, as compared to men, are disproportionately victims of IPV (Black et al., 2011; Catalano, 2012; Coker et al., 2002). Men are more likely to be the first to use or threaten physical force (Black et al., 2011; Coker et al., 2002) and to perpetrate coercive control and sexual violence than are women (Caldwell, Swan, & Woodbrown, 2012; Swan & Snow, 2006). Women are more likely to be fearful and suffer injury than are men (Black

et al., 2011; Caldwell et al., 2012; Felson & Cares, 2005). Women are more likely to be victims of multiple forms of violence, whereas men are more likely subjected to physical violence (Black et al., 2011). Finally, women are more likely to have negative mental health outcomes as a result of abuse (Black et al., 2011; Coker et al., 2002). Depression and posttraumatic stress disorder (PTSD) are common mental health outcomes of IPV, and are therefore the focus of this study (Golding, 1999; Jones et al., 2001).

## **Depression and PTSD Among Women in General**

Extent of the problem. An estimated 16.2-16.9% of adults experience major depressive disorder (Harvard-University, n.d.; Kessler et al., 2003) and 6.8% of adults experience PTSD (Harvard-University, n.d.). Depression and PTSD can be debilitating mental illnesses. Depression is associated with smoking (Sanderson, Feng, Canar, McGlichey Ford, & Tercyak, 2005; Wiecha, Lee, & Hodhkins, 1998), physical inactivity, sleep disturbance (Coulombe, Reid, Boyle, & Racine, 2009; Moreh, Jacobs, & Stressman, 2010), and early age alcohol consumption (Trim, Schuckit, & Smith, 2010). Depression is related to an increased risk of morbidity, and a decrease in productivity and quality of life (Keller, 2003; Kessler et al., 2003; Stewart, Ricci, Chee, Hahn, & Morganstein, 2003).

Symptoms of PTSD can be severe and survivors may turn to drugs and alcohol to cope with their pain, and PTSD is strongly related to substance abuse (Jennings, 2004). For example, clinical samples of women in treatment for substance abuse find high rates of PTSD (30-57%) among patients (Najavits, Weiss, & Shaw, 1997). PTSD is also related to an increased risk of suicide (Nock & Kessler, 2006; Tarrier & Gregg, 2004; Thompson et al., 1999) and, when untreated, is related to frequent hospitalizations (Rosenberg et al., 2001)

Gendered nature of depression and PTSD. Depression and PTSD are more common among women than men (Kessler et al., 2003; Nolen-Hoeksema, Larson, & Grayson, 1999). An estimated 20.2% of women report depression and 9.7% PTSD, compared to 13.2% and 3.6% of men, respectively. In addition, depression and PTSD affect men and women differently. As compared to men, depression is more strongly associated with women's decreased ability to cope and provide self-care for everyday occurrences (Constantino, Sekula, Rabin, & Stone, 2000; Gilson, Helfrich, & Finlayson, 2001; Nedd, 2001); establish and maintain relationships (Carlson, McNutt, Choi, & Rose, 2002), pursue goals (e.g., employment) (Lindhorst, 2001; Riger & Krieglstein, 2000); or perform work requirements (Brush, 2000). Additionally, PTSD symptoms may limit women's ability to perform work requirements more than men's (Brush, 2000; Woods, 2000).

PTSD and depression symptoms contribute to women's decreased quality of life through social isolation (Brush, 2000; Carlson et al., 2000), difficulty in getting through day-to-day activities (Brush, 2000; Constantino, Sekula, Rabin & Stone, 2000), and economic instability (Brush, 2000; Lindhorst, 2001). Thus, depression and PTSD are significant public health issues worthy of prevention and research, particularly among women.

A variety of social risk factors for depression among women have been identified, including unemployment and poverty (Mascaro, Arnette, Santana, & Kaslow, 2007; McGrath, Keita, Stickland, & Russo, 1990); being married, especially if unhappy (Kamp Dush, Taylor, & Kroeger, 2008; McGrath et al., 1990) and divorce, especially with decreased social support and economic resources (Amato, 2010; Weissman et al., 1996); racial/ethnic discrimination (McGrath et al., 1990); and gender-based violence such as sexual assault, stalking, IPV (Campbell, Dworkin, & Cabral, 2009; McGrath et al., 1990; Rees et al., 2011). Additionally,

gender-based violence is a risk factor for PTSD (Campbell et al., 2009; Golding, 1999; Rees et al., 2011). IPV is the focus of this study.

## **Impact of IPV Victimization on Depression and PTSD**

The deleterious impact of physical, sexual, and psychological IPV on women's mental health is well documented (Beydoun, Beydoun, Kaufman, Lo, & Zonderman, 2012; Dutton et al., 2006; Golding, 1999; Jones et al., 2001). This is not surprising, given that depression and PTSD are the most common mental health symptoms among survivors (Nathanson, Shorey, Tirone, & Rhatigan, 2012), with weighted<sup>2</sup> mean prevalence rates among IPV survivors of depression at 48% and PTSD at 64% (Golding, 1999). A recent meta-analysis found that the odds of major depression disorder were 3.26 times higher IPV for women survivors compared to women who did not report IPV (Beydoun et al., 2012). Additionally, depression and PTSD are often comorbid with rates as high as 45% (Nathanson et al., 2012; Pico-Alfonso et al., 2006).

Women who have been physically, sexually, and/or psychologically harmed by an intimate partner report higher levels of depression or PTSD symptoms than women who have not experienced IPV (Black et al., 2011; Carlson et al., 2002; Coker et al., 2002; Hedtke et al., 2008; Nicolaidis, Curry, McFarland, & Gerrity, 2004; Pico-Alfonso et al., 2006; Rivara et al., 2007; Woods, 2000; Zlotnick, Johnson, & Kohn, 2006). Survivors of IPV also report increased levels of impaired functioning as a result of depression and PTSD as compared to women who report depression and PTSD but not IPV victimization. When compared to national community surveys of people who reported mental or emotional problems, depression and PTSD symptoms had more impact on IPV survivors in regards to interference with attending work or school, managing daily activities, finding or keeping a job, and coping with day-to-day stresses. In

<sup>&</sup>lt;sup>2</sup> Mean prevalence rates were estimated using a technique that weighted, or assigned greater influence to, studies that had greater precision.

addition, IPV survivors who reported mental or emotional problems were (1) more frequently confused, disoriented, forgetful; (2) had more trouble concentrating; trouble making or keeping friends; or (3) had trouble getting along with people socially as compared to national community surveys (Helfrich, Fujiura, & Rutowski-Kmitta, 2008).

A relationship among IPV victimization and depression or PTSD has been found in a variety of samples, including population-based studies (Black et al., 2011; Coker et al., 2002; Coker, Weston, Creson, Justice, & Blakeney, 2005; Hedtke et al., 2008; Lacey, McPherson, Samuel, Sears, & Head, 2013; Zlotnick et al., 2006), medical or clinical samples (Bonomi et al., 2006; Carlson et al., 2002; Nicolaidis et al., 2004; Rivara et al., 2007), community samples (Ford-Gilboe et al., 2009; Nathanson et al., 2012; Pico-Alfonso et al., 2006; Theran, Sullivan, Bogat, & Stewart, 2006), domestic violence service-seeking samples (D. K. Anderson, Saunders, Yoshihama, Bybee, & Sullivan, 2003; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005; Helfrich et al., 2008; Jarvis, Gordon, & Novaco, 2005; T. K. Logan, Shannon, Cole, & Walker, 2006; Matlow & DePrince, 2013; McFarlane et al., 2005; Mechanic, Weaver, & Resick, 2008; Nixon, Resick, & Nishith, 2004; Wingood, DiClemente, & Raj, 2000), or a combination (Woods, 2000).

Several studies compared abused women and non-abused women within the same study (Black et al., 2011; Carlson et al., 2002; Coker et al., 2002; Nicolaidis et al., 2004; Pico-Alfonso et al., 2006; Rivara et al., 2007; Theran et al., 2006; Woods, 2000; Zlotnick et al., 2006) or compared their sample of abused women with national estimates (Helfrich et al., 2008). Additionally, short- and long-term relationships among IPV victimization and depression or PTSD have been demonstrated through cross-sectional surveys (Black et al., 2011; Bonomi et al., 2006; Carlson et al., 2002; Coker et al., 2002; Coker et al., 2005; Ford-Gilboe et al., 2009;

Helfrich et al., 2008; Lacey et al., 2013; T. K. Logan et al., 2006; Matlow & DePrince, 2013; McFarlane et al., 2005; Mechanic et al., 2008; Nathanson et al., 2012; Nicolaidis et al., 2004; Nixon et al., 2004; Pico-Alfonso et al., 2006; Theran et al., 2006; Wingood et al., 2000; Woods, 2000) and longitudinal studies (D. K. Anderson et al., 2003; Dutton et al., 2005; Hedtke et al., 2008; Rivara et al., 2007; Zlotnick et al., 2006). Thus, it is widely accepted that IPV victimization is a significant contributor to women's reports of depression and/or PTSD symptoms.

A more nuanced understanding of the mental health impact of IPV has been elucidated through recent research. Severity and chronicity of victimization are related to higher levels of depression and PTSD (D. K. Anderson et al., 2003; Bogat, Levendosky, Theran, von Eye, & Davidson, 2003; Coker et al., 2002; Coker et al., 2005; Dutton et al., 2005; Ford-Gilboe et al., 2009; Hedtke et al., 2008; Jarvis et al., 2005; T. K. Logan et al., 2006; Matlow & DePrince, 2013; McFarlane et al., 2005; Mechanic, Uhlmansiek, Weaver, & Resick, 2000; Mechanic et al., 2008; Nathanson et al., 2012; Nicolaidis et al., 2004; Nurius et al., 2003; Wingood et al., 2000; Woods, 2000). As the frequency, duration, and combination of multiple forms of violence increase, so too do women's reports of depression or PTSD symptoms.

Recent victimization may be more related to depression or PTSD symptoms than historical occurrences of IPV (Bogat et al., 2003; Bonomi et al., 2006; Hedtke et al., 2008; Rivara et al., 2007; Theran et al., 2006). In a random sample of women enrollees in a non-profit HMO plan, women who experienced remote IPV (IPV ended over 5 years before survey) were 1.5 times as likely to report any depressive symptoms and 1.6 times as likely to report severe depression as compared to women who reported no IPV (Bonomi et al., 2006). However, women who experienced recent IPV were 2.3 times as likely to report any depression symptoms and 2.6

times as likely to report severe depressive symptoms as compared to women who reported no IPV (Bonomi et al., 2006). Still, IPV can have long-lasting effects, especially when a variety of stress factors are considered (D. K. Anderson et al., 2003). In a sample of 278 women who separated from their abuser, women who experienced the greater amounts of stressors at the beginning of the study reported little change in depression symptoms over two years.

Particular forms of violence may be more related to depression or PTSD than others (Matlow & DePrince, 2013). Physical and emotional abuse independently affect women's depression symptoms (Coker et al., 2002; Coker et al., 2005; Lacey et al., 2013; Nathanson et al., 2012; Theran et al., 2006). An analysis of the National Violence Against Women Survey demonstrated that psychological abuse was more strongly related to depressive symptoms than was physical abuse (Coker et al., 2002). This finding has been replicated in community samples of women (Nathanson et al., 2012) and population-based surveys (Lacey et al., 2013). Psychological abuse may be particularly related to co-morbidity of PTSD and depression. As rates of psychological aggression increased, IPV survivors were more likely to meet clinical diagnostic criteria for both PTSD and depression as compared to women who reported no PTSD or who only reported depression (Nixon et al., 2004). Theran and colleagues (2006) interviewed a community sample (N=396) of women who were abused in the prior 6 months (n=255) and women who were not abused within in the prior 6 months (n=193). Among women who were abused, both physical and emotional abuse, were independently related to depression. However, for women no longer involved with their assailant, physical abuse held a significant relationship to depression whereas emotional abuse did not (Theran et al., 2006).

Sexual violence may be particularly related to PTSD (Coker et al., 2005) and depression (Jarvis et al., 2005; Pico-Alfonso et al., 2006). In addition, more women report PTSD when they

have been physically assaulted and stalked by an intimate partner, compared to women who were physically assaulted and not stalked (T. K. Logan et al., 2006). One study found that psychological abuse and stalking predict depression and PTSD even after controlling for sexual violence, physical violence, and injuries (Mechanic et al., 2008).

Thus, the impact of IPV victimization on depression and PTSD among women is well documented. Current research, however, tends to focus on the impact of physical, sexual, psychological, or stalking violence on women's mental health. Little is known about how other forms of abuse, such as men's use of children, impact women's PTSD and depression. In order to understand how men's use of or harm to children may be related to abused mothers' depression and PTSD, the next section focuses on the connection between IPV and child abuse.

## Abused Women's Concerns Regarding Their Children

## **Co-occurrence of IPV and Child Abuse**

**Statement of the problem.** Child survivors of abuse are often exposed to domestic violence (Herrenkohl et al., 2008). In 2011, approximately 681,000 children were involved in child protection agencies due to abuse and neglect (Children's-Bureau, 2011). Of the 37 states that reported on domestic violence status for maltreatment cases, 25% of child victims, or 124,463 children, lived in a home with domestic violence. Of the 33 states that reported on domestic violence in fatality cases, 16.7% of the child fatality victims were from a home with domestic violence. Such statistics, however, may be an underestimate of children exposed to domestic violence. Using a nationally representative sample of dual-parent families, McDonald and colleagues (2006) estimate that approximately 15.5 million children (nearly 30% of the child population) are living in a household where IPV exists (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006).

Children not only witness IPV, but many men who abuse their partners also abuse their children (Gewirtz & Edleson, 2007; Hamby, Finkelhor, Turner, & Ormrod, 2010; Herrenkohl et al., 2008; Jouriles, McDonald, Slep, Herman, & Garrido, 2008; Kelleher et al., 2006; Tajima, 2004). Rates of co-occurrence of IPV and child abuse range from 6.5-100%, depending on the study sample and definition of child abuse (Appel & Holden, 1998; Edleson, 1999a, 1999b). Median rates are approximately 40% (Appel & Holden, 1998), with a range of approximately 30-60% (Dong et al., 2004; Edleson, 1999a; Hamby et al., 2010; Renner & Slack, 2006).

Unfortunately, there is a general deficit-oriented attitude towards women who remain with an abusive partner (McMullan, Carlan, & Nored, 2010). However, survivors engage in a rational choice and moral reasoning process when deciding how to respond to their partner's abuse (Meyer, 2012). Whether abused women choose to stay in their intimate relationships or leave, their decisions are heavily impacted by their concerns for their children (Lacey, Saunders, & Zhang, 2011; Moe, 2009). There is a widespread belief that children need regular contact with a father and a mother for healthy development, which poses a dilemma for partner-abused mothers. One study found that the two most common reasons cited by women as reasons for staying in an abusive relationship were "I would have been a failure if I left the relationship" and "my children needed both parents" (Eckstein, 2011). Similarly, the stability of their children's home environment is another concern that mothers report (Meyer, 2012). While there are some general parenting concerns that may contribute to women's decisions to stay in intimate relationships, partner-abusive men also commit specific actions or threats to keep their partners in intimate relationships.

Women have reported that their abusive partner used a variety of tactics to prevent them from leaving that directly relate to their children, including threats to harm or kill their children,

harm or kill women in front of their children, and/or fight for custody (Meyer, 2012; Robins, 2010; Shalansky et al., 1999; Varcoe & Irwin, 2004). Similarly, 21.5% of women participants in the NISVS reported that their partner threatened to take their children away (Black et al., 2011). Abusive men have also threatened women to prevent them from seeking custody or child support by threatening physical harm, kidnapping, or submitting false allegations to child welfare agencies (T. Logan & Walker, 2010; Ptacek, 1997). Threats were compounded when women were immigrants, as abusive men manipulated women into believing that they could not legally separate due to their status, and/or threatened women that if they left they would be unable to get custody because of women's immigration status (Douglas & Walsh, 2010; Wuest et al., 2003).

## When Abused Women End Relationships

Many women who experience IPV end their intimate relationships (Gortner, Berns, Jacobson, & Gottman, 1997), and often cite IPV as an important contributor to that decision (Baly, 2010; Gortner et al., 1997; Kurz, 1996). For example, in a random sample of 129 divorced women in New York, 19% sought a divorce due to IPV (Kurz, 1996). While some women stay in intimate relationships as a means of protecting children, many women end relationships for the same reason. Many women report that they decide to end intimate relationships once they realize or identify that their partner is physically, sexually, or emotionally harming children (Baly, 2010; Chang et al., 2010; Kurz, 1996; McCaw et al., 2002; Meyer, 2010; Rhodes, Cerulli, Ditcher, Kothari, & Barg, 2010; Tutty, Weaver, & Rothery, 1999). For example, of 43 women who accepted a referral to seek services for domestic violence, 65% accepted the referral because they were worried about exposing their children to abuse and 40% were afraid for their children's safety (McCaw et al., 2002).

Thus, mothers' concerns for their children are often the catalysts that influence women to end intimate relationships, which strongly indicates that women care deeply about their children's well-being. Unfortunately, abuse does not always end with intimate relationships.

### **Post-Separation Violence**

It is well-documented that many abusive men continue, or even escalate, their violence after intimate relationships end, referred to in this study as post-separation violence (PSV) (Beeble et al., 2007; Brownridge, 2006; Davies et al., 2009; DeKeseredy & Joseph, 2006; Fleury et al., 2000; Harrison, 2008; Humphreys & Thiara, 2003; M. P. Johnson, Leone, & Xu, 2014; Kaye, Stubbs, & Tolmie, 2003-2004; Ptacek, 1997; Theran et al., 2006). Some research has demonstrated that when women have children, partner-abusive men are more likely to perpetrate violence as compared to when there are no children (Karin Bø Vatnar & Bjørkly, 2010), and that men are more likely to perpetrate PSV when there are shared children versus no shared children (Davies et al., 2009; Ornstein & Rickne, 2013).

One reason partner-abusive men may be more likely to perpetrate PSV when children are involved is because the shared children provide a way to gain access to their ex-partner. For example, some studies have found that most of the partner-abusive fathers in their sample had ongoing contact with their children (Karin Bø Vatnar & Bjørkly, 2010; Stover, Van Horn, Turner, Cooper, & Lierberman, 2003).

Research has also documented that many children are abused post-separation. In a qualitative study of 43 women who were no longer with their abusive partners, 19% reported that their ex-partners abused their children post-separation (DeKeseredy & Joseph, 2006). In a longitudinal study of 62 women who shared children with partner-abusive men, fathers' child abuse perpetration during intimate relationships predicted men's post-separation child abuse

(McDonald, Jouriles, Rosenfield, & Corbitt-Shindler, 2011). Specifically, the odds of experiencing child abuse after their parents' relationship had ended was over 5 times higher for children whose fathers perpetrated child abuse before intimate relationships had ended, compared to children whose fathers did not perpetrate child abuse before intimate relationships ended. Notably, their findings suggest that when men perpetrate PSV against their ex-partner, this also predicts their post-separation child abuse (McDonald et al., 2011). Men may harm children in order to punish women (Hardesty & Ganong, 2006). Some have hypothesized that men's harm to their children may occur or increase after separation due to men's limited access to their ex-partner (Hayes, 2012).

One way that partner-abusive fathers are able to perpetrate post-separation violence against their ex-partners and children is through court-ordered child contact (Bemiller, 2008; Hardesty & Ganong, 2006; Kaye et al., 2003; Shalansky et al., 1999; Slote et al., 2005; Wuest et al., 2003). Custody orders provide abusers with access to their children, and possibly to their expartner during the child exchange. Abusive men use this access to physically, sexually, and emotionally harm their children (Bemiller, 2008; Hardesty, Khaw, Chung, & Martin, 2008; Kaye et al., 2003; Slote et al., 2005; Straus, 1979; Wuest et al., 2003), or to use their children as intermediaries to perpetrate ongoing PSV against their mothers (Hardesty & Ganong, 2006; Harrison, 2008; Kaye et al., 2003; Shalansky et al., 1999; Wuest et al., 2003).

Men's use of children often involves subtle threats or manipulation that may be difficult to detect by third parties. For instance, abusive men have sent threats to their ex-partners through their children (Hardesty & Ganong, 2006; Kaye et al., 2003), or have used their children to obtain information about, track, and monitor their ex-partners activities (Shalansky et al., 1999), sometimes in attempts to gain information about mothers to use in future court hearings (Wuest

et al., 2003). Abusers also lie to and manipulate their children into blaming their mother for the family dissolution (Wuest et al., 2003). Beeble and colleagues (2007) examined abusive men's use of children in a sample of 156 abused women. Most (88%) reported that their current or expartners used their children to control them or stay in their lives (70%). Men tried to turn their children against their mothers (47%) and convince their children that women should take them back (45%). In addition, men used their children to harass (58%), intimidate (58%), frighten (44%), and keep track of participants (69%). They also found that assailants' use of children was related to having a court-ordered visitation order and to their perpetration of emotional abuse against the woman in the past four months. To date, this study remains the most comprehensive quantitative investigation of abusive men's use of their children.

In sum, men who abuse their partners are also likely to abuse their children. This abuse, which often includes threats to harm their children, is one reason that women may stay in intimate relationships. At the same time, however, harm to their children often serves as a catalyst causing many women to end their intimate relationships. Unfortunately, partner-abusive men continue or escalate their abuse against their ex-partners and children and perpetrate PSV. Men's harm to their children may have an impact on women's mental health, and what is known about this relationship is discussed next.

#### Impact of Harm to Children on Mothers

Little is known about the impact of men's harm to children on women's depression and PTSD symptoms, but some useful information can be drawn from related studies. Children from one study reported their partner-abusive fathers are often not engaged or responsible parents (Cater & Forssell, 2014). Still, as long as men do not perpetrate violence, both mothers and their children consider them to be "good enough" parents, which reflects general social norms about

fatherhood (Cater & Forssell, 2014; Peled & Gil, 2011). These findings indicate that a heavier burden is often placed on mothers for fulfilling all of their children's needs, including helping their children deal with and heal from their fathers' abuse (Cater & Forssell, 2014; Peled & Gil, 2011).

Some research has shown that men's IPV perpetration can negatively impact the motherchild relationship (Haight, Shim, Linn, & Swinford, 2007; Riger, Raja, & Camacho, 2002; Wuest et al., 2003), although this is not always the case. In a sample of 30 mother-child dyads staying at a domestic violence shelter, both women and their children reported a high quality mother-child relationship (Jarvis et al., 2005). Although men's harm to children was not assessed, they found that mothers reported higher levels of depression if their children intervened when their fathers were perpetrating IPV, compared to mothers who reported their children did not intervene (Jarvis et al., 2005).

Finally, some studies provide insight on how men's harm to children post-separation impacts mothers' mental health, even if this relationship was not the focus of investigation (Rhodes et al., 2010; Shalansky et al., 1999; Slote et al., 2005; Wuest et al., 2003). Rhodes and colleagues (2010) conducted focus groups with 39 women who shared children with abusive men and participated in legal intervention. A common theme among participants was that mothers blamed themselves for their ex-partners' abuse and felt guilty for the impact of that experience on their children. For example, one of their participants stated:

The guilt that I feel every day and try to figure out, "What was wrong with me, why did I put up with it, why did I put my children through that, why did I make them hear the things that they heard?" (Rhodes et al., 2010, p. 488)

Slote and colleagues (2005) interviewed 40 abused women in the United States who felt that their rights were violated during the family court custody litigation process (e.g., family dismissed allegations of IPV, treated mothers poorly, the partner-abusive father gained custody). In addition, they conducted focus groups with women of color in order to capture the experiences of women who endure multiple levels of marginalization. Participants reported feeling high levels of stress as a result of the ongoing abuse perpetrated by their ex-partners, which often included manipulating their children. This study provided additional evidence that PSV is a problem for many survivors, and that abusers involve their children. The focus, however, was on the ways in which family court officials violated survivors' human rights.

Shalansky and colleagues (1999) interviewed five Canadian women who shared custody or visitation with an abusive ex-partner (Shalansky et al., 1999). Women in this study experienced ongoing PSV and feared for themselves and their children due to ongoing abuse and threats. As a result, women reported high levels of stress in their everyday lives, and became hyper vigilant in their attempts to keep their children safe. Based on the results of their study, the authors hypothesized that the combination of PSV against women as well as the ongoing danger for women and their children diminished mothers' emotional well-being. This study extends the knowledge produced by the Slote and colleagues (2005) article by further elaborating women's concerns for their children and the possible impact of ongoing abuse on mothers' mental health. Unfortunately, the sample was limited both in size (N=5) and only to women who shared custody/access with their partners. Mothers whose children were not mandated to spend time with their children were excluded. In addition, women who were noncustodial mothers were excluded from the study, yet noncustodial mothers may face additional forms of PSV, such as restricted access to their children (Bemiller, 2008).

Wuest and colleagues interviewed abused women (N=36) and their children (N=11) from Canada. Women and children in this study provided further evidence of ongoing physical, emotional, and sexual PSV and the myriad ways that men harmed or manipulated their children. Women qualitatively reported that these experiences contributed to their mental distress and inhibited their ability to heal and establish a life free from violence. Based on their data, the authors concluded that "individual health problems had pervasive and enduring effects both for the family member who was directly affected and for other members of the family" (p. 607), and "Most women in the study spoke of stress, anxiety, fear, depression, and associated weight loss or gain, panic attacks, sleep disturbances, and/or fatigue" (p. 608). This study represents a useful step towards understanding the impact of children's well-being and safety on mothers' mental health. While the authors described how ongoing IPV impacted women and their children, or how women reported decreased parenting ability as a result of the ongoing abuse, they were unable to further explore how harm to their children impacted women's mental health.

## **Current Study Rationale**

Depression and PTSD are debilitating mental health issues that disproportionally affect women and are worthy of public concern and intervention. We know that physical, sexual, emotional, and stalking violence by intimate partners are significant risk factors for depression and PTSD. Yet, we know little about how other forms of IPV impact women's reports of depression or PTSD.

Abused women voice a variety of concerns for their children's physical safety and emotional well-being. Partner-abusive men will often use these concerns against their partners in order to trap women in intimate relationships. While this initially may be an effective tactic, women often cite IPV and harm to their children as reasons for ending their intimate

relationships. Unfortunately, many men continue to abuse their ex-partners and their children after intimate relationships ends.

Current evidence suggests that PSV and ongoing harm to children has a negative impact on mothers (Shalansky et al., 1999; Slote et al., 2005; Wuest et al., 2003). More empirical evidence is needed to establish the connection due to several limitations of this existing research. First, the body of evidence regarding the relationship between harm to women's children and women's mental health is small. Just four studies were identified as providing some information about this relationship; only one of which focused on this relationship (Wuest et al., 2003). Second, all of the studies to date have been cross-sectional, which limits the degree to which researchers can accurately account for patterns of change (Singleton Jr & Straits, 2005). It is important to understand how the continuation, cessation, or escalation of IPV relates to women's depression and PTSD over time because, for example, some research indicates that traumatic interpersonal experiences and mental health distress are risk factors for future interpersonal revictimization (Jennings, 2004). Therefore, it is important to capture change (e.g., new incidents of perpetration) in men's abuse, while accounting for past experiences, and how these affect subsequent changes in depression and PTSD. Finally, all of the studies were qualitative. Although qualitative research contributes contextualized data to the literature, they are limited in their ability to account for other factors.

It is clear that more research is needed to understand how PSV and harm to children impact mothers' depression and PTSD in post-separation contexts. Therefore, the study reported here was a longitudinal examination of how women's depression and PTSD symptoms are impacted by abusive men's harm to their children. Given the increased risk of violence post-

separation, women who decided to end their intimate relationships with abusers were the focus of this study.

## Hypotheses

The study analyzed differences between women (between-women effects) as well as women's individual experiences over time (within-woman trajectories). With regard to between women differences, it was expected that women who reported higher levels of IPV victimization and harm to or use of their children would have higher levels of depression and PTSD relative to women who reported lower levels of IPV victimization.

Within-woman trajectories over time were assessed by examining how changes in IPV victimization and harm to their children over time related to changes in women's reports of depression and PTSD, relative to their victimization experiences at the baseline interview. The first interview was chosen as the constant because of the eligibility criteria, which required all women to have experienced IPV within six months prior to the baseline interview. It was expected that change in IPV victimization and harm to or use of their children, reported at each follow-up interview and compared to baseline scores, would be related to change in the same direction in depression and PTSD symptom scores at the same interview.

H1a: Women who report higher levels of IPV exposure at baseline will report higher depression and PTSD symptoms at baseline.

H1b: Women who report higher levels of IPV exposure at baseline will report higher depression and PTSD symptoms over time (i.e., T2 compared to T1; T3 compared to T1; T4 compared to T1).

H2a: Women who report higher levels of the use of, and harm to, their children by their father at baseline will report higher depression and PTSD symptoms at baseline.

H2b: Women who report higher levels of the use of, and harm to, their children by their father at baseline will report higher depression and PTSD symptoms over time (i.e., T2 compared to T1; T3 compared to T1; T4 compared to T1).

H3: Within-woman changes in IPV victimization over time will be positively associated with increases in within-women's depression and PTSD symptoms over time (i.e., T2 compared to T1; T3 compared to T1; T4 compared to T1).

H4: Within-woman changes in the use of, and harm to, their children by their father will be positively associated with increases in within-women's depression and PTSD symptoms over time (i.e., T2 compared to T1; T3 compared to T1; T4 compared to T1).

#### **CHAPTER 2: METHOD**

This study analyzed data from the Civil/Legal Custody Project (CLCP), a longitudinal examination of abused mothers' experiences with family court and ongoing IPV victimization. The focus of the CLCP was to determine factors that impact abused women's and their children's safety over time.

## **Study Development**

The CLCP was designed collaboratively with a non-profit domestic violence agency in Michigan. The idea for a project to investigate survivors' experiences with family court arose through multiple meetings that included Dr. Sullivan (chair), Dr. April Zeoli, Dr. Deborah Bybee, the author of this dissertation, the director of the non-profit domestic violence (DV) agency, the director of a legal aid office, a legal aid attorney, and agency staff.

In the early stages of project development, the dissertation author met with the DV agency's legal advocate and a legal aid attorney. The goal of these early meetings was to assess common issues that they would like to investigate empirically and to gain an estimate of how many women would be eligible for our study based on their intake numbers from the previous year. Then, other agency staff and volunteers were invited to participate in a workgroup. The workgroup developed a recruitment strategy and outcomes of interest (e.g., depression). With this information, the research team had ongoing meetings about recruitment, hypotheses, question sets and items, analyses, and power. The research team drafted an interview guide and conducted two rounds of feedback with the DV agency workgroup.

The study was a quantitatively-led mixed method longitudinal examination of women's experiences with family court, child custody issues, IPV/PSV victimization, and safety. Women completed a total of four interviews, once every four months, for one year. A one-year timeline

was chosen because each case moves through the family court process at a different rate, and the goal was to capture the entire process for all study participants. For parents who never married and share children, there is no mandatory waiting period and the process can be brief as compared to parents who seek a divorce. It is standard in Michigan that divorces involving children must take at least 6 months. Thus, a one-year study would allow some flexibility in the length of time it took for study participants to obtain a final divorce. Four-month intervals were chosen to capture data before, during, and after the family court process.

## Procedures

**Recruitment**. Recruitment began in June 2011 and ended in March 2012. Potential participants were recruited by DV agency staff. Five agencies agreed to assist with recruitment, with three locations successfully recruiting at least one participant: agency A (n=23; 56%), agency B (n=13; 33%), and agency C (n=4; 10%). When a client self-reported that they were about to pursue a divorce, custody order, or visitation/parenting time order through family court, agency staff informed them of the study (See Appendix A for the recruitment form). In addition, IRB-approved flyers were posted at DV agencies beginning in November 2011 (see Appendix B). If a woman indicated that she was interested, she completed her contact information and the form was stored in a secure location at the agency until a research assistant retrieved it. The dissertation author conducted all screening calls over the phone and, when interested and eligible, scheduled women's first interview (screening instrument can be found in Appendix C).

Women were eligible for the study if they met the following criteria: (1) at least 18 years old, (2) spoke English, (3) shared at least one minor child with an emotionally, physically, financially, and/or sexually abusive partner or ex-partner, and (4) were about to proceed through family court for a divorce or custody/parenting time court order for the child/ren shared with the

abusive partner. In order to determine women's eligibility for the third criteria, women were asked, "Did you experience emotional, financial, physical, or sexual abuse from the father of the child for whom you are pursuing a custody/visitation order?" Given that we recruited women from agencies specifically developed to serve domestic violence survivors, we decided that a more invasive screening protocol was unnecessary.

Of the 77 contact sheets received, 71 women were successfully reached. The research team was unable to determine how many potentially eligible women did not complete contact sheet, due to the agencies' inability to track this information and our use of flyers for recruitment.

Of the 71 women who were reached, 53 (75%) were eligible for participation. Eleven women were eligible but did not begin a baseline interview. One woman's phone was disconnected immediately after her eligibility was determined and she could not be reached again. Five women refused to participate because they had "too much going on" (n=2), would not be able to conduct the interview without their child present (n=1), said it was not safe (n=1), or did not provide a specific reason (n=1). Thus, 42 women (79%) scheduled and began a baseline interview. Of those, one woman needed to end her interview early because she was in a crisis situation. In addition, one woman completed all interviews, but was removed from analysis because it was realized later on that she was not initially eligible for the study. Although she was proceeding through family court for an initial custody order, this child was not shared with her abusive partner. Therefore, the final sample for the baseline interview is 40 women.

**Interviews**. The baseline interview was conducted as soon as possible after recruitment. Women chose the location of the interviews, with most choosing their homes. If the interviews did not take place in women's homes, then other locations included the agency from where they

were recruited, a library, or the interviewers' car. Interviews typically lasted between 1-2 hours. All interviews were in-person, with the exception of a participant who had to leave one of her interviews early and completed the remainder of that interview over the phone. The research team provided childcare for women who requested it, as it was a mandate of the study that children not be present for the interview (given the sensitive nature of the questions). Women signed their informed consent form immediately prior to beginning the baseline interview. All interviews were conducted by trained research assistants, and women were paid for their participation (\$25, \$30, \$35, and \$40 over time).

**Research assistants and data management**. A total of five graduate students and 15 undergraduate students or post-bachelorette women were research assistants (RAs) for this study. The dissertation author worked as the project director for the duration of the project. Weekly research team meetings, led by the project director and/or Dr. Zeoli, provided RAs with the opportunity to debrief, ask questions about their interviews, further develop interviewing skills, and discuss data entry questions.

Most RAs conducted interviews with participants, although the majority of interviews were conducted by the undergraduate/post-bachelorette RAs. There were three cohorts of RAs, all of whom participated in 15 hours of training in domestic violence, interviewing, research ethics, and the interview guide. The project director conducted or was highly involved in all trainings to provide consistency. Prior to interviewing participants, all RAs practiced the entire interview process at least twice.

RAs entered quantitative data and conducted 100% reliability checks on each other's data entry. The dissertation author conducted a 100% reliability check on the data for the baseline interviews, and a 30% random sampling of data thereafter. Data cleaning and preparation was a

collaborative effort between the dissertation author and Dr. Zeoli. Together, they worked for approximately six months to ensure the data were properly cleaned, coded, and ready for analysis. In addition, the dissertation author and Dr. Zeoli worked together to investigate each instance of missing data in order to determine whether the data must remain as missing or could be coded for analysis (e.g., data entry error, qualitative verbal responses that could be quantitatively coded into a response option). This work was recorded in the project audit trail.

## **Participant Demographics**

At the time of the first interview, most women (n=34; 85%) did not live with the assailant, with data for one woman missing (3%) on this variable due to interviewer error. Most women were, at some point, married to their assailants (n=27; 68%). At the time of the baseline interview, most women reported their current relationship status as (married, but) separated or not together (ex-boyfriend/girlfriend) (n=36; 90%). One woman (3%) was already divorced, two women reported that they were still married and living together (n=2; 5%), and one woman (3%)reported that they were "living together, not involved, by kind of involved." Thus, a total of 37 women reported being separated from their assailants. The average number of months since separation was 5.88 months (*SD*=10.10 months). Most of these women had been separated for 6 months or less (n=34; 85%), with the remaining women separated between 6 months to 4.42 years. Additionally, due to interviewer error, data on months since separate was missing for three women (8%).

The mean number of children in this sample was 2.50 (*SD*=1.57), with a range from 1 to 8 children. Women's age ranged from 21-50 years old (M=32.53, *SD*=7.22). Most women were white (n=28; 68%), with the remaining sample being Black (n=7; 18%), Native American/Alaska Native (n=2; 5%), Asian (n=1; 2%), Multiracial (n=1; 2%), and other (n=1;
2%). Three women (7%), including the one who reported "other" for her race, identified as Latina. Just over half (n=23; 58%) were employed in the previous six months before the first interview, with 74% of those women being employed at the time of the interview.

Most women had some college education (n=12; 30%), with the remaining sample having a current education level of less than high school/GED (n=9; 23%), high school degree/GED (n=5; 13%), trade/technical degree (n=4; 10%), associate's degree (n=6; 15%), bachelors degree (n=2; 5%), or graduate/professional degree (n=2; 5%). Additionally, some women (n=5; 13%) were current students.

**Retention**. Various techniques were employed to maintain a high retention rate. At each interview, interviewers discussed with participants how to reach them for the next interview and gathered alternate contact information. We conducted check-in calls halfway between interviews to maintain the most up-to-date contact information. When it was time to schedule women for their next interview and we were having trouble reaching them, we would mail letters to their home and, if they have given us permission to do so at their last interview, stopped by their home to try and make face-to-face contact.

A total of six women dropped out of the study over time. We could not reach three women, one moved out of the state, and two were too busy to schedule a time. No woman skipped an interview. Thus, study retention rates were 90% (n=36) for the second interview, and 85% (n=34) for the final two interviews. See Figure 1 for a flow chart demonstrating participant recruitment and retention for the study.

# Figure 1.

Participant Recruitment and Retention Over Time



Chi-square and *t*-tests for significant differences between women who stayed in the study (n=34) and women who dropped out (n=6) were conducted. There were no significant differences between these women on age, concerns about money, employment in the past 6 months, education (dummy coded as less than high school; high school degree, GED, or trade degree; or some college/college degree), whether or not she lived with the assailant, recruitment agency, student status, whether the assailant had easy access to guns, physical and sexual abuse, economic abuse, system abuse, stalking, threats, harm to children during visitation, or use of their children.

However, women who dropped out of the study reported a higher frequency of childfather contact at baseline (M=4.83, SD=.98) than women who stayed in the study (M=2.71, SD=2.17); t(15.53)=3.89, p=.001. Women who dropped out of the study reported a slightly higher mean score of emotional abuse at baseline (M=3.64, SD=.21) than women who stayed in the study (M=3.03, SD=.58); t(21.51)=4.61, p= < .001. Women who dropped out of the study reported a shorter period since separation (M=1.33 months, SD=.61) than women who stayed in the study (M=6.76 months, SD=10.83); t(30.93)=-2.677, p=.009.

#### Measures

The interview guides for each time point were nearly identical, with some slight differences between the first interview and the follow-ups. Specifically, the first interview requested information about the last *six months*, whereas the reference period for the remaining interviews was "since your last interview," or approximately four months, given women's schedules during the follow-up period. The following section describes the measures used in the study (Appendix D). Means, standard deviations, and alphas are reported in Table 1.

Intimate partner violence victimization. Abusers' physical IPV perpetration (including physical abuse, threats of harm, stalking, and sexual assault) was measured with six items on a 6-point scale (0=never to 6=more than 4 times a week). Women rated how often their partner or ex-partner did things such as "pushing, grabbing and shoving...kicking and strangling or punching" or "throw something at you, whether it hit you or not." In addition, women were asked about sexual assault with the item: "forced you to engage in a sexual activity when you did not wish to do so." A brief measure was desired due to the extensive length of the entire interview, and items were chosen, excluded, and/or combined from the 24-item CTS, which has a published alpha coefficient of .86 (CTS; Straus, 1979; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Cronbach's alpha for this study ranged from .578 to .663 across all time points. Corrected item-total correlations varied across time (-.100 to .848)

Threats were measured with three items that asked women how often their partner or expartner threatened to harm them, threatened to kill them, and threatened to kill their friends or family. Cronbach's alpha ranged from .589 to .686 across all time points. Corrected item-total correlations ranged from .201 to .826 across all time points.

Finally, stalking was measured using a modified and shortened version (6-items) of the National Violence Against Women Survey stalking assessment (Tjaden & Thoennes, 1998), as calculated by Basile and colleagues (2004). Women rated how often their partner or ex-partner did things such as "followed or spied on you" or "stood outside your home, school, or workplace." A reported internal consistency of .89 (Basile, Arias, Desai, & Thompson, 2004) has been found previously. Cronbach's alpha ranged from .723 to .858 across all time points. Most

	B	aseline (I	$N=40)^{\Delta}$		4 mon	(N=36)	8	mon (N	(=34)		12 mon	(N=34)
	М	SD	α	М	SD	α	М	SD	α	М	SD	α
Mental Health												
Depression	1.53	.75	.85	.93	.73	.88	1.09	.81	.89	.89	.89	.93
PTSD	1.47	.74	.76	.91	.59	.68	.86	.80	.82	.80	.82	.89
<b>IPV Victimization</b>												
Physical + Sexual	1.49	1.04	.66	.26	.49	.64	.27	.51	.58	.14	.33	.58
Threats	2.49	1.33	.59	1.42	1.23	.63	1.13	1.24	.65	1.02	1.19	.69
Stalking <sup>◊</sup>	1.04	1.32	.72	.51	1.22	.86	.51	1.22	.82	.29	.78	.75
Emotional	3.12	.59	.75	1.87	1.32	.94	1.61	1.31	.96	1.29	1.21	.94
Economic	1.09	1.08	.67	.86	.92	.59	.98	.96	.64	.97	1.06	.70
Procedural	.80	1.01	.84	.82	1.05	.88	.89	1.16	.89	.89	1.25	.92
Harm to the Children												
Use of children	2.55	1.14	.88	1.82	1.41	.93	1.63	1.43	.94	1.54	1.34	.94
Neglect & Abuse	.71	.72	.89	.50	.53	.87	.58	.65	.87	.51	.63	.89

Means, Standard Deviations, and Alphas for Mental Health, IPV Victimization, and Child Harm Over Time

 $\Delta$  Overall sample size for the interview. Some missing data exists for the scales, and these smaller n's are not represented in this table.  $\Diamond$  Mean of stalking actions. Women who did not meet full definition of stalking had their means recoded into zeros.

corrected item-total correlations ranged from .195 to .814 across all time points, with the exception of one item "How often has he left unwanted items or gifts for you to find or for your children", which was .066 at the final interview.

In order to be consistent with the literature on stalking, women were coded as "stalked" only if they reported their assailant as perpetrating at least two actions (one tactic at least twice or two different tactics) *and* reported feeling "very frightened" at least once. If women did not meet these criteria, their mean of stalking actions was recoded into zero.

Non-physical IPV victimization (including psychological abuse, economic abuse, and system abuse) were all measured using the same 5-point scale (0=never to 4=very frequently). The research team slightly modified the short-version 14-item Psychological Mistreatment of Women Inventory to measure emotional/verbal abuse and domination/isolation, both of which have demonstrated good internal consistency (alphas= .92, .88, respectively) (Tolman, 1999). Women rated how often their partner or ex-partner did things such as "call you names" and "monitor your time and make you account for your whereabouts." Cronbach's alpha ranged from .751 to .958 across all time points. Corrected item-total correlations ranged from .135 to .920 across all time points.

Procedural abuse involves the abusive use of legal means, systems, or procedures in order to perpetrate abuse (Miller & Smolter, 2011). Procedural abuse was measured using 7 items developed by the research team. This scale included items such as "file a motion with family court about child support, custody, or visitation" or "threaten to take you back to court for support, custody, or visitation issues." Cronbach's alpha ranged from .839 to .919 across all time points. Corrected item-total correlations ranged from .470 to .849 across all time points.

Economic abuse includes tactics that threaten women's economic security (Adams,

Sullivan, Bybee, & Greeson, 2008). The research team developed a 5-item scale to measure the ways in which batterers might use the family court system or custody to harm women's economic security. For example, women were asked how often their ex-partner did things like "Keep your children's clothes after visitation, forcing you to buy more clothes," or "Refused to pay child support or spousal support." Cronbach's alpha ranged from .585 to .700 across all time points. Corrected item-total correlations ranged from .063 to .634 across all time points.

**Harm to and neglect of children.** Women reported on two ways that men harmed children: by using their children to harm their partner/ex-partner and by actual harm to or neglect of their children. The *Use of the Children* scale (Beeble et al., 2007) includes seven items and, on a 5-point scale (0=never to 4= very frequently), women reported how often the assailant used their children to stay in their life, harass, intimidate, and frighten them. Additionally, women were asked how often the assailant tried to turn their children against them, or threatened to take their children away. The authors reported an internal consistency coefficient of .88. Cronbach's alpha ranged from .876 to .936 across all time points. Corrected item-total correlations ranged from .304 to .919 across all time points.

The research team also created an index of men's harm to or neglect of their children during contact. Based on a 5-point scale (0=none of the time to 4=more than <sup>3</sup>/<sub>4</sub> of the time), women whose children had contact with the father reported a range of neglectful (e.g., children not being fed or going hungry, children not being supervised) to abusive behaviors (e.g., physical abuse by the father, father insulting their children or hurting their feelings). In some instances, women reported "I don't know." Given that the intent of the questionnaire was to assess whether those events occurred to the best of mothers' knowledge, we recoded "I don't know" responses

into "None of the time." Cronbach's alpha ranged from .872 to .891 across all time points. Corrected item-total correlations ranged from .202 to .814 across all time points.

**Depression**. Depression symptoms were measured using the Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001). This scale is 9 items and, using a 4-point scale (0=not at all to 3=nearly everyday), women reported on such symptoms as "little interest or pleasure in doing things," and "feeling down, depressed, or hopeless" that they may have experienced in the prior two weeks. A summed score of 10 or greater indicates clinical depression. A total of 36 (90%) women met this criterion at baseline, and then 26 (72%), 25 (74%), and 19 (56%) at the follow-up interviews. A recent review found that this scale had good sensitivity and specificity for detecting depressive disorders, and an internal consistency score of .89 (Kroenke, Spitzer, Williams, & Lowe, 2010). Cronbach's alpha ranged from .853 to .931 across all time points. Most corrected item-total correlations ranged from .366 to .882 across all time points, with the exception of one item ("thinking that you would be better off dead or that you want to hurt yourself in some way"), which was .130 at the second interview. The mean was calculated to represent levels of depression symptoms in order to make the most use of variability in the sample.

**PTSD.** Post-traumatic stress disorder (PTSD) symptoms were measured using the Breslau PTSD scale (Breslau, Peterson, Kessler, & Schultz, 1999). This scale is 7 items and, using a 4-point scale (0=not at all to 3=nearly everyday), women reported on such symptoms as "became jumpy or got easily startled by ordinary noises or movements" and "avoided being reminded of this experience by staying away from certain places, people, or activities." A summed score of 4 or greater indicates PTSD. A total of 36 (90%) women met this criterion at baseline, and then 24 (67%), 16 (47%), and 31 (54%) at the follow-up interviews. This scale is

ideally used as a screening measure to identify individuals who may need further evaluation or referrals to mental health services, and researchers found a test-retest reliability of .84 (Kimerling et al., 2006). The advantage of this scale, as compared to other PTSD measures, is that it is particularly useful for longitudinal research, as it is not focused on a single traumatic event, but instead measures the impact of cumulative trauma. Cronbach's alpha ranged from .683 to .885 across all time points. Most corrected item-total correlations ranged from .219 to .776 across all time points, with the exception of one item ("began to feel that there was no point in planning for the future"), which was .084 at the second interview. The mean was calculated to represent levels of PTSD symptoms in order to make the most use of variability in the sample.

**Control variables**. The *frequency of child-father contact* was tested as a time-varying control variable. In order to assess the amount of child-father contact, women were asked to report on how often the assailant had been around their children. Open-ended responses were quantitatively coded into one of the following categories: no contact, rare or infrequent (with child spending little time with), sporadic (with child spending "chunks" of time with), regular but infrequent (once a month or less), regular and frequent (more than once a month), almost daily or daily, and lives with them.

Intimate partner relationship dissolution is associated with mental health distress among men and women (Mearns, 1991; Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011). This distress is often short-term as people cope and adapt over time (Sbarra & Emery, 2005). All women in included in this study reported that their intimate relationship had already ended or were planning on ending it very soon. However, there is some indication that people who report being unhappy in a marriage report an improvement in mental health post-relationship (Kamp Dush et al., 2008). Still, it is important to address this confound with available data because this

confound likely impacted women's baseline reports of depression and PTSD.. Therefore, months since separation was tested as a time-invariant level-2 control variable. At the baseline interview, women were asked to report how long ago, in months, they separated from their assailant. This question was not asked in the follow-up interviews. In three baseline interviews, the interviewer either skipped the question in error or the participant refused to answer. A missing value analysis (Expectation Maximization Estimation; EM) was performed in SPSS to calculate these missing values. In a missing value analysis, all variables in the dataset are used to calculate missing values. In this case the following variables were included in the dataset for EM: frequency of child-father contact, dependent variables at baseline, and independent variables at baseline. Then, values were rounded to either 0 (n=1) or 1 (n=3).

### **CHAPTER 3: ANALYSIS**

### **Multilevel Modeling**

All women in the sample were survivors of IPV, which limited the types of hypotheses that could be tested. Although the impact of varying levels of IPV on women's mental health could not be examined, longitudinal research can determine how changes in one variable relate to changes in another. Thus, the purpose of this study was to investigate how changes in abusive men's harm to their children related to changes in women's depression and PTSD.

Multi-level modeling (MLM) was chosen as the analytic technique for this study because it was developed to analyze repeated-measures data and clusters data in such a way that accounts for shared variance among measures of the same person over time (Bryk & Raudenbush, 1992; Woltman, Feldstain, MacKay, & Rocchi, 2012). This is in contrast to ordinary least squares (OLS) regression, which assumes that observations are independent and underestimates shared variance (Brennan, Kim, Wenz-Gross, & Siperstein, 2001; Cohen & Cohen, 1983; Woltman et al., 2012).

MLM has other advantages as well. OLS repeated measures analyses assume that participants are measured at exactly the same time at each observation. In this study, however, women varied in their time between interviews. MLM allows greater precision in accounting for time across interviews and, thus, results in less error variance in the model (Snijders, 1996). In addition, MLM can model correlated outcomes (Barnett, Marshall, Raudenbush, & Brennan, 1993; Brennan et al., 2001; Bryk & Raudenbush, 1992; Supovitz & Brennan, 1997) and can accommodate small sample sizes (Woltman et al., 2012). For example, some have used MLM in sample sizes as small as 24 (Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991) and 54 (Hauser-Cram et al., 1999). Finally, MLM is flexible with missing data (Brennan et al., 2001;

Keeton, Perry-Jenkins, & Sayer, 2008; Kwok et al., 2008; Snijders, 1996). MLM makes use of any data that is available without having to impute or infer missing values. Thus, data can be used even from women who drop out of a longitudinal study (Snijders, 1996).

#### **Model Components**

**Independent variables.** A total of eight individual scales were averaged and combined to create three final scales. Specifically, the *physical IPV abuse* scale is the mean of the following: (a) average physical and sexual abuse (logged), (b) average stalking, and (c) average threats. The *nonphysical IPV abuse* scale is the mean of the following: (a) average emotional abuse, (b) average financial abuse, and (c) average procedural abuse. Finally, *the child harm* scale is the mean of the following: (a) average of harm to children during child-father contact. Correlation coefficients for all scales—original and combined—are presented in Tables 2-5.

For the individual and combined scales, means, standard deviations, skew, and kurtosis were reviewed. Working closely with Dr. Bybee, it was noted that the individual physical/sexual abuse scales were highly skewed, and they remained skewed after averaging with the other scales. Specifically the combined physical abuse scale skew statistics at each time point, in order, were .543, 1.82, 1.86, and 1.40. In order to reduce the impact of extreme scores, a log transformation was computed for the combined mean physical IPV abuse scale. Because zero was a meaningful score (e.g., a woman could report *no* physical abuse between time points), a constant was added to the calculation. A review of the descriptive statistics revealed a resulting improvement on skew and kurtosis. Specifically the log-transformed physical abuse scale skew statistics at each time point, in order, were -.362, .664, .885, and .787. However, given that

2011 <b>Charles 11</b>		,		,								
	Dep	PTSD	1	2	3	4	5	6	7	8	9	10
Mental Health												
Depression		.78**										
IPV and Child Harm												
1. Physical & Sexual	ns	ns										
2. Threats	ns	ns	.35*									
3. Stalking	.37*	.53**	.27	.35*								
4. Emotional	.27	ns	.34*	.30	.264							
5. Economic	.28	ns	ns	.27	ns	ns						
6. Procedural	.45**	.46**	ns	.30	.50**	ns	.60**					
7. Use of Children	.52**	.53**	ns	.43**	.34*	.44**	.37*	.43**				
8. Neglect & Abuse	.59**	.59**	.32*	.39*	.37*	ns	.40*	.47**	.50**			
Combined Scales												
9 Physical abuse	35*	35*	68**	79**	75**	40**	ทร	46**	44**	48**		
10 Nonphysical abuse	.55 /1**	.55 70*	• <b>UU</b>	37*	.15 37*	.тv 51**	113 <b>Q7</b> **	.то Q5**	.דד 57**	.то 51**	15**	
Child Horm	. <del>4</del> 1***	.4U**	115 28	.3/**	.J/* 36*	.31	.0/**	.03"" 51**	.52""	.31 <sup>m</sup>	.43**	60**
	.00	.03	.20	.42	.30**	.44	.43	.31	.70***	•19	.40	.00

Correlations Among Mental Health, IPV victimization, and Child Harm at the Baseline Interview

Note. Dep= Depression; \*\* p < .01; \* p < .05; no star p < .10

0	Dep	PTSD	1	2	3	4	5	6	7	8	9	10
Mental Health	•											
Depression		.74**										
IPV and Child Harm												
1. Physical & Sexual	.2841	ns										
2. Threats	.40*	ns	.35*									
3. Stalking	.43**	.29	.53**	.48**								
4. Emotional	.44**	.35*	.44**	.70**	.45**							
5. Economic	ns	ns	ns	.31	ns	ns						
6. Procedural	.57**	.36*	.35*	.62**	.57**	.50**	.30					
7. Use of Children	.43**	ns	.56**	.75**	.54**	.82**	.31	.58**				
8. Neglect & Abuse	.57**	ns	.50**	.66**	.45**	.48**	ns	.75**	.69**			
<b>Combined Scales</b>												
9. Physical abuse	.48**	.304	.66**	.83**	.86**	.68**	ns	.68**	.77**	.67**		
10. Nonphysical	.46**	ns	.34*	.75**	.50**	.840**	.63**	.79**	.79**	.66**	.71**	
abuse												
Child Harm	.50**	ns	.58**	.77**	.55**	.77**	.31	.67**	.98**	.83**	.80**	.80**

Correlations Among Mental Health, IPV victimization, and Child Harm at the Time Two Interview

Dep= Depression; \*\* p < .01; \* p < .05; no star p < .10

Correlations Among Mental Health, IPV victimization, and Child Harm at the Three Interview

0	Dep	PTSD	1	2	3	4	5	6	7	8	9	10
Mental Health												
Depression		.73**										
IPV and Child Harm												
<ol> <li>Physical &amp; Sexual</li> <li>Threats</li> <li>Stalking</li> <li>Emotional</li> <li>Economic</li> <li>Procedural</li> <li>Use of Children</li> <li>Neglect &amp; Abuse</li> </ol>	ns .35* ns .39* ns .32 .43* .46**	ns .43* ns .34 ns .43* .45** .49**	.34* .58** .62** ns ns .50** ns	.53** .69** .41* .68** .82** .52**	.43* ns .62** .47** .34	.58** .65** .83** .48**	.42** .50** .30	.73** .67**	.59**			
<b>Combined Scales</b> 9. Physical abuse 10. Nonphysical abuse Child Harm	ns .33 <b>.49**</b>	.31 . <b>39*</b> .51**	.67** .42* .43*	.84** .72** .80**	.89** .48** .47**	.69** .91** .79**	.29 .76** .48**	.70** .84** .79**	.75** .84** .96**	.46** .59** .79**	.69** .72**	.83**

Dep= Depression; \*\* p < .01; \* p < .05; no star p < .10

	Dep	PTSD	1	2	3	4	5	6	7	8	9	10
Mental Health	•											
Depression		.84**										
IPV and Child Harm	ı											
1. Physical & Sexual	ns	ns										
2. Threats	.31	ns	ns									
3. Stalking	ns	ns	ns	.54**								
4. Emotional	ns	ns	.37*	.68**	ns							
5. Economic	ns	ns	ns	.30	.29	.40*						
6. Procedural	.29	ns	ns	.75**	.45**	.54**	.54**					
7. Use of Children	ns	ns	ns	.77**	.42*	.79**	.38*	.68**				
8. Neglect & Abuse	.43*	ns	ns	.73**	ns	.50**	.44**	.77**	.66**			
<b>Combined Scales</b>												
9. Physical abuse	ns	ns	ns	.91**	.80**	.63**	.32	.67**	.74**	.58**		
10. Nonphysical	ns	ns	ns	.73**	.41*	.80**	.77**	.86**	.77**	.71**	.67**	
abuse												
Child Harm	ns	ns	ns	.78**	.35*	.73**	.51**	.75**	.84**	.80**	.71**	.82**

Correlations Among Mental Health, IPV victimization, and Child Harm at the Time Four Interview

Dep= Depression; **\*\*** p < .01; **\*** p < .05; no star p < .10

there were a large number of zeros, it was a concern that the log transformation would not be powerful enough to sufficiently address the skew. Therefore, a reciprocal transformation was also computed to determine whether it provided a better improvement over log transformations. The reciprocal transformation, however, worsened the skewness and kurtosis of the scale and, therefore, the log transformation was selected.

In order to separate the between-women and within-woman variance, the independent variables were centered. Two types of independent variables were created for these analyses time invariant (level two) and time varying (level one). The level two variables, for betweenwomen analyses, were women's baseline means on IPV physical victimization, IPV nonphysical victimization, and harm to their children.

The level one variables, for within-woman analyses, were women's means on the followup interviews, deviated from their baseline scores (i.e., deviation scores). In order to center these variables, women's baseline scores of IPV victimization and harm to/neglect of their children were subtracted from the scores reported at each interview. Thus, women's level one baseline means were changed to zero and the result for the follow-up interviews was deviation scores, which reflected the amount of change in abuse and harm to their children as compared to women's baseline interviews. This procedure has been successfully utilized in a variety of other studies (Beeble, Sullivan, & Bybee, 2011; Brennan et al., 2001; Hauser-Cram et al., 1999; Horney, Osgood, & Marshall, 1995). Means, standard deviations, and deviation scores for the independent and dependent variables are reported in Table 6.

Women's baseline scores were chosen as the intercept because all women shared common experiences during this period. Specifically, in order to be eligible for the study, women

	<u> </u>		<u> </u>	$r_{r} = r_{r}$				-
	Tin	ne 1	Ti	me 2	Ti	me 3	Tin	ne 4
	( <i>n</i> =	=40)	( <i>n</i>	=36)	$(n^{2})$	=34)	( <i>n</i> =	=34)
	М	SD	M	SD	М	SD	M	SD
Mental Health								
Depression	1.53	.75	.93	.73	1.09	.81	.89	.89
PTSD	1.47	.74	.91	.59	.86	.80	.80	.82
IPV and Child harm								
Physical abuse	1.68	.92	.73	.80	.64	.82	.49	.59
Nonphysical abuse	1.67	.70	1.17	.84	1.16	.96	1.05	.96
Child harm	1.67	.83	1.15	.91	1.11	.94	1.07	.94
<b>Deviation Scores (Chan</b>	ge over ti	ime, rela	ative to ba	seline)				
Physical abuse	.00	.00	43	.34	52	.40	59	.34
Nonphysical abuse	.00	.00	47	.66	47	.66	58	.74
Child harm	.00	.00	46	.67	50	.79	53	.76

Means and Standard Deviations for the Independent and Dependent Variables Across Time

must have experienced IPV victimization within the previous 6 months and, for the first time, were about to pursue a family court order for children they shared with the assailant. All women had decided that for the first time—within a similar timeframe—they were going to pursue a divorce, custody or visitation order for children they shared with an abusive partner or expartner. Thus, there are conceptual differences between the time before the baseline interview and the follow-up interviews. For example, the independent variables at baseline may be measuring abuse *prior to* women's decision to pursue a family court order. In addition, the question timeframe differed between the baseline interview and the follow-up interviews (i.e., women were asked about the prior 6 months to the baseline interview and the prior 4 months (approximately) during the follow-up interviews).

**Dependent variables.** In order to reduce error in the model, it is important to choose the appropriate modeling function. Thus, a review of how individual women changed over time on the dependent variables was performed. A simple line graph was created in excel for each

individual woman's mean on the dependent variables across all time points. The purpose of this exercise was to examine how individual women changed over time on their depression and PTSD symptoms, and whether change occurred in a relatively linear fashion or otherwise (Kwok et al., 2008). Women's individual patterns were somewhat linear, with a generally negative trend across time, but this varied among individuals. A log transformation (with a constant added) was conducted on the dependent variables to test whether this would improve the linearity of women's trajectories and, ultimately, the model fit. Use of a log transformation improved the appearance of linearity of women's patterns and, thus, allowed use of a linear modeling function to characterize the mild deceleration in change across time.

**Time slope**. Because MLM accounts for varying time between observations, a variable to account for this was created. Specifically, *time since the baseline interview* was calculated into months since the first interview (days since baseline / 31), including two decimal points. Months were chosen instead of weeks to be mindful of the range of numbers that would be in the model. Specifically, if the range between numbers is too large the model may have trouble converging.

Between-women effects on time slope. In order to test how women's baseline scores impacted women's depression and PTSD slopes over time, an additional variable was created. Specifically, the baseline mean score was multiplied by the time slope variable, creating a Time X Baseline interaction score for each independent variable.

#### **Analytic Process**

Two-level models were computed, where observations (Level One) were nested within individuals (Level Two). Level one reflects how an individual woman's experiences change throughout the course of the study; level two reflects between-person effects in order to examine how individual growth trajectories differ across women (Bryk & Raudenbush, 1987).

**Model type and setup**. The analyses were based on a random-effects model, which provides analysts with the ability to determine both mean trends and individual trajectories (Rabe-Hesketh & Skrondal, 2012). In random effects models, a coefficient is estimated for each unit (e.g., individual participants), whereas in fixed effects models these coefficients are then used to calculate an average for the whole sample. In other words, fixed effects determine the general trend across participants rather than focus on the variability within the sample; random effects models test the individual trajectories of participants. It is important to note that for each random effect tested, there are two components to the model: a fixed effect (i.e., the general trend or average across participants) and a random component (i.e., individual variability). In this study, the effects of independent variables were estimated as fixed effects, due to the limited number of observations for each participant.

The intercept and time slopes for each woman were estimated as random effects. The intercept, which can be set at any timepoint, is almost always estimated as random because of the variability across women at that timepoint. For this study, the baseline interview was the intercept. The number of timepoints is the maximum number of how many random effects can go into the model. Due to the small sample size and limited number of observations, it was likely that only one additional random effect would be possible in this study. Time slopes were chosen as the other estimated random effect because participants demonstrated variability in their trajectories over time. These slopes measure the slope of time as it affects the dependent variables. The purpose is to obtain a coefficient for the linear line that best captures each person's depression or PTSD trajectory across all four timepoints.

**Model building**. Multi-level modeling (MLM) with full information maximum likelihood (FIML) was performed using Stata 13.0 software using the mixed command. Two-

level models were computed with time nested within participants. A hierarchical approach, grounded in theory about the effects of the control and independent variables, was employed for each outcome variable. The dissertation author proceeded through the following general steps to determine the (1) unconditional model, (2) control variables model, (3) each independent variables model, (4) each independent and control variables model, and (5) full model.

In order to determine the specific effects to include in the models, the dissertation author employed the following process: (1) test the level 2 effect on the intercept, (2) test the level 2 effect on the slope and the intercept, (3) add time-varying level 1 effects. This process provided information regarding which effects were significant and should remain in future model building.

Effects that were at least marginally significant ( $p \le .10$ ) were included for further analyses. In addition, likelihood ratios using chi-square differences were computed to determine if the addition of the each new effect significantly improved model fit. Finally, effects excluded early in the process due to non-significance were included in later analyses to confirm that significant effects were not erroneously excluded.

As previously mentioned, there were three possible effects to include for each independent variable: (1) the effect of *baseline* reports on between-women differences *at baseline*, (2) the impact of the *baseline* scores on between-woman differences in *time slopes*, and (3) the effect of *change* in the *independent variable* over time on *change* in the *outcome variable* over time. Preliminary tests were conducted to determine the significance of these variables without the control variable. Specifically, the following nested models were tested: (1) baseline score; (2) baseline score and the impact of this baseline score on the time slope (i.e., Time X Baseline interaction); (3) baseline score, the impact of this baseline score on the time slope, and

the deviation scores (i.e., change in abuse over time); and (4) baseline score and the deviation scores.

Physical abuse and harm to their children demonstrated the same pattern of significance for depression and PTSD symptoms: The effect of the baseline score remained significant regardless of other variables included in the model, the impact of the baseline score on the time slope never produced significant results, and the deviation scores were significant. Furthermore, the addition of the deviation scores resulted in a significant model fit improvement over the inclusion of just the baseline score.

Nonphysical abuse followed a similar pattern with one exception: For depression (but not PTSD), during the confirmation check that no significant findings were erroneously excluded from the model, the baseline nonphysical abuse x time effect was significant. Thus, baseline reports of nonphysical abuse exerted a significant impact on between-women differences on the time slopes for depression. Therefore, this effect was included in the models predicting depression symptoms.

**Power analysis**. A power analysis was conducted using Optimal Design software (Raudenbush et al., 2001). The sample size of 41 provided power of .8 to detect (at p < .05) level 1 effects (e.g., within-woman change in abuse, baseline child abuse/use) on changing levels of depression and PTSD if the effect is large (d=>.80, which is equivalent to  $R^2 = .15$ , accounting for 15% of the variance in outcome), assuming that other level 2 covariates (predictors) in the model (e.g., father's contact with child) account for up to 20% of the variance in the outcome and that repeated assessments of depression and PTSD over time have an intraclass correlation of .2, which is moderate for repeated measures data.

The sample size of 41 provided power of .8 to detect (at p < .05) level 2 effects (e.g., baseline levels of abuse and child abuse/use) on both baseline depression and PTSD (i.e., the intercept) and on changing levels of depression and PTSD symptoms (i.e., the time slope) if the effect is very large (d=>1.10, which is equivalent to  $R^2 = .23$ , accounting for 23% of the variance in outcome), assuming that other level 2 covariates (predictors) in the model (e.g., father's contact with child) account for up to 20% of the variance in the outcome and that repeated assessments of depression and PTSD over time have an intraclass correlation of .2, which is moderate for repeated measures data. Thus, power analysis indicated that only large effects for within-woman and very large effects for between-woman would be detected.

**Unconditional models.** The purpose of an unconditional model is to assess change in the dependent variables over time. However, there are a variety of ways to set up an unconditional model and this section describes the process and final unconditional model.

Although the intercept is nearly always random, as individuals typically vary at baseline, other variables can be included in the model as random as well. As stated earlier, the time slopes were estimated as random in addition to the intercepts. However, it was important to test the significance of this by testing whether the addition of a random slope provided improved model fit versus a model with only a random intercept. For depression, the likelihood ratio (LR) test indicated that the inclusion of a random time slope significantly improved model fit with  $LR \chi^2$  (2) = 7.76, *p* =.005 compared with a model with only a fixed time slope; the same was found for PTSD, where  $LR \chi^2(1) = 3.81$ , *p* =.051. This suggested that individual time slopes varied significantly across individuals.

In addition, the default covariance structure assumes the variance is *independent*, with the covariance set to zero. Another option is to set the covariance to *unstructured*, which allows the

covariance to be nonzero. For both depression and PTSD symptoms, LR tests indicated that allowing the covariance to be unstructured did not result in model fit improvement. Therefore, the unconditional models for depression and PTSD symptoms included both a random effect for the intercept and time slope, with *independent* covariance. This suggests that, in this sample, individuals' intercepts and slopes were independent (i.e., their baseline scores and trajectories were not significantly correlated).

Finally, the intraclass correlation coefficient is the proportion of variance across all scores that is accounted for by their grouping within individuals (Kwok et al., 2008; Quené & van den Bergh, 2003). This index provides a useful way to determine how much variability there is between and within people. For depression symptoms,  $\rho = .411$ , SE=.090, 95% CI: .253-.591. For PTSD symptoms,  $\rho = .387$ , SE=.108, 95% CI: .206-.605. For both dependent variables, approximately 40% of the variance in scores could be explained by variance between women. The ICC for this sample was likely high because it was a longitudinal study and the exact same scales were used at each timepoint (Kwok et al., 2008).

#### **Effect Sizes**

Effect sizes were calculated using the coefficients and variances from the full model. To determine the effect size of the predictors on the intercept, effect sizes were calculated as  $2*\beta*SD_x/\sqrt{\tau_{00}}$ , or the coefficient of the predictor multiplied by its standard deviation at baseline and the number two, divided by the square root of the intercept variance from the unconditional model (Bryant & Zimmerman, 2002; Raudenbush & Liu, 2001). To determine the effect size of the predictors on the time slope, effect sizes were calculated as  $2*\beta*SD_x/\sqrt{\tau_{11}}$ , or the coefficient multiplied by its standard deviation at baseline the predictors on the time slope, effect sizes were calculated as  $2*\beta*SD_x/\sqrt{\tau_{11}}$ , or the coefficient multiplied by its standard deviation at baseline and the number two, divided by the square root of the slope variance from the unconditional model (Bryant & Zimmerman, 2002; Raudenbush & Liu, 2001).

Liu, 2001). To determine the effect size for time-varying effects, the coefficient was multiplied by the average standard deviation of the follow-up interviews (i.e., mean SD of T2-T4), and the number two, and divided by the square root of the residual variance from the unconditional model. Cohen's d (1988) was then used to categorize the effect size.

### **CHAPTER 4: RESULTS**

Although depression and PTSD are related, they represent different constructs. Therefore, the models and results for levels of depression are presented first, followed by levels of PTSD. Results are presented in Tables 7-9 for depression symptoms, and 10-12 for PTSD symptoms. As mentioned above, the natural log was used for both dependent variables. The coefficients and standard interpretations are reported in the text, in addition to the exponentiates of the coefficients. The exponentiates were calculated as e<sup>b</sup> and are reported in percentage terms.

#### **Depression Symptoms**

### **Model Components**

Preliminary testing resulted in the final model formats for the hypothesis testing. The *unconditional model* specifies independent variance and the *control variables model* includes baseline report of months since separation. Second, the simple models, which included the control variable and one independent variable, were tested. Specifically, each controlling for time since separation, (1) *the physical abuse* model tests the effects of baseline between-women differences and change in physical abuse over time; (2) the *nonphysical abuse* model tests the effects of baseline between-women differences, between-women differences on the baseline scores' impact on time slopes, and within-woman change in nonphysical abuse over time; and the (3) *child harm model* tests the effects of baseline between-women differences, and within-woman change in harm to their children over time. The results of each simple model are presented in Table 7. Lastly, the full model that included all effects was tested. All five models tested in the nested model-building process leading up to the full model are presented in Tables 8 and 9.

### **Unconditional Model**

As demonstrated by the unconditional model, the mean intercept at baseline was .807 (SE=.049, p= < .001) and there was a significant linear decline in depression over time ( $\gamma$  = - .023, SE=.006, p = <.001). The variance of the intercept (.041, SE=.018, 95% CI: .017-.098) and time slope (.0001, SE=.0003, 95% CI: .0002-.002) were also significant. This indicates there was a significant amount of variation between women's individual intercepts and trajectories and the average intercept and time slope. In addition, the random error variance was significant, which indicates there was significant variation between scores at each timepoint and women's individual models.

### **Control Variables Model**

Frequency of child-father contact at each timepoint was tested as a time-varying control variable. Results indicated that the frequency of child-father contact was nonsignificant in all models. With depression as the outcome variable, the following nested models were tested: (1) baseline contact; (2) baseline contact and the impact of this baseline score on the time slope; and (3) baseline contact, the impact of this baseline score on the time slope, and the deviation scores (i.e., change in contact over time). None of these variables was significant in any of the models. Results are reported from the final model, which includes all of the three following variables: Baseline contact ( $\gamma = .013$ , SE=.023, p=.564); impact of baseline contact on the time slope ( $\gamma = .002$ , SE=.003, p=.517); and the change of contact over time ( $\gamma = .028$ , SE=.026, p=.282).

Months since separation was tested as a time-invariant control variable. With depression symptoms as the outcome variable, the following nested models were tested: (1) baseline months since separation, and (2) baseline months since separation and the impact of this baseline score on the time slope. In regards to the first model, the baseline report of months since separation

was significant ( $\gamma = .134$ , SE=.041, p =.001). The variances of the constant (.024, SE=.015, 95% *CI*: .007-.079) and time slope (.0006, SE=.0003, 95% *CI*: .0002-.001) were also significant. Adding the baseline months since separation resulted in a significant model fit improvement over the unconditional model  $LR \chi^2(1) = 9.21$ , p =.002. In contrast, when the baseline score's impact on the time slope was added to the model it was not significant, and its inclusion did not result in a significant model fit improvement  $LR \chi^2(1) = 0.14$ , p =.705. Therefore, the *control variables model* with depression as the outcome variable includes one variable: women's baseline report of months since separation. On average, a 1-unit higher number of months since separation was associated with a .134 (p = .001) increase in depression—which translates to a 14.34% percentage increase ( $e^{.134}=1.1434$ ) for every 1-unit higher number of months since separation.

**Physical abuse model.** After controlling for baseline months since separation ( $\gamma = .101$ , *SE*=.039, *p* =.010), the addition of physical abuse significantly improved model fit over the *control variables* model *LR*  $\chi^2(2) = 27.46$ , *p* < .01. Baseline physical abuse was significantly associated with baseline depression symptoms. At baseline, a 1-unit higher score on physical abuse was associated with a .282 (*p* = .007) unit higher score on depression symptoms, or a 32.58% higher score. Within-woman changes in physical abuse were significantly associated with changes in women's depression symptoms over time. On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .477 (*p* = < .001) increase in depression symptoms, or a 61.15% increase.

**Nonphysical abuse model**. After controlling for baseline months since separation ( $\gamma =$  .110, *SE*=.036, *p*=.002), the addition of nonphysical abuse significantly improved model fit over the control variables model *LR*  $\chi^2(2) = 19.45$ , *p*=.000. Baseline nonphysical abuse was

significantly associated with baseline depression symptoms. At baseline, a 1-unit higher score in nonphysical abuse was associated with a .230 (p < .001) unit higher score in depression symptoms, or a 25.86% higher score. Within-woman changes in nonphysical abuse were significantly associated with changes in women's depression symptoms over time. On average, a 1-unit increase in nonphysical abuse, relative to baseline, was associated with a .166 (SE=.050, p = .001) increase in depression symptoms, an 18.06% increase. A surprising finding was that women's baseline reports of nonphysical abuse were related to depression time slopes in a negative direction. Specifically, at baseline, a 1-unit higher score in nonphysical abuse was associated with a .018 decrease in depression symptoms over time (SE=.050, p = .046), or a 2.37% decrease.

**Child harm model**. After controlling for baseline months since separation ( $\gamma = .084$ , *SE*=.033, *p* =.010), the addition of child harm significantly improved model fit over the control variables model *LR*  $\chi^2(2) = 31.63$ , *p* = < .001. Baseline child harm was significantly associated with baseline depression symptoms. At baseline, a 1-unit increase in child harm was associated with a .225 (*p* = < .001) unit higher score in depression symptoms, or 25.23% higher score. Within-woman changes in child harm were significantly associated with changes in women's depression symptoms over time. On average, a 1-unit increase in child harm, relative to baseline, was associated with a .178 (*p* = .001) increase in depression symptoms, or a 19.48% increase.

#### Full Model: IPV Victimization and Child Harm

Results for the nested models are presented in Tables 8 and 9. The unconditional and control variable models were Models 1 and 2, respectively. The physical abuse model was Model 3. As mentioned previously, the addition of physical abuse to the control variables model (i.e., Model 3) resulted in significant model fit improvement.

In order to build on this, nonphysical abuse was added to the physical abuse model (Model 4). After controlling for baseline months since separation ( $\gamma = .098$ , SE=.037, p=.007) and physical abuse, the addition of nonphysical abuse resulted in a significant improvement in model fit  $LR \chi^2(2) = 10.80$ , p=.013. With the addition of nonphysical abuse to the model, baseline physical abuse was no longer associated with baseline depression symptoms ( $\gamma = .154$ , SE=.113, p=.173); whereas baseline nonphysical abuse was ( $\gamma = .185$ , SE=.061, p=.002). A 1-unit higher score in nonphysical abuse was associated with a .185 higher score in depression symptoms at baseline, or a 20.32% higher score. In contrast, within-woman changes in physical abuse were significantly associated with changes in women's depression symptoms over time, but changes in nonphysical abuse were not ( $\gamma = .413$ , SE=.103, p = <.001;  $\gamma = .053$ , SE=.055, p = .343, respectively). On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .413 (p < .001) increase in depression symptoms, or a 51.13% increase.

After controlling for baseline months since separation ( $\gamma = .082$ , SE=.016, p=.067), physical abuse, and nonphysical abuse, the addition of child harm (Model 5) resulted in significant model fit improvement  $LR \chi^2(1) = 8.83$ , p=.012. Between-women effects of physical abuse at baseline remained nonsignificant ( $\gamma = .036$ , SE=.110, p=.746) and nonphysical abuse was no longer associated with baseline depression ( $\gamma = .092$ , SE=.064, p=.149) once child harm was added to the model. In contrast, baseline harm to children was significantly associated with depression symptoms. At baseline, a 1-unit higher score in child harm was associated with a .173 (SE=.055; p=.002) unit higher score in depression symptoms, or an 18.89% higher score. The effect of nonphysical abuse at baseline continued to exert a significant impact on time slopes in the full model ( $\gamma = .021$ , SE=.008, p=.016). For every 1-unit higher score on baseline nonphysical abuse, women's depression symptoms decreased by .021 over time, or 2.08%.

	Physica abuse n	l nodel	Nonphy abuse m	vsical nodel	Child h model	arm
	γ	SE	γ	SE	γ	SE
Between-person effects on baseline depression				1		
Intercept	.46***	.11	.29**	.11	.34***	.08
Months since separation at baseline	.10*	.04	.11**	.04	.08**	.03
Baseline score of independent variable	.28**	.11	.23***	.06	.23**	.04
Between-person effects on the linear slope of depression						
Intercept (slope)	00	.01	02*	.01	02*	.01
Baseline nonphysical abuse X Time	-	-	02**	.05	-	-
Within-person time-varying effects on depression						
Change in independent variable	.48***	.09	.17**	.05	.18**	.08

Fixed Effects for Simple Models Predicting Depression Symptoms Over Time: Between-Person and Within-Person Effects

*Note*. N=144 observations at Level 1; N=40 participants at Level 2; p < .10; p < .05, p < .01, p < .01, p < .01

Within-woman changes in physical abuse remained significantly associated with changes in women's depression symptoms over time. On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .335 unit (*SE*=.112; *p* = .004) increase in depression symptoms , or 39.79% increase. Neither within-woman changes in nonphysical abuse nor child harm were significantly related to changes in women's depression symptoms over time ( $\gamma$  = .021, *SE*=.059, *p*=.728;  $\gamma$  = .066, *SE*=.068, *p*=.331, respectively). Fixed effects from the full model are reported in Table 8, and random effects from the full model are reported in Table 9.

Effect sizes. Effect sizes were calculated for predictors in the full model (Bryant & Zimmerman, 2002; Raudenbush & Liu, 2000). In order to minimize misinterpretation of results, effect sizes were only calculated for significant effects. Four effects were significant in the full model: (1) the control variable on baseline depression symptoms, (2) child harm at baseline on baseline depression symptoms, (3) baseline nonphysical abuse on depression symptoms over time, and (4) changes in physical abuse on depression symptoms over time.

The control variable, baseline months since separation, demonstrated the largest effect with an effect size of 17.62. At baseline, child harm showed a very large effect 3.07. In contrast, although the nonphysical abuse baseline x time effect was significant in the full model, the calculated effect size was less than small, at -.01. Finally, physical abuse over time demonstrated a very large effect at 1.80.

### Summary

**Simple models**. All of the effects in the simple models were significant. Physical abuse, nonphysical abuse, and child harm were each independently related to higher scores of depression symptoms at baseline, with each controlling for baseline time since separation. Over time, increases in physical abuse, nonphysical abuse, and child harm were each independently

related to a subsequent increase in depression symptoms over time (after controlling for time since separation). It is important, however, to control for other forms of abuse. Therefore, a full model was tested to include all forms of abuse in one model.

**Full model**. The full model included baseline time since separation and all three forms of abuse in the same model. Baseline time since separation, the control variable, remained significant in the full model and demonstrated a very large effect on women's baseline depression symptoms. Although physical and nonphysical abuse were significantly related to women's depression symptoms at baseline in the simple models, once child harm was added to the model, neither form of IPV remained significantly related to women's depression symptoms at baseline. Men's harm to their children emerged as the only significant independent variable related to women's depression symptoms at baseline, and this was a very large effect. Although baseline reports of physical abuse were not significantly related to baseline depression symptoms, physical abuse over time demonstrated a significant and very large effect on women's depression symptoms.

In sum, results form the full model indicated that longer months since separation and higher levels of child harm at baseline were related to higher levels of depression symptoms at baseline. Higher levels of nonphysical abuse at baseline may be related to a decrease in depression symptoms over time, whereas increases in physical abuse over time was related to subsequent increases in women's depression symptoms over time.

Fixed Effects for Models Predicting Depression Symptoms Over Time: Between-Person and Within-Person Effects

	Model 1		Model 2		Model 3	3	Model 4	1	Model	5
	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE
Between-person effects on baseline dep	ression									
Intercept	.81***	.05	.63***	.07	.46***	.11	.27	.12	$.27^{\perp}$	.11
Baseline months since separation Baseline physical abuse Baseline nonphysical abuse Baseline child harm			.13**	.04	.10* .28**	.04 .11	.10** .15 .19**	.04 .11 .06	.08* .04 .09 .17**	.02 .11 .06 .06
Between-person effects on the linear slo Intercept (slope)	ope of depre 02***	ession .01	02***	.01	00	.01	.03 <sup>⊥</sup>	.02	$.03^{\perp}$	.02
Baseline nonphysical X Time							02*	.01	02*	.01
Within-person time-varying effects on Change in physical abuse Change in nonphysical abuse Change in child harm	depression of	over time	2		.48***	.09	.41*** .05	.10 .06	.34** .02 07	.11 .06 07

*Note*. N=144 observations at Level 1; N=40 participants at Level 2; p < .10; p < .05, p < .01, p < .01, p < .01

Model 1: Unconditional model

Model 2: Baseline months since separation

Model 3: Baseline months since separation, physical abuse

Model 4: Baseline months since separation, physical abuse, nonphysical abuse

Model 5: Baseline months since separation, physical abuse, nonphysical abuse, child harm

	Mode	11	Mode	Model 2		Model 3		14	Model 5	
Random Effects	Var	CI	Var	CI	Var	CI	Var	CI	Var	CI
Intercept (baseline)	.04	.0210	.02	.0108	.02	.0807	.08	.0106	.01	.0007
Time slope (linear)	.00	.0000	.00	.0000	.00	.0000	.00	.0000	.00	.0000
Residual variance	.08	.0610	.08	.0610	.06	.0408	.06	.0408	.06	.0407
Model comparisons	$\chi^2$									
Chi-square difference	test relativ	ve to prior m	odel							
-	-	-	9.21**		27.46*	**	$10.80^{\circ}$	*	8.83*	*

Random Effects and Model Comparisons for Full Model Predicting Depression

 $2, p \leq .03, \cdots p$  $\sim .01, \cdots p$ 

Var=Variance; CI=95% confidence interval

Model 1: Unconditional model

Model 2: Baseline months since separation

Model 3: Baseline months since separation, physical abuse

Model 4: Baseline months since separation, physical abuse, nonphysical abuse Model 5: Baseline months since separation, physical abuse, nonphysical abuse, child harm

### **PTSD Symptoms**

### **Model Components**

Preliminary testing resulted in the final model formats for the hypothesis testing. The *unconditional model* specifies independent variance and the *control variables model* includes baseline report of months since separation. Second, the simple models, which included the control variable and one independent variable at a time, were tested. Specifically, controlling for time since separation, (1) *the physical abuse* model tests the effects of baseline between-women differences and change in physical abuse over time; (2) the *nonphysical abuse* model tests the effects of baseline between-women differences, and within-woman change in nonphysical abuse over time; and the (3) *child harm model* tests the effects of baseline between-women differences, and within-woman change in harm to their children over time. The results of each simple model are presented in Table 10. Lastly, the full model that included all effects was tested. All five models tested in the nested model-building process leading up to the full model are presented in Tables 11 and 12.

#### **Unconditional Model**

As demonstrated by the unconditional model, the mean intercept at baseline was .790 (SE=.048, p=<.001) and there was a significant linear decline in PTSD over time ( $\gamma = -.028$ , SE=.006, p = <.001). The variance of the constant (.043, SE=.018, 95% CI: .019-.010) and time slope (.0004, SE=.0002, 95% CI: .0002-.001) were also significant. This indicates there was a significant amount of variation between women's individual intercepts and trajectories and the average intercept and time slope. In addition, the random error variance was significant, which indicates there was significant variation between scores at each timepoint and women's individual models.
## **Control Variables Model**

Frequency of child-father contact was tested as a control variable. Results indicate that the frequency of child-father contact was nonsignificant in all models. With PTSD as the outcome variable, the following nested models were tested: (1) baseline contact; (2) baseline contact and the impact of this baseline score on the time slope; and (3) baseline contact, the impact of this baseline score on the time slope, and the deviation scores (i.e., change in contact over time). None of these variables were significant in any of the models. Results are reported from the final model, which includes all of the three following variables: baseline contact ( $\gamma = -.04$ , *SE*=.022, *p*=.862); impact of baseline contact on the time slope ( $\gamma = -.002$ , *SE*=.003, *p*=.568); and the change of contact over time ( $\gamma = -.034$ , *SE*=.024, *p*=.157).

Months since separation was also tested as a control variable. With PTSD symptoms as the outcome variable, the following nested models were tested: (1) baseline months since separation, and (2) baseline months since separation and the impact of this baseline score on the time slope. In regards to the first model, the baseline report of months since separation was significant ( $\gamma = .091$ , *SE*=.043, *p*=.036). The variance of the constant (.035, *SE*=.016, *95% CI*: .014-.086) and time slope (.0004, *SE*=.0003, *95% CI*: .0001-.001) were also significant. Adding the baseline months since separation resulted in a significant model fit improvement over the unconditional model *LR*  $\chi^2(2) = 4.14$ , *p* = < .001. In contrast, when the baseline score's impact on the time slope was added to the model it was not significant, and its inclusion did not result in a significant model fit improvement over just the baseline score alone *LR*  $\chi^2(1) = 0.00$ , *p*=1.00. Therefore, the *control variables model* with PTSD symptoms as the outcome variable includes one variable: women's baseline report of months since separation. On average, a 1-unit higher number of months since separation was associated with a .091 (p = .036) higher score in depression, or a 9.53% higher score.

### **Simple Models**

**Physical abuse model**. After controlling for baseline months since separation ( $\gamma = .063$ , *SE*=.041, *p*=.123), the addition of physical abuse significantly improved model fit over the *control variables* model *LR*  $\chi^2(1) = 22.28$ , *p*=.000. Baseline physical abuse was significantly associated with baseline PTSD symptoms. At baseline, a 1-unit higher score in physical abuse was associated with a .217 (*SE*=.110, *p* = .049) higher score in PTSD symptoms, or a 24.23% higher score. Within-woman changes in physical abuse were significantly associated with changes in women's PTSD symptoms over time. On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .422 (*SE*=.088, *p* = < .001) increase in PTSD symptoms, or a 52.50% increase.

**Nonphysical abuse model**. After controlling for baseline months since separation ( $\gamma = .069, SE=.041, p=.088$ )., the addition of nonphysical abuse significantly improved model fit over the control variables model  $LR \chi^2(2) = 14.42, p=.001$ . Baseline nonphysical abuse was significantly associated with baseline PTSD symptoms. At baseline, a 1-unit higher score in nonphysical abuse was associated with a .149 (SE=.055, p=.007) higher score in PTSD symptoms, or a 16.07% higher score. Within-woman changes in nonphysical abuse were significantly associated with changes in women's PTSD symptoms over time. On average, a 1-unit increase in nonphysical abuse, relative to baseline, was associated with a .153 (SE=.049, p= < .001) increase in PTSD symptoms, or a 16.53% increase.

**Child harm model.** After controlling for baseline months since separation ( $\gamma = .047$ , *SE*=.039, *p*=.229)., the addition of child harm significantly improved model fit over the control

variables model  $LR \chi^2(2) = 25.64$ , p = .000. Baseline child harm was significantly associated with baseline PTSD symptoms. At baseline, a 1-unit higher score in child harm was associated with a .198 (*SE*=.046, p = .000) higher score in PTSD symptoms, or a 21.90% higher score. Within-woman changes in child harm were significantly associated with changes in women's PTSD symptoms over time. On average, a 1-unit increase in child harm, relative to baseline, was associated with a .190 (*SE*=.051, p = < .001) increase in PTSD symptoms, or a 20.92% increase.

#### Full Model: IPV Victimization and Child Harm

Results for the nested models are presented in Tables 11 and 12. The unconditional and control variable models were Models 1 and 2, respectively. The physical abuse model was Model 3. As mentioned above, the addition of physical abuse to the control variables model (i.e., Model 3) resulted in significant model fit improvement.

In order to build on this, nonphysical abuse was added to the physical abuse model (Model 4). Baseline months since separation, the control variable, was nonsignificant ( $\gamma = .060$ , SE=.040, p=.128). Additionally, physical abuse was no longer associated with baseline PTSD symptoms ( $\gamma = .103$ , SE=.122, p=.400) once nonphysical abuse was included in the model ( $\gamma = .111$ , SE=.060, p=.066). However, nonphysical abuse only demonstrated a marginally significant effect (an 11.74% increase in PTSD symptoms), and its inclusion to the model did not result in a significant model fit improvement,  $LR \chi^2(2) = 2.51$ , p=.113.

In contrast, within-woman changes in physical abuse were significantly associated with changes in women's PTSD symptoms over time, whereas changes in nonphysical abuse were not ( $\gamma = .060$ , SE=.054, p = .271). On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .352 (SE=, p = .001) increase in PTSD symptoms, or a 42.19% increase.

The final step was to include child harm in the model (Model 5). After controlling for baseline months since separation ( $\gamma$  = .045, *SE*=.038, *p*=.236), physical abuse, and nonphysical abuse, the addition of child harm resulted in significant model fit improvement, *LR*  $\chi^2$  (2) = 5.35, *p*=.021. Physical abuse remained unrelated to baseline PTSD symptoms ( $\gamma$ = -.020, *SE*=.123, *p* =.874) and nonphysical abuse was no longer marginally associated with baseline PTSD symptoms ( $\gamma$ = .020, *SE*=.067, *p*=.759) once child harm was added to the model. In contrast, baseline harm to children was significantly associated with PTSD symptoms. At baseline, a 1unit higher score in child harm was associated with a .169 (*SE*=.062, *p* = .006) higher score in PTSD symptoms, or 18.41% higher score.

Neither within-woman changes in nonphysical abuse nor child harm were significantly related to changes in women's PTSD symptoms over time ( $\gamma = .018$ , SE=.058, p=.761;  $\gamma = .099$ , SE=.066, p=.132, respectively). Within-woman changes in physical abuse, however, remained significantly associated with changes in women's PTSD symptoms over time. On average, a 1-unit increase in physical abuse, relative to baseline, was associated with a .267 (SE=.109, p=.002) increase in PTSD symptoms, or a 30.60% increase.

**Effect sizes.** Two effects were significant in the full model: (1) child harm at baseline on baseline depression symptoms, and (2) changes in physical abuse on depression symptoms over time. At baseline, child harm showed a very large effect at 1.91. Physical abuse over time demonstrated a large effect at 1.51.

# Table 10

Fixed Effects for Simple Models Predicting PTSD Symptoms Over Time: Between-Person and Within-Person Effects

	Physical abuse model		Nonphysical abuse model		Child har model	m
	γ	SE	γ	SE	γ	SE
Between-person effects on baseline PTSD						
Intercept	.555***	.11	.47***	.11	.422***	.09
Months since separation at baseline	.06	.04	$.07^{\perp}$	.04	.05	.04
Baseline score of independent variable	.22*	.11	.15**	.06	.20***	.05
Between-person effects on the linear slope of PTSD	01	01	02**	01	02**	01
Intercept (slope)	01	.01	02***	.01	02***	.01
Within-person time-varying effects on PTSD						
Change in independent variable	.42***	.09	.15**	.05	.19***	.05

*Note*. N=144 observations at Level 1; N=40 participants at Level 2; p < .10; p < .05, p < .01, p < .01

## **Summary**

**Simple models**. All tested effects in the simple models were significant. Physical abuse, nonphysical abuse, and child harm were each independently related to higher scores of PTSD symptoms at baseline, with each controlling for baseline time since separation. Results indicate that, at baseline, after controlling for time since separation, higher between-women differences in physical abuse, nonphysical abuse, and harm to their children related to higher scores of PTSD symptoms. Over time, increases in physical abuse, nonphysical abuse, and child harm were each independently related to subsequent increases in PTSD symptoms over time (after controlling for time since separation).

**Full models**. The full model included baseline time since separation and all three forms of abuse in the same model. Baseline time since separation, the control variable, was no longer significant in the full model. Although physical and nonphysical abuse were significantly related to women's PTSD symptoms at baseline in the simple models, once child harm was added to the model, neither form of IPV remained statistically significant to women's PTSD symptoms at baseline. Men's harm to their children emerged as the only significant independent variable related to women's PTSD symptoms at baseline, and this was a very large effect. Although baseline reports of physical abuse were not significantly related to baseline depression symptoms, physical abuse over time demonstrated a significant and very large effect on women's depression symptoms over time.

In sum, results form the full model indicated that higher levels of child harm at baseline was related to higher levels of PTSD symptoms at baseline, and that increases in physical abuse over time was related to subsequent increases in women's PTSD symptoms over time.

## **Summary of Findings**

Taken together the findings suggested that abusive men's IPV perpetration and child harm were positively related to women's reports of depression and PTSD symptoms. It was hypothesized that between-women differences in IPV victimization (physical and nonphysical) and harm to their children at baseline would be related to differences in depression and PTSD scores at baseline and across time. It was also hypothesized that changes in IPV victimization (physical and nonphysical) would be related to subsequent changes in depression and PTSD symptoms, in the same direction, over time.

The hypothesis that abusive men's physical and non-physical IPV perpetration would be related to higher scores of women's depression and PTSD symptoms at baseline was not confirmed in this study. In contrast, the hypothesis that men's use of, and harm to children, would be related to women's depression and PTSD symptoms was supported. Men's use of, and harm to the children emerged as statistically related to women's initial reports of depression and PTSD symptoms. Once men's harm to children was accounted for in the model, physical and nonphysical IPV victimization were no longer significant. Additionally, men's harm to their children had a very large effect on women's depression and PTSD symptoms.

In contrast, the hypothesis that women's baseline reports of depression and PTSD symptoms would impact women's depression and PTSD trajectories over time was mostly disconfirmed. The one exception was that men's nonphysical abuse perpetration at baseline had a significant, but negative, relationship with women's depression over time. In other words, when women reported higher levels of nonphysical IPV at baseline, they also they reported a decrease in depression symptoms over time.

Finally, the hypothesis that men's ongoing physical IPV perpetration would be positively related to women's depression and PTSD over time was confirmed. There was a very large effect; as men perpetrated physical abuse across the course of the study, women's depression and PTSD scores increased in the same direction. This hypothesis was not confirmed for nonphysical abuse or harm to their children.

# Table 11

Fixed Effects for Models Predicting PTSD Symptoms Over Time: Between-Person and Within-Person Effects

	Model 1		Model 2		Model 3		Model 4		Model 5	
	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE
Between-person effects on baseline P	ГSD									
Intercept	.79***	.05	.67***	.07	.55***	.11	.47***	.12	.47***	.12
Baseline months since			.09*	.04	.06	.04	.06	.04	.05	.04
separation										
Baseline physical abuse					.22*	.11	.10	.12	02	.12
Baseline nonphysical abuse							.11	.06	.02	.07
Baseline child harm									.17**	.06
Between-person effects on the linear s	lope of PT	SD								
Intercept (slope)	03***	.01	03***	.01	01	.01	01 <sup>⊥</sup>	.01	01 <sup>⊥</sup>	.01
Within-person time-varying effects or	PTSD ove	er time								
Change in physical abuse					.42***	.09	.35**	.10	.27*	.11
Change in nonphysical abuse							.06	.05	.02	.06
Change in child harm									.10	.07

*Note*. N=144 observations at Level 1; N=40 participants at Level 2; p < .10; p < .05, p < .01, p < .01, p < .01

Model 1: Unconditional model

Model 2: Baseline months since separation

Model 3: Baseline months since separation, physical abuse

Model 4: Baseline months since separation, physical abuse, nonphysical abuse

Model 5: Baseline months since separation, physical abuse, nonphysical abuse, child harm

# Table 12

	Mode	11	Mode	12	Mode	13	Mode	14	Mode	15
	Widue	11	Widde		Widde	15	Widue	1 7	WIGue	15
Random Effects	Var	CI	Var	CI	Var	CI	Var	CI	Var	CI
Intercept (baseline)	.04	.0210	.035	.0109	.03	.0107	.03	.0107	.02	.0006
Time slope (linear)	.00	.0000	.00	.0000	.00	.0000	.00	.0000	.00	.0000
Residual variance	.07	.0509	.07	.0509	.06	.0408	.06	.0407	.05	.0407
	2									
Model comparisons	$\chi^2$									
Chi-square difference	test relativ	ve to prior m	odel							
-	-	-	4.14**	*	22.28*	**	2.51		5.35*	
N=144 observations at Level 1	; N=40 par	ticipants at Lev	el 2; * $p \le .$	05, <b>**</b> <i>p</i> < .01	, *** <i>p</i> <.00	)1				

Random Effects and Model Comparisons for Full Model Predicting PTSD

Var=Variance; CI=95% confidence interval

Model 1: Unconditional model

Model 2: Baseline months since separation

Model 3: Baseline months since separation, physical abuse

Model 4: Baseline months since separation, physical abuse, nonphysical abuse Model 5: Baseline months since separation, physical abuse, nonphysical abuse, child harm

#### **CHAPTER 5: DISCUSSION**

The purpose of this longitudinal study was to address a gap in the literature regarding how abusive men's harm to children impacts the depression and PTSD symptoms of children's mothers. Results indicated that some women experienced ongoing PSV and that partner-abusive men also used or harmed their children during the course of the study. Consistent with prior research, ongoing physical violence was related to women's depression and PTSD symptoms over time. This study also contributes to the literature by providing initial evidence that men's use of, or harm to, their children contributes to mothers' depression and PTSD symptoms. To date, this is the first known study that has demonstrated these relationships among IPV survivors quantitatively and longitudinally.

#### **Intimate Relationship Dissolution**

Intimate relationship dissolution is related to depression for men and women (Rhoades et al., 2011). In the current study, the longer women had been separated from their assailant, the higher their depression scores were when they entered the study. On the surface, this appears to contradict previous research, which has shown that psychological distress tends to abate over time (Sbarra & Emery, 2005), or that mental health improves post-divorce when participants were unhappy in their intimate relationships (Kamp Dush et al., 2008). However, women in this study had just started, or were about to start, court proceedings related to divorce and/or custody. The stress as a result of court engagement and/or anticipation of court engagement may partially explain women's initial depression reports. In addition, although one assumption made by some researchers studying IPV and intimate relationship dissolution is that violence will cease with intimate relationships (Emery, Joley, & Wu, 2010), many women experienced PSV during the

course of the study. The cumulative impact of ongoing PSV, or a recent escalation in PSV, may have impacted women's initial reports of depression and PTSD symptoms.

#### The Impact of IPV on IPV Survivors' Depression and PTSD Symptoms

The findings of this study provide further empirical evidence regarding the relationship between IPV exposure and negative mental health outcomes (Dutton et al., 2005; Hedtke et al., 2008; Logan et al., 2006; McFarlane et al., 2005; Mechanic et al., 2000; Wingood et al., 2000; Woods et al., 2000; Helfrich et al., 2008; Theran et al., 2006; Matlow & DePrince, 2013; Coker et al., 2002; Coker et al., 2005; Nicolaidis, 2004). Specifically, this study demonstrated that higher levels of IPV among a sample of IPV survivors were related to higher levels of depression and PTSD symptoms. That IPV is detrimental to survivors' mental health, however, is well established. Therefore, recent efforts have focused on establishing a multidimensional understanding of IPV that considers the: (1) short- and long-term impact of abuse, and (2) relative or cumulative impact of different types of IPV.

The timing of abuse is an important factor to measure when studying IPV. When abuse desists, depression and/or PTSD may decrease or remain stable over time (Hedtke et al., 2008). In this study, initial exposure to IPV did not significantly relate to women's reports of PTSD symptoms over time. Surprisingly, however, higher nonphysical abuse at the first interview was significantly related to *decreases* in depression over time. For many women, the first interview captured information during a recent separation, or a time leading up to women's decision to leave. For others, it may have been a time of increased or ongoing abuse that influenced women's decisions to pursue a family court order. Although ongoing abuse continued over the course of the study, many women were no longer in an intimate relationship with the assailant during the follow-up interviews, and/or were taking civil action in order to deal with the

problems caused by the assailant. Thus, depression over time may have decreased because the nonphysical abuse was particularly high or stressful at the first interview, and began to abate over time. However, although this effect was statistically significant, the effect size was less than small. Thus, this finding should be interpreted with caution.

In this study, increases in nonphysical and physical IPV over time were each related to subsequent increases in depression and PTSD symptoms over time, when only accounting for time since separation. This supports previous research, which found that recent victimization had a stronger impact on mental health outcomes than more distal victimization experiences (Woods, 2000; Bogat et al., 2003; Beeble et al., 2001; Bonomi et al., 2006). Once abuse ends, the negative mental health outcomes tend to be short-lived (Anderson et al., 2003; Campbell et al., 1995; Beeble et al., 2011), although this is not always the case (Anderson et al., 2003; Bogat et al., 2003).

Physical and nonphysical abuse were studied because abusive men use a variety of tactics to maintain power and control over their partners and ex-partners. In this study, once all forms of abuse were included in the model, only changes in physical abuse was related to subsequent changes in depression over time. Previous research on the relative impact of different forms of abuse is mixed. Some researchers found that physical and nonphysical abuse are independently related to depression (Beeble et al., 2001; Bonomi et al., 2006; Theran, Sullivan, Bogat, Sutherland Stewart, 2006), that physical abuse has an impact on women's depression over and above nonphysical abuse (Campbell et al., 1997), and that once nonphysical abuse is accounted for, physical abuse becomes a nonsignificant predictor of depression (Mechanic et al., 2008; Pico-Alfonso et al., 2006; Dutton et al., 1999; Coker et al., 2002). Furthermore, stalking and sexual violence, has been particularly linked to PTSD symptoms (Coker, Weston et al., 2005).

Theran and colleagues (2006) found that emotional and physical abuse contributed to survivors' reports of depression among women who were currently in a relationship with their assailant. For women who were no longer in a relationship with their assailant, however, only physical abuse was related to their reports of depression. This may explain why, in this study, women's initial reports of nonphysical abuse were related to depression and PTSD symptoms for the first interview, whereas physical abuse was not. Instead, physical abuse over time was related to changes in depression and PTSD. Theran and colleagues (2006) reasoned that:

It may be that after the relationship has ended, the controlling aspects of the emotional abuse cease to have as much impact as physical abuse, whereas when the relationship is ongoing, both emotional and physical abuse influence psychological well-being. In addition, aspects of emotional abuse, such as ridicule and insults, are likely more painful in the context of an ongoing relationship." (p. 963)

The findings of this study further contribute to a robust body of research that has established that IPV victimization is related to an increased risk of depression and PTSD, particularly when abuse is more recent and frequent. Additionally, multiple forms of abuse are related to depression and PTSD, and may each have an independent effect on mental health outcomes and how long the effect lasts. However, many researchers continue to focus most heavily on physical IPV, with a more recent increased focus on emotional or verbal abuse. Research on stalking and sexual IPV is also increasing. While these strides are an improvement and will surely improve our ability to understand and research the complexity of IPV, there remains an important gap: abusive men's harm to their children. It is this gap that this study addressed.

#### The Impact of Harm to Children on Women's Depression and PTSD

Partner-abusive men not only perpetrate ongoing PSV, but as this study documented, they also use or harm shared children post-separation. Prior quantitative research has established that there is an overlap between men's partner abuse and child abuse; however, some of this research focuses on the time when the children's parents are together (McDonald et al., 2006). Partner-abusive men's harm to their children during post-separation periods is largely underresearched and tends to be studied using qualitative methods.

Qualitative accounts from survivors provide compelling documentation that partnerabusive men use and harm their children post-separation. This abuse tends to be particularly salient in the child custody and family court context (Bemiller, 2008; Hardesty et al., 2008; Slote et al., 2005; Wuest et al., 2003; Hardesty & Ganong, 2006; Harrison, 2008). What is missing from many of these studies, however, is a direct inquiry on how men's ongoing harm to their children affects women's mental health.

This study demonstrated that abusive men's harm to their children negatively impacted women's depression and PTSD symptoms. This relationship was particularly evident when women entered the study, as women who reported higher levels of harm to their children at the first interview also reported higher levels of depression and PTSD symptoms. This is the first known quantitative study of this relationship to date. Importantly, this relationship was found even after accounting for physical and nonphysical IPV, suggesting that harm to their children may be a critical dimension of abuse to include in future research.

#### **Strengths and Limitations**

The results of this study must be considered within the context of its limitations. First, this study had a small sample size, which has several implications for interpretation. Power

analysis showed that there was only enough power to find very large effects for between-women differences, and large effects for within-woman changes over time. It is possible that some of the nonsignificant findings were due to lack of power. Because men's IPV victimization tactics are highly related, multicollinearity is a concern and there was not enough statistical power to fully parse out the unique effects among all forms of abuse. In addition, having such a small sample could cause issues with overfitting the model. Furthermore, a small sample also has implications for calculating effect sizes, particularly with multilevel modeling. Effect size calculations are not as precise or reliable in smaller samples, as compared to larger samples (Slavin & Smith, 2008). Currently, there is no widely accepted standard method to calculate effect sizes in MLM, and each method has limitations (Feingold, 2009). For example, baseline months since separation demonstrated a very large effect on women's baseline depression symptoms. Most women had been separated for six months or less at baseline, however, there were some outliers where women had been separated for years. Given that the standard deviation is used to calculate the effect size, it is likely that this skew influenced the effect size. Therefore, findings must be interpreted with caution and future research with larger samples is needed.

Second, the programs through which we recruited participants were unable to collect information on clients that may have met our study criteria but were either not informed of the study or refused to participate. Therefore, the degree to which our sample was representative of population of clients that met our eligibility criteria was unknown.

Third, our sample is mostly white women and the experiences of women of color are not well represented in this study. Future research on this topic should ensure that the voices of women of color are included in the study.

Finally, all women in this sample sought services from domestic violence agencies.

Women who seek services are more likely to have lower incomes and higher rates of IPV than women who do not seek services (Anderson et al., 2003; Dutton et al., 2005). They may also be more likely to experience intimate terrorism than other forms of violence (M. P. Johnson et al., 2014). As a result, there are limitations to the generalizability of this study, especially to community samples. Future research with a broader and more inclusive sampling methodology is recommended.

There were several strengths of this study. First, although recruiting from a shelter sample has limitations for generalizability, such a sample also adds strength to the study. Specifically, given that the sample size was small, it was a strength to have a targeted sample of women that experienced the phenomenon under study—abusive partners and ex-partners that perpetrated IPV and/or harm to their children. Although this study had a small sample size, an analytic technique was chosen that could both accommodate small sample sizes and make use of all available data. In addition, the impact of men's harm to their children on women's depression and PTSD is an important, but largely underresearched, topic. Not only was this the first quantitative study on this topic, but it was also the first longitudinal design on this topic known to the author. This preliminary study tested both cross-sectional and longitudinal hypotheses, and provided initial evidence that this form of abuse is an important dimension of IPV to study, particularly as it relates to mothers' depression and PTSD symptoms.

#### **Conclusions and Future Implications**

#### A Call for Integrated Gender-Based Research

This study provides support for the call that an integrated approach to gender-based violence is needed (Klevens, Simon, & Chen, 2012), particularly within the child maltreatment

and IPV fields. In response to deeply embedded systems of oppression, researchers began to document the negative effects of men's intimate partner violence to demonstrate that it is a public health and societal concern. Unfortunately, this research became quite siloed, with one area focusing on the negative effects of IPV on survivors' health, and the other demonstrating the negative impact of witnessing IPV (and/or child maltreatment) on their children. On the one hand, this facilitated the recognition that IPV and child abuse were problems that should be addressed by the community. Unfortunately, these two gendered problems are often studied, at best, separately or, at worst, in a deficit-orientated way that places disproportionate blame or responsibility on mothers.

We know that when men abuse their partners they are more likely to harm their children or, that when children are abused at home then it is also more likely that their mothers are also abused. Yet, child maltreatment research too often neglects to include measures of IPV. Similarly, while research on IPV often includes demographic information such as whether or not women share children with their assailant, there is little quantitative measure of men's harm to their children.

Increasingly, mothers have become the focus of research investigations on child maltreatment—as perpetrators or facilitators of child abuse. For example, often viewed from a deficit-oriented lens, the impact of mothers' mental health on their parenting ability and/or children's mental health became a common study focus in child maltreatment. Generally speaking, some research has shown that mothers' depression contributes to negative outcomes for their children. However, studies also fail to measure IPV at all, focus on physical IPV only, or measure IPV without measuring harm to children (McDonald et al., 2011). If men are more likely to harm their children when they harm their partners or ex-partners, and both negatively

impact mothers' mental health, then it would seem critically important to account for both in studies attempting to demonstrate the relationship between maternal mental health and child outcomes.

Perhaps even more concerning is research that promotes child-father contact above all else, which often has serious methodological flaws in terms of IPV measurement. Based on one study, some researchers suggested it was better for abusive men to have more access to their children post-separation, because seeing their abusive father had a buffer effect against the negative effects of their fathers' abuse. Yet, researchers only measured physical and emotional IPV against children's mothers—they did not even account for fathers' perpetration of child abuse (Hunter & Graham-Bermann, 2013).

#### A Call for a More Multi-Dimensional Understanding of Abuse

Even when studies integrate IPV and child maltreatment, the IPV under investigation is often operationalized as severe physical violence (Klevens et al., 2012). Research on IPV has become increasingly multi-dimensional, but there still tends to be a larger focus on physical and emotional abuse compared to other tactics, although stalking and sexual assault IPV is becoming increasingly common in the literature. In addition, emerging research on economic abuse (Adams et al., 2008) is becoming more prominent. Like all of these forms of abuse, men's harm to children is an important dimension to include in future child maltreatment and IPV research.

#### A Call for More Focus on Post-Separation Periods

The assumption that ending intimate relationships is the most effective solution for addressing IPV persists. More research is needed on post-separation periods, however, as it is well documented that men's IPV perpetration does not necessarily end with intimate relationships. Post-separation violence is a largely underresearched topic, even though evidence

indicates that it is important. Ongoing abuse post-relationship may have a unique effect on survivors' mental health compared to abuse that occurs during their intimate relationships (Theran et al., 2006). PSV involves use of or harm to children (Beeble et al., 2007; Hardesty & Ganong, 2006; Hayes, 2012). Although many women leave an abusive relationship, some research indicates that a portion of women later continue their intimate relationships and that leaving is better understood as a process (D. K. Anderson & Saunders, 2003). Although important factors such as income and employment are accounted for, systematic study of men's use of and harm to children post-separation is often missing from these studies (Lacey et al., 2011). Finally, some argue that PSV is central to how we define and understand IPV (M. P. Johnson et al., 2014).

## **Practical Implications**

This is a preliminary study with limited statistical power and, therefore, the author must remain cautious about using the results to make recommendations for policy practice. Instead, the results raise questions about current child protective services (CPS) and family court policy. While it is useful to study IPV and harm to children at the family level, it is also important to investigate the community- and organization-level factors that have an impact on IPV and harm to children.

Research on IPV and child maltreatment facilitated the recognition that IPV and child abuse were problems that should be addressed by the community. However, there were also unintended negative consequences for IPV survivors. First, survivors became responsible for their partners' IPV and child maltreatment, leading to policies such as *failure to protect*. Survivors are often faced with few options, and threatened with the loss of custody if they do not end their intimate relationships with their partner and stop their partners' abuse. Yet, these

policies may place survivors and their children at increased risk for ongoing harm (Douglas & Walsh, 2010, 2011; Hester, 2010; S. P. Johnson & Sullivan, 2008).

Second, family court makes custody decisions based on the best interests of the children. No universal definition or criteria for this exists, but domestic violence, child abuse, and parental mental health are typically considered as relevant factors to consider (Children's-Bureau, 2012). Yet, several studies have documented the poor and blaming treatment of abused mothers by family court officials, abused mothers' mental health distress being used against them by court officials, and unsafe court orders that facilitate contact between children and abusive fathers (Beck, Walsh, & Weston, 2009; Harrison, 2008; Jaffe, Johnston, Crooks, & Bala, 2008; Rivera, Sullivan, & Zeoli, 2012; Rivera, Zeoli, & Sullivan, 2012; Zeoli, Rivera, Sullivan, & Kubiak, 2013). Research has already shown that men's perpetration of IPV contributes to negative mental health outcomes of their partners and ex-partners, and that when men perpetrate IPV they are also more likely to perpetrate child abuse. This study now provides preliminary evidence that men's harm to children may also contribute to depression and PTSD symptoms among women. Therefore, men's perpetration of abuse puts their ex-partners at a disadvantage in custody cases that consider heavily the mental health symptoms of mothers. Future research should investigate these relationships further to better inform CPS and family court policy and practice.

#### Conclusion

Gender-based violence is a social problem that researchers, advocates, and policy makers must continue to address. Although this study focused on the impact of victimization on women's depression and PTSD symptoms, the purpose was to provide preliminary evidence of an underresearched abusive tactic that may lie at the center of many survivors' lives—harm to their children. Women actively resist gender-based violence, and this resistance should become

more integrated in our work (Hollander, 2005). Additionally, survivors are incredibly resilient and can recover from abuse (K. M. Anderson, Renner, & Danis, 2012). Ongoing violence, particularly as it relates to children, however, threatens this recovery (Wuest et al., 2003). Partner-abusive men's harm to children as a form of abuse against their ex-partner must be researched further to provide more adequate support and resources for mothers and their children to live free of intrusion by their abusive ex-partners. APPENDICES

# Appendix A

## **Recruitment Form**

# Introduction to the Research Study

We are partnering with Michigan State University to do a research study to learn more about the needs and experiences of women with children who are either divorcing their abusive husband or seeking an initial custody and visitation order through Macomb County Family Court. We are looking for volunteers who:

- Have children *and* are either divorcing their husbands or seeking initial custody/parenting time orders through Macomb County Family Court
- Are survivors of domestic violence by the fathers of their children in the past 6 months
- Can participate in four interviews over the next year

## [IF CLIENT MEETS ELIGIBILITY CRITERIA, CONTINUE BELOW]

The interviews are completely private and confidential. In the interview, you will be asked about abuse you may or may not have experienced in your relationship as well as questions about how you have been feeling and the types of needs you have, and your experiences with family court. To compensate you for your time you will be paid a total of \$130 over the course of the study; you will be paid \$25 for the first interview, \$30 for the second interview, \$35 for the third interview, and \$40 for the last interview. Your decision whether or not to participate will in no way affect the services you receive from Turning Point.

## Agree to be Contacted

Can I have a research team member contact you to tell you more about the project and schedule a time to interview you? Yes <u>NO</u>

# YOU HAVE MY PERMISSION TO CONTACT ME USING THE INFORMATION

## **BELOW:**

Name:		
()	()	
()	_	
Cell phone number	Work phone number	Home phone
number		
( )	Whose number is this?	
Other phone number		
Email:	Current Address:	
WHERE is the best place to r	reach vou?	
willing is the best place to i	cuch you.	

WHEN are good times to call you?

Are there any times that we should **<u>NOT</u>** call you?

We want to make sure that our phone call doesn't place you at risk, so would you like us to: \_\_\_\_ not leave a message (check all that apply) block caller id

no preference/not at risk

If you do not answer the phone when we call, is there anything else you would like us to do or say?

If we cannot reach you through your information above, can we use your emergency contact information in your

Turning Point/Lakeshore Legal Aid file as an alternate contact? Yes \_\_\_\_\_ NO\_\_\_\_\_

# Appendix B

Figure 2.

Flyer Used to Recruit Participants

Michigan State University is conducting a research study to better understand the experiences of women seeking a child custody order and/or divorce through family court.



# We are looking for women who are over 18 and who:

- Speak English
  - English does NOT have to be your first language
- Have children
- Experienced verbal, emotional, financial, physical, or sexual abuse from the father of their children within the last 6 months
- Are about to go through family court for EITHER:
  - $\circ$  A divorce
  - An initial custody/parenting time order

# Eligible women will be interviewed 4 times over 1 year, and the interviews:

- Are PRIVATE and CONFIDENTIAL
- Are done by female interviewers
- Occur in a location of your choice—we can come to you
- Pay cash for your time
- Have no impact on any services you receive

# If you are interested in participating, please contact Echo Rivera at 517-XXX-XXXX or XXX@gmail.com

# Appendix C

Screening Protocol

Hi, is \_\_\_\_\_\_, my name is \_\_\_\_\_\_, my name is \_\_\_\_\_\_ and I'm calling from Michigan State University. I was given your name and contact information by XXXXX from XXXXXXX. You stated that you may be interested in participating in a study about your experiences with family court.

1) Is this a good time to talk for just a moment?

 $\frac{No}{IF NO: Find out when would better/safer and/or alternative contact information:}$ 

\_\_\_\_Yes

2) Are you about to start a divorce, custody or parenting time/visitation case in Macomb County family court?

\_\_\_\_\_Yes \_\_\_\_\_No (If no, skip to ineligible)

3) Before we go any further, I need to ask if you are over 18 years old.

\_\_\_\_\_Yes \_\_\_\_\_No (If no, skip to ineligible)

So I just want to go over the information about the study again. The study involves four private, face-to-face interviews over the course of one year with a female interviewer in a location of your choice. There will be an interview at the beginning of the study, followed by three more interviews, each occurring four months after the last. If you meet eligibility requirements, you will be one of 100 women to participate in the study. The interviews take approximately one to two hours to complete and we will pay you \$25 for your first completed interview, \$30 for the second, \$35 for the third, and \$40 for the fourth. All information given in the interview will be kept confidential to the maximum extent allowable by law.

We want to talk to women who are just starting the legal process of obtaining a divorce or a child custody determination from family court. We'd like to talk to women about their experiences with child custody and visitation determinations and their experiences with these plans in practice. We are especially interested in learning ways to increase the safety of you and your child. This is why we want to talk to you over the course of a year.

4) Did you experience emotional, financial, physical, or sexual abuse from the father of the child for whom you are pursuing a custody/visitation order?

\_\_\_\_\_Yes \_\_\_\_\_No (*If no, skip to ineligible*)

5) Are you willing to talk with us about your experiences with child custody cases and

decisions and safety issues?

\_\_\_\_Yes \_\_\_\_No

## **To determine eligibility: The prospective participant must answer yes to questions 2 through 5.** (*If no to questions 2 through 4 skip to ineligible.*)

*If the person is ineligible:* Kindly explain that she did not meet criteria for the women being interviewed at this time. Thank her for her time in talking to you, and wish her a pleasant day.

*If the person is eligible for the study:* If the woman is interested in the study, explain that you need to obtain some additional contact information from her. Remind the woman to be sure to give us contact information that she feels comfortable with us calling or writing to in order to remind her about the appointment. An interview can be scheduled at this time. Interviews should be set up at the woman's convenience and all possible interview locations should be discussed.

# **Contact information script:**

1. Review contact/address information provided in the RECRUITMENT FORM for accuracy

*NOTE: If she indicated that we can leave a message, ask if we can identify ourselves as researchers from MSU?* 

# 2.. Interview Time, Location, and Interviewer:

Your interview will be {INTERVIEWER NAME] on [DATE} at [LOCATION]. I will give her your name and phone number, and she will call you the day before just to confirm and make sure that still works for you.

If you have any questions or concerns, or would like to reschedule your interview, you can call me at our office and just ask for Echo. The number is 517-XXX-XXXX.

## Appendix D

Interview Sections Relevant to Dissertation Study

# **DEMOGRAPHIC AND DESCRIPTIVE VARIABLES**

Thank you again for agreeing to participate in this study. I'd like to begin by just asking some general demographic questions so we know who is in our sample.

What is your race?

BLACK / AFRICAN-AMERICAN...... WHITE/CAUCASIAN...... AMERICAN INDIAN OR ALASKA NATIVE ASIAN..... NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER ...... MULTIRACIAL (\_\_\_\_\_\_\_) OTHER (\_\_\_\_\_\_\_)

Are you of Hispanic or Latina ethnicity?

YES	1
NO	0

How old are you?

In the last 6 months, have you been employed?

	YES	1
♦ (GO TO # 5)	NO	0

a. (IF YES, ASK) Are you employed right now?

YES	1
NO	0
(Not Applicable)	8

Are you currently a student?

	YES	1
➡ (GO TO #6)	NO	0

a. What degree are you working on?

1
2
3
4
5
6
8

What's your educational level now?

LESS THAN HIGH SCHOOL	1
HIGH SCHOOL GRAD/GED	2
TRADE/TECHNICAL SCHOOL GRADUATE	3
SOME COLLEGE	4
ASSOCIATE'S DEGREE (2-year)	5
BACHELOR'S DEGREE (4-year)	6
GRADUATE OR PROFESSIONAL DEGREE	7

What is your relationship with (A) now? Are you... (READ OPTIONS)

- 1 Married, still living together
- 2 Married, separated
- 3 Divorced
- 4 Involved, living together
- 5 *Involved, not living together*
- 6 Is he...Ex-boyfriend (Father of her children)
- 7 Other

(\_\_\_\_\_

)

*What is the <u>court ordered</u> custody arrangement?* **(SHOW PARTICPANT RESPONSE CARD #8)** 

- 0 NONE => FOSTER CARE, STATE CUSTODY
- 1 MOTHER SOLE CUSTODY (FULL PHYSICAL & LEGAL)
- 2 MOTHER SOLE PHYSICAL / JOINT LEGAL CUSTODY
- 3 JOINT PHYSICAL CUSTODY: MOTHER PRIMARY PHYSICAL / JOINT LEGAL

- 4 JOINT PHYSICAL CUSTODY: PHYSICAL 50/50 EQUAL SPLIT / JOINT LEGAL
- 4 JOINT PHYSICAL CUSTODY: FATHER PRIMARY PHYSICAL / JOINT LEGAL
- 5 FATHER SOLE PHYSICAL / JOINT LEGAL CUSTODY
- 6 FATHER SOLE CUSTODY (FULL PHYSICAL & LEGAL)
- 8 Not Applicable: No Legal Custody Yet

How often [SINCE YOU SEPARATED OR IN THE PAST 6 MONTHS] has (A) spent time with or been around (any of) your children? For example, when the kids lived with him, he has watched the kids for you, taken the kids somewhere to spend time with them, or when the kids have gone to his place for a visit. (NO CARD—PROBE AND CODE BASED ON HER RESPONSE)

# [NOTE: <u>IF (A)</u> HAS CUSTODY AND SHE HAS PARENTING TIME/VISITATION ASK ABOUT HOW MUCH TIME SHE HAS SPENT TIME WITH HER CHILDREN SINCE SEPARATION OR IN THE LAST 6 MONTHS.]

NO CONTACT ▶ (GO TO # 68)	0
RARE OR INFREQUENT CONTACT, WITH CHILD SPENDING	1
LITTLE TIME WITH SPORADIC CONTACT, WITH CHILD SPENDING "CHUNKS"	2
OF TIME WITH REGULAR BUT INFREQUENT CONTACT (ONCE A MONTH	3
OR LESS) REGULAR_FREOUENT CONTACT (MORE THAN ONCE A	4
MONTH)	5
	5
LIVES WITH THEM	6

# **DEPRESSION AND PTSD**

(Breslau PTSD) Because of the domestic violence you have experienced, using this card **(SHOW PARTICPANT RESPONSE CARD #1),** how often over the <u>last two weeks</u> have you....

0 NOT AT AL	L
-------------	---

- 1 SEVERAL DAYS
- 2 MORE THAN HALF THE DAYS
- 3 NEARLY EVERYDAY
- a. Avoided being reminded of this experience by staying away from certain places, people or
- b. Lost interest in activities that were once important or
- c. Began to feel more isolated or distant from other
- d. Found it hard to have love or affection for other
- e. Began to feel that there was no point in planning for the
- f. Had more trouble than usual falling asleep or staying
- g. Became jumpy or got easily startled by ordinary noises or

Like before, I would like to know how you have been feeling over <u>the past two weeks</u>. Using this card (SHOW PARTICPANT RESPONSE CARD #1), please tell me the number that best describes how often have you been bothered by any of the following problems?

- 0 NOT AT ALL
- 1 SEVERAL DAYS
- 2 MORE THAN HALF THE DAYS
- 3 NEARLY EVERYDAY
- a. Little interest or pleasure in doing
- b. Feeling down, depressed, or
- c. Trouble falling asleep, staying asleep, or sleeping too
- d. Feeling tired or having little
- e. Poor appetite or
- f. Feeling bad about yourself, feeling that you are a failure, or feeling that you have let yourself or your family
- g. Trouble concentrating on things such as reading the newspaper or watching
- h. Moving or speaking so slowly that other people have noticed. Or being so fidgety or restless that you have been moving around a
- i. Thinking that you would be better off dead or that you want to hurt yourself in some

# **USE OF AND HARM TO THE CHILDREN**

Some men use children to control the women they are or have been involved with. Using this card (SHOW PARTICPANT RESPONSE CARD #6), in the last 6 months how often has (A) used the children to:

- 0 NEVER
- 1 RARELY
- 2 OCCASIONALLY
- 3 FREQUENTLY
- 4 VERY FREQUENTLY
- a. Stay in your life
- b. Harass
- c. Intimidate
- d. Keep track of you
- e. Frighten you

And how often has he:

- f. Tried to turn the kids against you
- g. Tried to convince the kids you should take him back
- h. Threatened to take them away from you if you didn't do what he wanted .....
- 15. **[ONLY IF THE CHILDREN HAD CONTACT WITH THE FATHER]** Now I'd like to go through this list again, but this time could you please tell me if any of things actually happened, and how often. Please answer using the following card. **(SHOW CARD #10)**

NONE OF THE TIME LESS THAN HALF OF THE TIME	0 1
ABOUT HALF THE TIME	2
BETWEEN HALF AND <sup>3</sup> / <sub>4</sub> OF THE TIME	3
MORE THAN <sup>3</sup> / <sub>4</sub> OF THE TIME	4
Father not keeping his promises	
Children not being supervised (e.g., being home but not caring f them)	or

b. Children being left home alone

a.

a.

.....

- c. Messy or filthy home
  - .....
- d. Children not being fed or going hungry
- e. Letting your children run wild or not disciplining them.....
- f. Reckless driving with your children in the car
- g. Father drinking or doing drugs
- h. Drunk (or under the influence) driving with your children in the car
- i. Witnessing substance abuse (e.g., alcohol or drugs)

.....

- j. Father insulting the children or hurting their feelings
- k. Father turning your children against you

.....

- 1. Witnessing abuse or violence against the father's new partner
- m. Father emotionally abusive to children
- n. Physical abuse by father
- o. Abuse by someone else (specify: \_\_\_\_\_)
- p. Sexual abuse by father
  q. Kidnapping
- r. That your children's lives are in danger

# **IPV VICTIMIZATION**

- 16. Now I have a list of some of the emotional things some men do to hurt or harass their partners and ex-partners. **(SHOW PARTICPANT RESPONSE CARD #6)** These may or may not have ever happened in your relationship. On this card are the answers that I'd like you to give me. I will ask you about a list of things. After I ask you each question, please tell me, to the best of your recollection, which statement gives the best summary of how frequently, if at all, each thing happened in the last <u>6 months</u>.
  - 0 NEVER
  - 1 RARELY
  - 2 OCCASIONALLY
  - 3 FREQUENTLY
  - 4 VERY FREQUENTLY

## How often, if at all, did (A):

a.	Call you
	names
b.	Swear at
	you
c.	Yell and scream at
	you
d.	Treat you like an inferior
e.	Monitor your time and make you account for your whereabouts
f.	Use money or make important financial decisions without talking to you about it
g.	Act jealous or suspicious of your
	friends
h.	Accuse you of having an affair
i.	Interfere in your relationships with other family members
j.	Try to keep you from doing things to help yourself
k.	Restrict your use of the telephone or internet
1.	Tell you your feelings were irrational or crazy
m	Blame you for his
111.	problems
n	Try to make you feel
11.	crazy
0.	Threaten to have you deported
	- I

- p. Refuse or fail to legalize your immigration
  - status.....
- 17. How often in the last 6 months has (A) done any of the following (SHOW PARTICPANT RESPONSE CARD #4):
  - 0 NEVER/NONE
  - 1 ONCE/ONE
  - 2 ONCE A MONTH OR LESS (2 TO 4 TIMES)
  - 3 TWO TO THREE TIMES A MONTH
  - 4 ONE OR TWO TIMES A WEEK
  - 5 3 OR 4 TIMES A WEEK
  - 6 MORE THAN 4 TIMES A WEEK
  - 8 Not Applicable
  - 9 Declined to Answer
  - a. Followed or spied on you
  - b. Sent you unwanted letters, emails, or other communications
  - c. Stood outside your home, school, or workplace
  - d. Showed up places you were at, even though he had no business of
  - e. Left unwanted items or gifts for you to find (for you or your children)
  - f. Vandalized your property or destroyed something you cared about
- How often in the last 6 months did (A) threaten you in any way? By threaten I mean said or did things that made you feel scared or in danger, whether in person, online, over the phone, through the mail, or through other people? (SHOW PARTICPANT RESPONSE CARD #4)
  - 0 NEVER/NONE → (GO TO #36)
  - 1 ONCE/ONE
  - 2 ONCE A MONTH OR LESS (2 TO 4 TIMES)
  - 3 TWO TO THREE TIMES A MONTH
  - 4 ONE OR TWO TIMES A WEEK
  - 5 3 OR 4 TIMES A WEEK
  - 6 MORE THAN 4 TIMES A WEEK
  - 8 Not Applicable
  - 9 Declined to Answer
- 19. Using (CARD #4), how often in the last 6 months did (A) threaten to kill you?
  - 0 NEVER/NONE → (GO TO #37)
  - 1 ONCE/ONE
  - 2 ONCE A MONTH OR LESS (2 TO 4 TIMES)
  - 3 TWO TO THREE TIMES A MONTH
  - 4 ONE OR TWO TIMES A WEEK
  - 5 3 OR 4 TIMES A WEEK
- 6 MORE THAN 4 TIMES A WEEK
- 8 Not Applicable
- 9 Declined to Answer
- 20. How often in the last 6 months did (A) \_\_\_\_\_\_ threaten your children, friends, or family in any way? By that I mean he said or did things that made you feel scared for them, whether in person, online, over the phone, through mail, or through other people. (SHOW CARD #4)
  - 0 NEVER/NONE → (GO TO #38)
  - 1 ONCE/ONE
  - 2 ONCE A MONTH OR LESS (2 TO 4 TIMES)
  - 3 TWO TO THREE TIMES A MONTH
  - 4 ONE OR TWO TIMES A WEEK
  - 5 3 OR 4 TIMES A WEEK
  - 6 MORE THAN 4 TIMES A WEEK
  - 8 Not Applicable
  - 9 Declined to Answer
- 21. Now, using this card (SHOW PARTICPANT RESPONSE CARD #4), could you tell me, to the best of your recollection, how many times in the last <u>six months</u>:
  - 0 NEVER/NONE
  - 1 ONCE/ONE
  - 2 ONCE A MONTH OR LESS (2 TO 4 TIMES)
  - 3 TWO TO THREE TIMES A MONTH
  - 4 ONE OR TWO TIMES A WEEK
  - 5 3 OR 4 TIMES A WEEK
  - 6 MORE THAN 4 TIMES A WEEK
  - 8 Not Applicable
  - 9 Declined to Answer
  - a. Was (A) physically abusive to you? That can include everything from pushing, grabbing and shoving, to kicking and strangling or
  - b. How often did he throw something at you, whether it hit you or not?
  - c. How often did he drive recklessly in order to scare you?
  - d. How often did he physically restrain you in any way?
  - e. How often did he threaten you with a weapon?
  - f. How often has he forced you to engage a sexual activity when you did not wish to do

so.....

- 22. Now I am going to go through a list of things some men do to hurt their partner or expartner financially, or by using the court system, or by using other systems against their expartners. Some of these may or may not apply to you. Using this card (SHOW PARTICPANT RESPONSE CARD #6), could you tell me, to the best of your recollection, how frequently, (A) has done any of the following things in the past 6 months:
  - 0 NEVER
  - 1 RARELY
  - 2 OCCASIONALLY
  - **3** FREQUENTLY
  - 4 VERY FREQUENTLY
  - 7 DON'T KNOW
  - 8 NOT APPLICABLE

Do things to keep you from going to your job or

school.....

Locked you out of the house or apartment

.....

Kicked out or evicted you and your children from your house or apartment (e.g., He owned the house or the lease was in his name and kicked her/her children out) .....

Threatened to call Child Protective Services (CPS) on you to get custody

. . . . . . . . . . . . . . . .

Actually called CPS on you

.....

File a motion to get a PPO against you

.....

File a motion related to your PPO against him (modify, terminate, etc)

Convince you to pay for his half of the children's expenses but then refuse to pay you back

Keep your children's clothes after visitation, forcing you to buy more clothes

• • • • • • • • • • •

Refused to get a job to avoid paying child support

.....

Refused to get a job to avoid paying spousal

support/alimony).....

Refuse to pay child support or spousal support (alimony)

.....

File a motion with family court about child support, custody, or visitation

. . . . . . . . . . . . . . . .

Threaten to take you back to court for support, custody, or visitation issues

Tried to get (or received) shared/full custody to avoid paying child support

Tried to get (or received) shared/full custody or visitation to get back at you

**....** 

Tried to get (or received) shared/full custody or visitation to stay in your life

REFERENCES

## REFERENCES

- Adams, A. E., Sullivan, C. M., Bybee, D., & Greeson, M. R. (2008). Development of the scale of economic abuse. *Violence Against Women*, 14(5), 563-588.
- Amato, P. R. (2010). Research on divorce: Continung trends and new developments. *Journal of Marriage and Family*, 72(3), 650-666.
- Anderson, D. K., & Saunders, D. G. (2003). Leaving an abusive partner: An empirical review of predictors, the process of leaving, and psychological well-being. *Trauma, Violence, & Abuse, 4*(2), 163-191.
- Anderson, D. K., Saunders, D. G., Yoshihama, M., Bybee, D. I., & Sullivan, C. M. (2003). Long-term trends in depression among women separated from abusive partners. *Violence Against Women*, 9(7), 807-838.
- Anderson, K. M., Renner, L. M., & Danis, F. S. (2012). Recovery: Resilience and growth in the aftermath of domestic violence. *Violence Against Women, 18*(11), 1279-1299.
- Appel, A. E., & Holden, G. W. (1998). The co-occurrence of spouse and physical child abuse: A review and appraisal. *Journal of Family Psychology*, 12(4), 578-599.
- Baly, A. R. (2010). Leaving abusive relationships: Constructions of self and situation by abused women. *Journal of Interpersonal Violence, 25*(12), 2297-2315.
- Bancroft, L. (2010). *Why does he do that? The profile and tactics of abusive men.* Paper presented at the Creating Community Safety: Building a Coordinated Community Response to Battering, Pontiac, MI.
- Barnett, R., Marshall, N. L., Raudenbush, S. W., & Brennan, R. T. (1993). Gender and the relationship between job experiences and psychological distress: A study of dual-earner couples. *Journal of Personality and Social Psychology*, 64(5), 794-806.
- Basile, K. C., Arias, I., Desai, S., & Thompson, M. (2004). The differential association of intimate partner physical, sexual, psychological, and stalking violence and posttraumatic stress symptoms in a nationally representative sample of women. *Journal of Traumatic Stress, 17*(5), 413-421.
- Beck, C. J. A., Walsh, M. E., & Weston, R. (2009). Analysis of mediation agreements of families reporting specific types of intimate partner abuse. *Family Court Review*, 47(3), 401-415.
- Beeble, M. L., Bybee, D., & Sullivan, C. M. (2007). Abusive men's use of children to control their partners and ex-partners. *European Psychologist*, 12(1), 54-61.
- Beeble, M. L., Sullivan, C. M., & Bybee, D. (2011). The impact of neighborhood factors on the well-being of survivors of intimate partner violence. *American Journal of Community Psychology*, 47(3/4), 287-306.

- Bemiller, M. (2008). When battered mothers lose custody: A qualitative study of abuse at home and in the courts. *Journal of Child Custody*, *5*(3-4), 228-255.
- Beydoun, H. A., Beydoun, M. A., Kaufman, J. S., Lo, B., & Zonderman, A. B. (2012). Intimate partner violence against adult women and its association with major depressive disorder, depressive symptoms and postpartum depression: A systematic review and meta-analysis. *Social Science & Medicine*, 75(6), 959-975.
- Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., ... Stevens, M. R. (2011). *The National Intimate Partner and Sexual Violence Survey* (*NISVS*): 2010 summary report. Atlanta, GA.
- Bogat, G. A., Levendosky, A. A., Theran, S., von Eye, A., & Davidson, W. S. (2003). Predicting the psychosocial effects of interpersonal partner violence (IPV). How much does a woman's history of IPV matter? *Journal of Interpersonal Violence, 18*(11), 1271-1291.
- Bonomi, A. E., Thompson, R. S., Anderson, M., Reid, R., Carrell, D., Dimer, J. A., & Rivara, F.
  P. (2006). Intimate partner violence and women's physical, mental, and social functioning. *American Journal of Preventive medicine*, 30(6), 458-466.
- Brennan, R. T., Kim, J., Wenz-Gross, M., & Siperstein, G. N. (2001). The relative equitability of high-stakes testing versus teacher-assigned grades: An analysis of the Massachusetts Comprehensive Assessment System (MCAS). *Harvard Educational Review*, 71(2), 173-216.
- Breslau, N., Peterson, E. L., Kessler, R. C., & Schultz, L. R. (1999). Short screening scale for DSM-IV posttraumatic stress disorder. *American Journal of Psychiatry*, 156(6), 908-911.
- Brownridge, D. (2006). Violence against women post-separation. *Aggression and Violent Behavior*, 11(5), 514-530.
- Brush, L. D. (2000). Battering, traumatic stress, and welfare-to-work transition. *Violence Against Women*, *6*(10), 1039-1065.
- Bryant, A. L., & Zimmerman, M. A. (2002). Examining the effects of academic beliefs and behaviors on changes in substance use among urban adolescents. *Journal of Educational Psychology*, *94*(3), 621-637.
- Bryk, A. S., & Raudenbush, S. W. (1987). Application of hierarchical linear models to assessing change. *Psychological Bulletin*, 101(11), 147-158.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical Linear Models: Applications and Data Analysis Methods*. Thousand Oaks, CA: Sage.
- Caldwell, J. E., Swan, S. C., & Woodbrown, V. D. (2012). Gender differences in IPV outcomes. *Psychology of Violence*, 2(2), 42-57.
- Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's health. *Trauma, Violence, & Abuse, 10*(3), 225-246.

- Carlson, B. E., McNutt, L. A., Choi, D. Y., & Rose, I. M. (2002). Intimate partner abuse and mental health: The role of social support and other protective factors. *Violence Against Women*, 8(6), 720-745.
- Catalano, S. (2012). *Intimate partner violence, 1993-2010*. Office of Justice Programs, Bureau of Justice Statistics.
- Cater, A., & Forssell, A. M. (2014). Descriptions of fathers' care by children exposed to intimate partner violence (IPV) - Relative neglect and children's needs. *Child & Family Social Work*, 19(2), 185-193.
- Chang, J. C., Dado, D., Hawker, L., Cluss, P. A., Buranosky, R., Slagel, L., ... Scholle, S. H. (2010). Understanding turning points in intimate partner violence: Factors and circumstances leading women victims toward change. *Journal of Women's Health*, 19(2), 251-259.
- Children's Bureau. (2011). *Child Maltreatment 2011*. U.S. Department of Health & Human Services, Administration for Children, Youth, and Families
- Children's Bureau. (2012). Determining the Best Interests of the Child. Retrieved from https://www.childwelfare.gov/systemwide/laws\_policies/statutes/best\_interest.cfm
- Cohen, J., & Cohen, P. (1983). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (2nd ed.). Hillsadale, NJ: Erlbaum.
- Coker, A. L., Davis, K. E., Arias, I., Desai, S., Sanderson, M., Brandt, H. M., & al, e. (2002). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive medicine*, 23(4), 260-268.
- Coker, A. L., Weston, R., Creson, D. L., Justice, B., & Blakeney, P. (2005). PTSD symptoms among men and women survivors of intimate partner violence: The role of risk and protective factors *Violence and Victims*, 20(6), 625-643.
- Constantino, R. E., Sekula, L. E., Rabin, B., & Stone, C. (2000). Negative life experiences, depression, and immune function in abused and nonabused women. *Biological Research for Nursing*, *1*(3), 190-198.
- Coulombe, A., Reid, R. J., Boyle, M. H., & Racine, Y. (2009). Concurrent associations among sleep problems, indicators of inadequate sleep, pschopathology, and shared risk factors in a population-base sample of healthy Ontario children. *Pediatric Psychology*, 35(7), 790-799.
- Davies, L., Ford-Gilboe, M., & Hammerton, J. (2009). Gender inequality and patterns of abuse post leaving. *Journal of Family Violence*, *24*(1), 27-39.
- DeKeseredy, W. S., & Joseph, C. (2006). Separation and/or divorce sexual assault in rural Ohio: Preliminary results of an exploratory study. *Violence Against Women, 12*(3), 301-311.

- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., . . . Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28(7), 771-784.
- Douglas, H., & Walsh, T. (2010). Mothers, domestic violence, and child protection. *Violence* Against Women, 16(5), 489-508.
- Douglas, H., & Walsh, T. (2011). Mothers, domestic violence and child protection. *Violence Against Women*, 17(3), 489-508.
- Dutton, M. A., Green, B., Kaltman, S., Roesch, D., Zeffiro, T., & Krause, E. (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence*, *21*(7), 955-968.
- Dutton, M. A., Kaltman, S., Goodman, L. A., Weinfurt, K., & Vankos, N. (2005). Patterns of intimate partner violence: Correlates and outcomes *Violence and Victims*, 20(5), 483-497.
- Eckstein, J. J. (2011). Reasons for staying in intimately violent relationships: Comparisons of men and women and messeages communicated to self and others. *Journal of Family Violence, 26*(1), 21-30.
- Edleson, J. L. (1999a). Children's witnessing of adult domestic violence. *Journal of Interpersonal Violence, 14*(8), 839-870.
- Edleson, J. L. (1999b). The overlap between child maltreatment and woman battering. *Violence Against Women*, 5(2), 134-154.
- Emery, C. R., Joley, J., & Wu, S. (2010). Intimate partner violence relationship dissolution among couples with children: The counterintuitive role of "law and order" neighborhoods. *Journal of Community Psychology*, 38(4), 456-468.
- Feingold, A. (2009). Effect sizes for growth-modeling analysis for controlled clinical trials in the same metric as for classical analysis. *Psychological Methods*, *14*(1), 43-53.
- Felson, R. B., & Cares, A. C. (2005). Gender and the seriouesness of assaults on intimate partners and other victims. *Journal of Marriage and Family*, 67(5), 1182-1995.
- Fleury, R. E., Sullivan, C. M., & Bybee, D. (2000). When ending the relationship does not end the violence: Women's experiences of violence by former partners. *Violence Against Women*, 6(12), 1363-1383.
- Ford-Gilboe, M., Wuest, J., Varcoe, C., Davies, L., Merritt-Gray, M., Campbell, J. C., & Wilk, P. (2009). Modelling the effects of intimate partner violence and access to resources on women's health in the early years after leaving an abusive partner. *Social Science & Medicine*, 68(6), 1021-1029.
- Gewirtz, A. H., & Edleson, J. L. (2007). Young children's exposure to intimate partner violence: Towards a developmental risk and resilience framework for research and intervention. *Journal of Family Violence, 22*(3), 151-163.

- Gilson, M., Helfrich, C. A., & Finlayson, M. L. (2001). Linking the assessment of self-reported functional capacity with abuse experiences of women with disabilities. *Violence Against Women*, 7(4), 418-431.
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental health disorders: A meta-analysis. *Journal of Family Violence*, 14(2), 99-132.
- Gortner, E., Berns, S. B., Jacobson, N. S., & Gottman, J. M. (1997). When women leave violent relationships: Dispelling clinical myths. *Psychotherapy*, *34*(4), 343-352.
- Haight, W. L., Shim, W. S., Linn, L. M., & Swinford, L. (2007). Mothers' strategies for protecting children from batterers: The perspectives of battered women involved in child protective services. *Child Welfare*, 86(4), 41-62.
- Hamby, S. L., Finkelhor, D., Turner, H., & Ormrod, R. (2010). The overlap of witnessing partner violence with child maltreatment and other victimizations in a nationally representative survey of youth. *Child Abuse & Neglect*, 34(10), 734-741.
- Hardesty, J. L., & Ganong, L. H. (2006). How women make custody decisions and manage coparenting with abusive former husbands. *Journal of Social and Personal Relationships*, 23(4), 543-563.
- Hardesty, J. L., Khaw, L., Chung, G. H., & Martin, J. M. (2008). Coparenting relationships after divorce: Variations by type of marital violence and fathers' role differentiation. *Family Relations*, 57(4), 479-491.
- Harrison, C. (2008). Implacably hostile or appropriately protective?: Women managing child contact in the context of domestic violence. *Violence Against Women*, 14(4), 381-405.
- Harvard University. (n.d.). National Comorbidity Survey. Retrieved August 8 2013, 2013, from <u>http://www.hcp.med.harvard.edu/ncs/</u>
- Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., Krauss, M. W., Upshur, C. C., & Sayer, A. G. (1999). Family influences on adaptive development in young children with down syndrome. *Child Development*, 70(4), 979-989.
- Hayes, B. E. (2012). Abusive men's indirect control of their partner during the process of separation. *Journal of Family Violence*, 27(4), 333-344.
- Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., & Kilpatrick, D. G. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of Consulting and Clinical Psychology*, 76(4), 633-647.
- Helfrich, C. A., Fujiura, G. T., & Rutowski-Kmitta, V. (2008). Mental health disorders and functioning of women in domestic violence shelters. *Journal of Interpersonal Violence*, 23(4), 437-453.
- Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R., & Moylan, C. (2008). Intersection of child abuse and children's exposure to violence. *Trauma, Violence & Abuse, 9*(2), 84-99.

- Hester, M. (2010). Commentary on "Mothers, domestic violence, and child protection," by Heather Douglas and Tamara Walsh. *Violence Against Women, 16*(5), 516-523.
- Hollander, J. A. (2005). Challenging despair: Teaching about women's resistance to violence. *Violence Against Women, 11*(6), 776-791.
- Horney, J., Osgood, D. W., & Marshall, I. H. (1995). Criminal careers in the short-term: Intraindividual variability in crime and its relation to local life circumstances. *American Sociological Review*, 60(5), 655-673.
- Humphreys, C., & Thiara, R. K. (2003). Neither justice nor protection: Women's experiences of post-separation violence *Journal of Social Welfare and Family Law, 25*(3), 195-214.
- Hunter, E. C., & Graham-Bermann, S. A. (2013). Intimate partner violence and child adjustment: Moderation by father contact? *Journal of Family Violence*, *28*, 435-444.
- Huttenlocher, J., Haight, W. L., Bryk, A. S., Seltzer, M., & Lyons, H. (1991). Early vocabulary growth: Relation to language input and gender. *Developmental Psychology*, 27(2), 236-248.
- Jaffe, P., Johnston, J. R., Crooks, C. V., & Bala, N. (2008). Custody disputes involving allegations of domestic violence: Toward a differentiated approach to parenting plans. *Family Court Review*, 46(3), 500-522.
- Jarvis, K. L., Gordon, E. E., & Novaco, R. W. (2005). Psychological distress of children and mothers in domestic violence emergency shelters. *Journal of Family Violence*, 20(6), 389-402.
- Jennings, A. (2004). The damaging consequences of violence and trauma: Facts, discussion points, and recommendations for the behavioral health system. National Technical Assistance Center for State Mental Health Planning (NTAC).
- Johnson, M. P., Leone, J. M., & Xu, Y. (2014). Intimate terrorism and situational couple violence in general surveys: Ex-spouses required. *Violence Against Women*, 20(2), 186-207.
- Johnson, S. P., & Sullivan, C. M. (2008). How child protection workers support of further victimize battered mothers. *Affilia: Journal of Women and Social Work, 23*(3), 242-258.
- Jones, L., Hughes, M., & Unterstaller, U. (2001). Post-traumatic stress disorder (PTSD) in victims of domestic violence: A review of the research. *Trauma, Violence & Abuse, 2*(2), 99-119.
- Jouriles, E. N., McDonald, R., Slep, A., Herman, R. E., & Garrido, E. (2008). Child abuse in the context of domestic violence: Prevalence, explanations, and practice implications. *Violence and Victims*, 23(2), 221-235.
- Kamp Dush, C. M., Taylor, M. G., & Kroeger, R. A. (2008). Marital happiness and psychological well-being across the life course. *Family Relations*, *57*(2), 211-226.

- Karin Bø Vatnar, S., & Bjørkly, S. (2010). Does it make any difference if she is a mother? An interactional perspective on intimate partner violence with a focus on motherhood and pregnancy. *Journal of Interpersonal Violence*, *25*(1), 94-110.
- Kaye, M., Stubbs, J., & Tolmie, J. (2003). Negotiating child residence and contact arrangements against a background of domestic violence. Families, Law and Social Policy Research Unit.
- Kaye, M., Stubbs, J., & Tolmie, J. (2003-2004). Domestic violence, separation and parenting: Negotiating safety using legal processes. *Current Issues in Criminal Justice*, 15(2), 73-94.
- Keeton, C. P., Perry-Jenkins, M., & Sayer, A. G. (2008). Sense of control predicts depressive and anxious symptoms across the transition to parenthood. *Journal of Family Psychology*, 22(2), 212-221.
- Kelleher, K., Gardner, W., Coben, J., Barth, R., Edleson, J. L., & Hazen, A. (2006). Co-Occurring Intimate Partner Violence and Child Maltreatment: Local Policies/Practices and Relationships to Child Placement, Family Services and Residence, Final Report. ( NCJ 213503). US Department of Justice, National Institute of Justice.
- Keller, M. B. (2003). Past, present, and future directions for defining optimal treatment outcome in depression: Remission and beyond. *JAMA*, 289(23), 3152-3160.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., ... Wang, P. S. (2003). The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS–R). *JAMA*, 289(23), 3095-3105.
- Kimerling, R., Ouimette, P., Prins, A., Nisco, P., Lawler, C., Cronkite, R., & Moos, R. H. (2006). BRIEF REPORT: Utility of a short screening scale for DSM-IV PTSD in primary care. *Journal of General Internal Medicine*, 21(1), 65-67.
- Klevens, J., Simon, T. R., & Chen, J. (2012). Are the perpetrators of violence one and the same? Exploring the co-occurrence of perpetration of physical aggression in the United States. *Journal of Interpersonal Violence*, 27(10), 1987-2002.
- Kroenke, K., Spitzer, R. L., Williams, J. B. W., & Lowe, B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry*, *32*(4), 345-359.
- Kurz, D. (1996). Separation, divorce, and woman abuse. Violence Against Women, 2(1), 63-81.
- Kwok, O.-M., Underhill, A. T., Berry, J. W., Luo, W., Elliott, T. R., & Yoon, M. (2008).
  Analyzing longitudinal data with multilevel models: An example with individuals living with lower extremity intra-articular fractures. *Rehabilitation Psychology*, 53(3), 370-386.
- Lacey, K. K., McPherson, M. D., Samuel, P. S., Sears, K. P., & Head, D. (2013). The impact of different types of intimate partner violence on the mental and physical health of women in different ethnic groups. *Journal of Interpersonal Violence*, 28(2), 359-385.

- Lacey, K. K., Saunders, D. G., & Zhang, L. (2011). A comparison of women of color and nonhispanic white women on factors related to leaving a violent relationship. *Journal of Interpersonal Violence*, 26(5), 1036-1055.
- Lindhorst, T. (2001). The effect of domestic violence on welfare use, employment, and mental health: A quantitative and qualitative analysis. *Dissertation Abstracts International*, 62(6-A), 2239.
- Logan, T., & Walker, R. (2010). Civil protective order effectiveness: Justice or just a piece of paper? *Violence and Victims*, 25(3), 332-348.
- Logan, T. K., Shannon, L., Cole, J., & Walker, R. (2006). The impact of differential patterns of physical violence and stalking on mental health and help-seeking among women with protective orders. *Violence Against Women*, 12(9), 866-886.
- Mascaro, N., Arnette, N. C., Santana, M. C., & Kaslow, N. J. (2007). Longitudinal relations between employment and depressive symptoms in low-income, suicidal african american women. *Journal of Clinical Psychology*, *63*(6), 541-553.
- Matlow, R. B., & DePrince, A. P. (2013). The influence of victimization history on PTSD symptom expression in women exposed to intimate partner violence. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(3), 241-250.
- McCaw, B., Bauer, H. M., Berman, W., Mooney, L., Holmberg, M., & Hunkeler, E. (2002). Women referred for on-site domestic violence services in a managed care organization. *Women and Health*, 35(2/3), 23-40.
- McDonald, R., Jouriles, E. N., Ramisetty-Mikler, S., Caetano, R., & Green, C. E. (2006). Estimating the number of American children living in partner-violent families. *Journal of Family Psychology, 20*(1), 137-142.
- McDonald, R., Jouriles, E. N., Rosenfield, D., & Corbitt-Shindler, D. (2011). Predictors of domestically violent men's aggression toward children: A prospective study. *Journal of Family Psychology*, 25(1), 11-18.
- McFarlane, J., Malecha, A., Watson, K., Gist, J., Batten, E., Hall, I., & Smith, S. (2005). Intimate partner sexual assault against women: Frequency, health consequences, and treatment outcomes. *Obstetrics Gynecology*, *105*(1), 99-108.
- McGrath, E., Keita, G. P., Stickland, B. R., & Russo, N. F. (1990). *Women and depression: Risk factors and treatment issues.* Washington, DC: American Psychological Association.
- McMullan, E. C., Carlan, P. E., & Nored, L. S. (2010). Future law enforcement officers and social workers: Perceptions of domestic violence. *Journal of Interpersonal Violence*, 25(8), 1367-1387.
- Mearns, J. (1991). Coping with a break-up: Negative mood regulation expectancies and depression following the end of a romantic relationship. *Journal of Personality and Social Psychology*, *60*(2), 327-334.

- Mechanic, M. B., Uhlmansiek, M. H., Weaver, T. L., & Resick, P. A. (2000). The impact of severe stalking experienced by acutely battered women: An examination of violence, psychological symptoms and strategic responding. *Violence and Victims*, 15(4), 443-458.
- Mechanic, M. B., Weaver, T. L., & Resick, P. A. (2008). Mental health consequences of intimate partner abuse: A multidimensional assessment of four different forms of abuse. *Violence Against Women*, 14(6), 634-654.
- Meyer, S. (2010). Seeking help to protect the children?: The influence of children on women's decisions to seek help when experiencing intimate partner violence. *Journal of Family Violence*, *25*(8), 713-725.
- Meyer, S. (2012). Why women stay: A theoretical examination of rational choice and moral reasoning in the context of intimate partner violence. *Australian & New Zealand Journal of Criminology*, 45(2), 179-193.
- Miller, S. L., & Smolter, N. L. (2011). "Paper abuse": When all else fails, batterers use procedural stalking. *Violence Against Women*, 17(5), 637-650.
- Moe, A. M. (2009). Battered women, children, and the end of abusive relationships. *Affilia: Journal of Women and Social Work, 24*(3), 244-256.
- Moreh, E., Jacobs, J. M., & Stressman, J. (2010). Fatigue, function, and mortality in older adults. *the Journals of Gerontology*, 65A(8), 887-895.
- Najavits, L. M., Weiss, R. D., & Shaw, S. R. (1997). The link between substance abuse and posttraumatic stress disorder in women: A research review. *American Journal on Addictions*, *6*(4), 273-283.
- Nathanson, A. M., Shorey, R. C., Tirone, V., & Rhatigan, D. L. (2012). The prevalence of mental health disorders in a community sample of female victims of intimate partner violence. *Partner Abuse*, 3(1), 59-75.
- Nedd, D. M. (2001). Self-reported health status and depression of battered black women. *Association of Black Nursing Faculty Journal*, 12(2), 32-35.
- Nicolaidis, C., Curry, M., McFarland, B., & Gerrity, M. (2004). Violence, mental health, and physical symptoms in an academic internal medicine practice. *Journal of General Internal Medicine*, *19*(8), 819-827.
- Nixon, R. D., Resick, P. A., & Nishith, P. (2004). An exploration of comorbid depression among female victims of intimate partner violence with posttraumatic stress disorder. *Journal of Affective Disorders*, 82(2), 315-320.
- Nock, M. K., & Kessler, R. C. (2006). Prevalence of and risk factors for suicide attempts versus suicide gestures: Analysis of the National Comorbidity Survey. *Journal of Abnormal Psychology*, 115(3), 616-623.
- Nolen-Hoeksema, S., Larson, J., & Grayson. (1999). Explaining the gender difference in depressive symptoms. *Journal of Personality and Social Psychology*, 77(5), 1061-1072.

- Nurius, P. S., Macy, R. J., Bhuyan, R., holt, V. L., Kernic, M. A., & Rivara, F. P. (2003). Contextualizing depression and physical functioning in battered women: Adding vulnerability and resources to the analysis. *Journal of Interpersonal Violence*, 18(12), 1411-1431.
- Ornstein, P., & Rickne, J. (2013). When does intimate partner violence continue after separation? Violence Against Women, 19(5), 617-633.
- Peled, E., & Gil, I. B. (2011). The mothering perceptions of women abused by their partner. *Violence Against Women, 17*(4), 457-479.
- Pico-Alfonso, M. A., Garcia-Linares, M. I., Celda-Navarro, N., Blasco-Ros, C., Echeburúa, E., & Martinez, M. (2006). The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: Depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of Women's Health*, 15(5), 599-611.
- Ptacek, J. (1997). The tactics and strategies of men who batter: Testimony from women seeking restraining orders. In A. P. Cardarelli (Ed.), *Violence Between Intimate Partners*. Needham Heights, MA: Allyn & Bacon.
- Quené, H., & van den Bergh, H. (2003). On multi-level modeling of data from repeated measures designs: A tutorial. *Speech Communication*, 43(1-2), 103-121.
- Rabe-Hesketh, S., & Skrondal, A. (2012). *Multilevel and Longitudinal Modeling Using Stata* (Vol. 1). College Station, TX: Stata Press.
- Raudenbush, S. W., & Liu, X. (2000). Statistical power and optimal design for multisite randomized trials. *Psychological Methods*, 5(2), 199-215.
- Raudenbush, S. W., Spybrook, J., Congdon, R., Liu, X., Martinez, A., Bloom, H., & Hill, C. (2001). *Optimal Design Plus Empirical Evidence* (Third ed.). New York: WT Grant Foundation.
- Rees, S., Silove, D., Chey, T., Ivancic, L., Steel, Z., Creamer, M., . . . Forbes, D. (2011). Lifetime prevalence of gender-based violence in women and the relationship with mental disorders and psychosocial functioning. *JAMA*, 306(5), 513-521.
- Renner, L. M., & Slack, K. S. (2006). Intimate partner violence and child maltreatment: Understanding the intragenerational and intergenerational connections. *Child Abuse & Neglect*, 30(6), 599-617.
- Rhoades, G. K., Kamp Dush, C. M., Atkins, D. C., Stanley, S. M., & Markman, H. J. (2011). Breaking up is hard to do: The impact of unmarried relationship dissolution on mental health and life satisfaction. *Journal of Family Psychology*, 25(3), 366-374.
- Rhodes, K. L., Cerulli, C., Ditcher, M. E., Kothari, C. L., & Barg, F. K. (2010). "I didn't want to put them through that": The influence of children on victim decision-making in intimate partner violence cases. *Journal of Family Violence, 25*(5), 485-493.

- Riger, S., & Krieglstein, J. M. (2000). The impact of welfare reform on men's violence against women. *American Journal of Community Psychology*, 28(5), 631-647.
- Riger, S., Raja, S., & Camacho, J. (2002). The radiating impact of intimate partner violence. *Journal of Interpersonal Violence, 17*(2), 184-205.
- Rivara, F. P., Anderson, M., Fishman, P., Bonomi, A. E., Reid, R., Carrell, D., & Thompson, R.
  S. (2007). Healthcare Utilization and Costs for Women with a History of Intimate Partner Violence. *American Journal of Preventive medicine*, 32(2), 89-96.
- Rivera, E., Sullivan, C. M., & Zeoli, A. M. (2012). Secondary victimization of abused mothers by court mediators. *Feminist Criminology*, 7(3), 234-252.
- Rivera, E., Zeoli, A. M., & Sullivan, C. M. (2012). Abused mothers' safety concerns and court mediators' custody recommendations. *Journal of Family Violence*, *27*(4), 321-332.
- Robins, K. (2010). *Exploring mothers' experiences of separating from an abusive partner* (Master of Applied Psychology), University of Waikato, New Zealand Waikato. Retrieved from <u>http://researchcommons.waikato.ac.nz/handle/10289/5048</u>
- Rosenberg, S. D., Mueser, K. T., Friedman, M. J., Gorman, P. G., Drake, R. E., Vidaver, R. M., . . Jankowski, M. K. (2001). Developing effective treatments for posttraumatic disorders among people with severe mental illness. *Psychiatric Services*, 52(11), 1453-1461.
- Sanderson, C. L., Feng, S., Canar, J., McGlichey Ford, M., & Tercyak, K. (2005). Social and behavioral correlates of cigareete smoking among mid-Atlanta Latino primary care patients. *Cancer Epidemiology Biomarkers & Prevention*, 14(8), 1976-1980.
- Sbarra, D. A., & Emery, R. E. (2005). The emotional sequelae of nonmarital relationship dissolution: Analysis of change and intraindividual variability over time. *Personal Relationships*, *12*(2), 213-232.
- Shalansky, C., Ericksen, J., & Henderson, A. (1999). Abused women and child custody: The ongoing exposure to abusive ex-partners. *Journal of Advanced Nursing*, 29(2), 416-426.
- Singleton Jr, R. A., & Straits, B. C. (2005). *Approaches to Social Research* (Fourth ed.). Oxford, New York: Oxford University Press.
- Slavin, R. E., & Smith, D. (2008). Effects of sample size on effect size in systematic reviews in education. Paper presented at the Society for Research on Effective Education, Crystal City, VA. www.bestevidence.org
- Slote, K. Y., Cuthbert, C., Mesh, C. J., Driggers, M. G., Bancroft, L., & Silverman, J. G. (2005). Battered mothers speak out: Participatory human rights documentation as a model for research and activism in the United States. *Violence Against Women*, 11(11), 1367-1395.
- Snijders, T. (1996). Analysis of longitudinal data using the hierarchical linear model. *Quality & Quantity*, *30*(4), 405-426.

- Stewart, W. F., Ricci, J. A., Chee, E., Hahn, S. R., & Morganstein, D. (2003). Cost of lost productive work time among US workers with depression. JAMA, 289(23), 3135-3145.
- Stover, C. S., Van Horn, P., Turner, R., Cooper, B., & Lierberman, A. F. (2003). The effects of father visitation on preschool-aged witnesses of domestic violence. *Journal of Interpersonal Violence*, 18(10), 1149-1166.
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) scales. *Journal of Marriage and the Family*, *41*(1), 75-88.
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, 17(3), 283-316.
- Supovitz, J. A., & Brennan, R. T. (1997). Mirror, mirror on the wall, which is the fairest test of all? An examination of the equitability of portfolio assessment relative to standardized tests. *Harvard Educational Review*, 67(3), 472-506.
- Swan, S. C., & Snow, D. L. (2006). The development of a theory of women's use of violence in intimate relationships. *Violence Against Women*, 12(11), 1026-1045.
- Tajima, E. A. (2004). Correlates of the co-occurrence of wife abuse and child abuse among a representative sample. *Journal of Family Violence, 19*(6), 399-410.
- Tarrier, N., & Gregg, L. (2004). Suicide risk in civilian PTSD patients: Predictors of suicidal ideation, planning, and attempts. *Social Psychiatry and Psychiatric Epidemiology*, 39(8), 655-661.
- Theran, S. A., Sullivan, C. M., Bogat, G. A., & Stewart, C. S. (2006). Abusive partners and expartners. Understanding the effects of relationship to the abuser on women's well-being. *Violence Against Women, 12*(10), 950-969.
- Thompson, M., Kaslow, N., Kingree, J. B., Puett, R., Thompson, N., & Meadows, L. A. (1999). Partner abuse and posttraumatic stress disorder as a risk factor for suicide attempts in a sample of low income, inner-city women. *Journal of Traumatic Stress, 12*(1), 59-72.
- Tjaden, P., & Thoennes, N. (1998). Full report of the prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey. National Institute of Justice.
- Tolman, R. M. (1999). The validation of the psychological maltreatment of women inventory. *Violence and Victims*, 14(1), 25-37.
- Trim, R. S., Schuckit, M. A., & Smith, T. L. (2010). Predicting drinking onset with discrete-time survival analysis in offspring from the San Diego prospective study. *Drug and Alcohol Dependence*, 107(2-3), 215-220.
- Tutty, L. M., Weaver, G., & Rothery, M. (1999). Residents' views of the efficacy of shelter services for assaulted women. *Violence Against Women*, 5(8), 898-925.

- Varcoe, C., & Irwin, L. G. (2004). "If I killed you, I'd get the kids": Women's survival and protection work with child custody and access in the context of woman abuse. *Qualitative Sociology*, *27*(1), 77-99.
- Weissman, M. M., Bland, R. C., Canino, G., Faravelli, C., Greenwald, S., Hwu, H.-G., . . . Yeh, E.-K. (1996). Cross-national epidemiology of majory depression and bipolar disorder. *JAMA*, 276(4), 293-299.
- Wiecha, J., Lee, V., & Hodhkins, J. (1998). Patterns of smoking, risk factors for smoking, and smoking cessation among Vietnamese men in Massachussetts. *Tob Control*, 7(1), 27-34.
- Wingood, G. M., DiClemente, R. J., & Raj, A. (2000). Adverse Consequences of Intimate Partner Abuse Among Women in Non-Urban Domestic Violence Shelters. *American Journal of Preventive medicine*, 19(4), 270-275.
- Woltman, H., Feldstain, A. J., MacKay, C., & Rocchi, M. (2012). An introduction to hierarchical linear modeling. *Tutorials in Quantitative Methods for Psychology*, 8(1), 52-69.
- Woods, S. J. (2000). Prevalence and patterns of posttraumatic stress disorder in abused and postabused women. *Issues in Mental Health Nursing*, *21*(3), 309-324.
- Wuest, J., Ford-Gilboe, M., Merritt-Gray, M., & Berman, H. (2003). Intrustion: The central problems for family health promotion among children and single mothers after leaving an abusive partner. *Qualitative Health Research*, *13*(5), 597-622.
- Zeoli, A. M., Rivera, E., Sullivan, C. M., & Kubiak, S. P. (2013). Post-separation abuse against women and their children: Boundary-setting and family court utilization among victimized mothers. *Journal of Family Violence*, 28(6), 547-560.
- Zlotnick, C., Johnson, D. M., & Kohn, R. (2006). Intimate Partner Violence and Long-Term Psychosocial Functioning in a National Sample of American Women. *Journal of Interpersonal Violence, 21*(2), 262-275.