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The Process of Separation for Victims of Intimate Partner Violence: Evaluating Risk of Indirect and Physical Abuse Relating to Interpersonal Events

Brittany E. Hayes
Graduate Center, City University of New York

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Brittany E. Hayes

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Michael G. Maxfield

Date — Chair of Examining Committee

Deborah Koetzle

Date — Executive Officer

Amy Adamczyk

Joshua Freilich

Supervisory Committee

THE CITY UNIVERSITY OF NEW YORKK

Abstract

The Process of Separation for Victims of Intimate Partner Violence:

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By

Brittany E. Hayes

Advisor: Professor Michael Maxfield

Previous research has found that risk of physical abuse increases during the process of separation (Brownridge, 2006). Given the opportunity structure changes once the separation process begins, abusers may be more likely to engage in indirect abuse when their partner begins the process. Indirect abuse is the use of third parties, such as children or family/friends, to manipulate the abused woman. In the current study, opportunity is measured with both events abused women report and relationship characteristics that increase or decrease the likelihood the victim and offender converge in time and space.

The study relies on data from the Chicago Women Health Risk Survey (N=469). Events are captured on a life history calendar and theoretically categorized into six types. The association of events and relationship characteristics with indirect and physical abuse is tested. A survival analysis is also conducted to identify if separation increases or decreases the time elapsed between physical abuse incidents.

Overall, events are not significant and reliable predictors of abuse, both physical and indirect. Employment of both individuals in the couple decreases risk of physical abuse and indirect abuse to a lesser extent. Separated respondents are significantly more likely to report indirect abuse, especially indirect abuse that involves the children. There is not a significant difference between separated and non-separated respondents on the total number of *and* the

timing between physical abuse incidents, with 75% of the sample reporting the second physical abuse incident occurred 2 weeks or more after the first.

The results challenge previous work on risk of abuse during the process of separation and calls for a more nuanced understanding of the separation process. Awareness should be raised about indirect abuse and harm reduction strategies should be implemented during child custody cases. Policy for intimate partner violence victims, especially those that have begun the process of separation, should focus on measures that revolve around access to employment and that limit the opportunity for the abuser and victim to converge in time and space. Future research should examine the role of technology and how it may or may not facilitate indirect abuse.

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CHAPTER 1
INTRODUCTION

Overview

The time between separation and divorce is dangerous for women ending abusive relationships (Brownridge, 2006; Fleury, Sullivan, & Bybee, 2000). However, the process of separation and the events that occur during this time have not been studied and remain unclear. The connections between couples that remain during the separation process may indirectly influence the woman's level of risk for abuse through the types of events she may experience.

Events an abused woman experiences once the separation process begins may differ depending on the status of the relationship prior to separation as well as how the couple remains connected throughout the separation process. Being married, cohabiting, having children or owning property together affects the type of contact a couple must have after they separate. Each of these characteristics may serve as a connection between the former partners. These connections may impact not only the types of events experienced but also the type of continued abuse.

Though the risk of physical abuse has been found to increase during the process of separation, the woman may be at increased risk for other types of abuse. The abuser may use his continuing connections to the woman as a way to manipulate and control her throughout the separation process without ever having to resort to physical violence. Children have been identified as a connection an abuser uses to control or monitor the woman during the process of separation (Bancroft & Silverman, 2002; Logan & Walker, 2004). There may be other connections the abuser uses to maintain control beyond the children, such as family and/or friends (Bancroft, 2002). The current study seeks to identify how an abuser may use these

connections to third parties as a way to continue controlling his former partner. This type of abuse is referred to here as *indirect abuse.*

Different events may occur that influence the likelihood an abusive partner engages in physical abuse or indirect abuse. Throughout the separation process, the abuser and woman may come into contact with one another during a variety of events. For instance, they may see one another in court, during visits with children, to recover personal effects, or they may cross paths unexpectedly. Since it takes a woman seven times on average to end an abusive relationship (The Women's Community Inc, 2010), there is also even the possibility of reconciliation. Because these events often have guardians present, indirect abuse may only occur after the separation process begins because of decreased opportunity and increased risk of engaging in physical violence during one of the events.

In order to fully understand what leads to abusive behavior, one must include different levels in the analysis to see how they interact. The current study incorporates feminist theory and opportunity theories within the ecological model to assess if the events abused women experience and relationship characteristics impact the type and frequency of abuse reported. Changing the opportunity structure associated with particular events and/or relationship characteristics may impact the type and timing of later abuse.

Anyone can be a victim or perpetrator of intimate partner violence. The current is interested in how the patriarchal structure of society impacts men's use of violence against women (Stark, 2007). For this reason, the current paper will focus on male violence against female victims. In spite of the focus of this paper on male to female intimate partner violence, any one can be a victim of intimate partner violence, regardless of their gender and/or sexual orientation.

Statement of Current Study

The current study examines differences between separated and non-separated respondents on the type and timing of abuse. Data is from the Chicago Women Health Risk Survey, which includes respondents who were recruited from health care facilities based on past abuse in intimate relationships. The resulting sample (N= 469) is almost evenly split between abused women who were still in a relationship with their partner (N= 262) and abused women who had begun the process of separation (N=207).

The Chicago Women Health Risk Survey also collected data with life history calendars. The events provided on these calendars are used not only to theoretically categorize the events abused women experience but also to examine the timing between physical abuse incidents. The benefits of life history calendars are discussed, especially in regards to intimate partner violence research. Along with the above-mentioned goals, the project aims to determine what relationship features (e.g. employment status, levels of education) outside the events identified on the calendars impact risk of physical and indirect abuse. Lastly, the project hopes to clarify differences between separated and non-separated respondents on type of abuse experienced and timing between physical abuse incidents.

Those who work with women ending abusive relationships can use the results of this study to understand how separation impacts the likelihood of abuse. First, the study identifies if separated respondents report indirect abuse at greater rates than non-separated respondents. Second, it is also important to understand if the frequency of abuse is concentrated or if it is ongoing after the separation process begins. By understanding when abuse occurs in relation to the timing of other incidents of physical abuse, opportunity structures that facilitate or hinder

abuse can be modified. Policy measures that address opportunity can then be designed for intimate partner violence victims.

This dissertation is arranged in chapters as follows. First, theoretical perspectives and literature are reviewed while considering the contributions of this study to the existing literature. Next, research questions and hypotheses are developed. The data, measures, and data analytic plan are discussed in the fifth chapter before the presentation of the results. Discussion of the findings as they relate to the literature, limitations of the study and areas for future research are examined before a final chapter summarizing the results.

CHAPTER 2

DEFINITIONS OF KEY TERMS AND THEORETICAL FRAMEWORK

Overview of Theories that Inform Current Study

The current study draws upon a range of theories at different levels of conceptualization. The ecological model highlights the different factors, ranging from the micro level (e.g. individual characteristics) to the macro level (e.g. societal norms), which may influence the occurrence of intimate partner violence and provides a structure for integrating theories at different levels of analysis. Some of these factors include the patriarchal nature of society, individual working status, relationship to the neighborhood, male peer groups, and/or alcohol/drug use. Feminist theory also looks at how society is shaped by patriarchy, at the macro level, and how these societal norms affect risk of abuse. Not every relationship is the same and each provides the offender with different opportunities that correspond to different risks and rewards of engaging in abusive behavior. Situational and routine activity theories, which are embedded in these cultural norms of patriarchy, guide the current research in understanding how the couple's relationship characteristics at the meso and micro levels influence the opportunity structure surrounding events and later abuse.

Within this chapter the key terms used throughout the project are first defined. Followed by this is a discussion of the ecological model and how feminist theory and opportunity theories correspond to different systems within the ecological model. Next, feminist theory is highlighted and how feminism informs behaviors in abusive relationships within a patriarchal society. Lastly, the role of opportunity, especially routine activities and repeat victimization in women abuse is examined.

Definitions of Key Terms

Intimate partner violence takes many forms. While there is not an agreed upon definition of intimate partner violence, many researchers still rely on a definition that focuses on physical violence, even though some researchers call for increased attention on controlling behaviors and abuse that does not necessarily involve violence (Bancroft, 2002; Dobash & Dobash, 2004; Dobash, Dobash, Wilson & Daly, 1992; Johnson, 1995; Stark, 2007). DeKeseredy and MacLeod's (1997) broad definition of *woman abuse* is used in this study, with woman abuse[1] being operationalized as "the misuse of power by a husband, intimate partner (whether male or female), ex-husband, or ex-partner against a woman … who is the direct victim of ongoing or repeated physical, psychological, economic, sexual, verbal, and/or spiritual abuse" (p. 5).

This broad definition expands the focus beyond physical assaults and encompasses a wide range of abuses against women by former or current intimate partners. *Controlling behaviors*, sometimes referred to as psychological abuse, is a type of women abuse that does not necessarily involve physical violence. Controlling behaviors include, but are not limited to, intimidation, manipulation, regulation of behavior to stereotypical gender roles and/or isolation (Follingstad, 2007; Stark, 2007). While women abuse includes physical violence, sexual violence, and/or psychological abuse, the current study analyzes a variant of controlling behaviors, referred to here as indirect abuse.

Indirect abuse, as defined in the current study, occurs when the abuser uses third parties (e.g. family, friends, and children) as tools to control, monitor and/or manipulate the victim and

[1] Women abuse and intimate partner violence will be used interchangeably throughout the study. Given the focus on indirect and physical abuse in the current study, these terms capture the dynamics of abuse in intimate relationships better than domestic violence or battering.

does not necessarily involve violence. Specifically, the current study is interested in the use of indirect abuse during the process of separation

Ecological Theory

Ecological Model Background

People live in different contexts with different circumstances, which does not create the same opportunity structures for each and every individual. Park (1952) was the first to extend ecology to humans by noting the interrelationships among people and the "super-organism" that is a city (p. 118). Bronfenbrenner (1979), in his development of the ecological model, identified the different systems an individual interacts with. Because of the wide range of dimensions considered, the ecological model has been used in criminology (Cohen & Machalek, 1988; Onifade, Peterson, Bynum, & Davidson, 2011) and specifically to understand the complexity of intimate partner violence (Carlson, 1984; Heise, Ellsberg, & Gottmoeller, 2002; Lischick, 2007). The ecological model moves beyond a single cause at the individual or societal level. The ecological model instead seeks to understand how factors at different levels of analysis may interact to produce something that is different than the factors alone would produce. The strength of this model is that it creates a comprehensive picture by tying together how societal norms shape the opportunity structure at different levels of analysis.

Each of these levels within the model, whose names and characteristics differ depending on the research area, are conceptualized as possible causes (Carlson, 1984). By looking at causes on different levels of analysis, it may be possible to further untangle the multitude of factors that give rise to women abuse. The levels can be seen as a system, not a linear cause, in which individual characteristics, neighborhood context and societal norms, interact with one another to produce a cause that is different than the sum of the parts (Bronfenbrenner, 1979). Because of the

systematic nature of the model, there may be overlap between the different levels. A diagram of the ecological model, with the corresponding levels tailored to intimate partner violence research, can be found in Appendix A.

Application of the Ecological Model to Intimate Partner Violence

The individual or ontogenetic level focuses on the individual characteristics of each partner. While alcohol consumption and level of stress are examples, one of the most important individual level factors is a person's family of origin history (Carlson, 1984; Heise, et al., 2002). For instance, witnessing abuse in one's family of origin may alter the perceived risks and rewards of engaging in this behavior. Research has found that those who experienced child abuse and neglect are more likely to report intimate partner violence later in life (White & Widom, 2003; Whitefield, Anda, Dube, & Felitti, 2003). The individual level corresponds to Bronfenbrenner's (1993) microsystem, which focuses on the immediate environment, such as the nuclear family. The microsystem is concerned with a single system and their individual characteristics.

The next level is the mesosystem, which includes an individual's connections to extended family or friends (Lischick, 2007). As Bronfenbrenner (1993) noted, "the mesosystem is a system of microsystems" (p. 40). In the case of intimate partner violence, the process of separation can be hindered or encouraged depending on the level of support from a victim's family and/or friends. If a victim's family told her "she made her own bed, now go lie in it", the risks of leaving the relationship may be perceived as high considering she does not have her family's support. Support from family and friends may provide the opportunity to begin the process of separation should the woman decide she wants to pursue this path. Furthermore, if the victim is isolated from connections in the mesosystem the abuser is afforded even more

opportunity to engage in abuse because of the lack of a capable guardian or diminished risk (Clarke, 1997).

The mesosystem is nested in the exosystem or the socio-structural level, which is composed of the individual's neighborhood (Carlson, 1984; Lischick, 2007). While neighborhood characteristics have been found to affect risk of intimate partner violence, it appears these effects interact with individual socio-demographic characteristics (Cunradi, Caetano, Clark, & Schafer, 2000; Kiss, et al., 2012; Pearlman, Zierler, Gjelsvik, & Verhoek-Oftedahl, 2003). If the victim and/or offender live in an impoverished community, the benefits of staying in the relationship (e.g. having a stable home, having the abusive partner's income) may outweigh the perceived benefits of leaving. These findings further highlight the complexity of researching women abuse and why it is necessary to consider multiple dimensions. Given the sample for the current study is from one city and there are no community identifiers, the current study does not focus on the exosystem.

Lastly, all the levels are nested in the macrosystem, which contains a culture's "societal blueprint" (Bronfenbrenner, 1993, p. 40). This level encompasses cultural norms. Specifically for the study of women abuse, the macrosystem contains patriarchal norms which abusive men rely on to justify maintaining power and control over victims (DeKeseredy, 2011b; Stark, 2007). Though there remains debate on whether or not patriarchy is a macro (e.g. societal norms) or micro (e.g. individual belief system) level influence, the United States is a patriarchal society, justifying the current study's use of patriarchy as a macro level force (Dobash & Dobash, 1979; Ogle & Batton, 2009)

Patriarchal norms continue to influence Western culture. Although great advances in gender equality have occurred in recent decades, there is still continued objectification and

sexualization of women in the media. The normalization of pornography in society is a possible sociological explanation of intimate partner violence, with some abusive men using it as a roadmap or weapon for sexual assault (DeKeseredy, 2011b). Moreover, exposure to sexualized media is associated with adverse sexual outcomes, further highlighting the connection between media's portrayals of women and their position in society (Brown, et al., 2006; Collins, Martino, Elliott, & Miu, 2011).

Summary of the Ecological Model

Thus, the cause of women abuse may be attributed to any one of these levels or an interaction between them. Indirect abuse involves the use of third parties beyond the nuclear family, which immediately forces the analysis to consider the mesosystem in conjunction with individual level factors. Though prior research has studied intimate partner violence from the ecological perspective, no studies have made the connection between these different systems and abusive behavior involving the use of third parties. The current study highlights the complexity of intimate partner violence and the process of separation by considering the interplay between each of these levels and how the macrosystem of patriarchal norms shapes the opportunity structure.

Feminist Theory

Evolution of the Intimate Partner Violence Movement

Feminism seeks to understand the experience of crime from a woman's point of view instead of an androcentric view. By doing so, attention is given to how gender shapes the experience of crime (at the micro and mesosystem levels) as well as how patriarchy contributes to the subordination of women in society (at the macrosystem level). Feminism can be defined as a "set of theories about women's oppression and a set of strategies for change" (Daly &

Chesney-Lind, 1988, p. 502). There is equal emphasis between explaining *why* intimate partner violence occurs and *how* to create practical solutions based on the 'why'.

When the intimate partner violence movement got underway, the focus was on ending *physical* violence against women. Initially, there was struggle over what to call this "issue" with many advocates, practitioners, and researchers referring to it as wife battering (Walker, 1990). As the movement got underway, many researchers began to use women abuse instead of wife battering to signify not only the range of abusive behaviors but also that abuse is not limited to marital relationships (DeKeseredy & Schwartz, 2009; Sinclair, 2003; Stark, 2007). Underlying all these ideas is the notion of patriarchy, where men maintain power within society (DeKeseredy, 2011b; Stark, 2007).

The early response to intimate partner violence was concentrated on holding the abuser criminally accountable for physical violence. Early research found that by arresting the abusive partner, the likelihood of reassault decreased (Sherman & Berk, 1984). Since then some researchers have found that arrest does not impact the likelihood of reassault (Berk, Campbell, Klap, & Western, 1992), while other researchers have found that the effect of arrest depends on other individual characteristics (e.g. employment status) (Pate & Hamilton, 1992). As the issue evolved from a focus on physical abuse to women abuse, it became apparent other dynamics were involved and solely arresting the abuser for the physical altercation would not be the panacea to women abuse.

It has been posited that abusers do not cease their abusive behavior when they are arrested. Instead of continuing to engage in physical abuse, abusers adapt their techniques to avoid being held criminally accountable for their continued abusive behavior (Stark, 2007). Controlling behaviors, such as forcing a woman to adhere to gender stereotypes (e.g. dinner must

be served at a specific time, male partner controls the family finances), allows the abuser to maintain power in the relationship while escaping detection from the criminal justice system. It is the ability to maintain power and control that is vital to abusers.

The macro system contains the patriarchal norms abusive men rely on to justify maintaining power and control over their victim. These structural and ideological norms that promote the gender hierarchy in society highlights an important distinction in the literature: gender symmetry and gender asymmetry in abusive behavior. Patriarchy, at the macrosystem, is used to understand the behaviors of individuals in abusive relationships and why some abusers employ violence while others are able to engage in abuse without every resorting to physical violence.

Gender Symmetry/ Asymmetry in Women Abuse

Though some studies report women are equally or more likely to engage in physical assaults against their partner (Dutton, 2006; Straus, 1979, 1993), other researchers find that men and women engage in physical abuse for different reasons and the effects of violence are more severe for women (Archer, 2000; Johnson, 1995; Johnson & Ferraro, 2000; Saunders, 2002). Furthermore, women reported the psychological abuse they experienced was far worse than the physical abuse (O'Leary, 1999; Stark, 2007; Strauchler, et al., 2004). Though patriarchy is not the only cause of intimate partner violence (DeKeseredy, 2011a), abusive men are able to engage in these controlling behaviors because of the structure of society (DeKeseredy, 2011b; Johnson, 1995; Ogle & Batton, 2009; Stark, 2007).

Patriarchy is a macro-level explanation that reinforces and legitimizes men's abuse against women. Though the definition of patriarchy is contested, it can be conceptualized as containing two parts, structure and ideology (Dobash & Dobash, 1979). The structural

component focuses on the organization of society that imparts power and privilege to men but not women. The ideology aspect highlights the acceptance of this gender hierarchy by both men and women. Within this framework, violence and abuse in relationships can be classified into different types.

Johnson's (1995) original typology of abuse proposed two distinct types of violence against women: Situational Couple Violence and Intimate Terrorism. The typology was later reformulated to include two more types of abusive relationships: Violent Resistance and Mutual Violent Control (Johnson, 2006; Johnson & Ferraro, 2000). This reformulation better captures the use of physical violence and controlling behaviors in abusive relationships while taking into account the patriarchal nature of society. By identifying the underlying dynamics of physical violence *and* controlling behavior, one can better respond and provide the appropriate services to not only the victim, but also the abuser.

The first type of abuse according to Johnson (1995) is *situational couple violence*, in which one or both of the partners engage in physical violence in response to an argument. This type of abuse is not motivated by the desire to control one's partner. The physical violence is instead used as a method to resolve an argument. It is this form of abuse that is captured in large-scale survey research on intimate partner violence, which often ignores the motivations and context of abusive behavior (DeKeseredy & Dragiewicz, 2007; Kelly & Johnson, 2008). Researchers who argue there is gender symmetry in intimate partner violence are often capturing situational couple violence.

Intimate terrorism occurs when one partner, primarily the male, engages in a pattern of power and control, in which violent behavior may be just one tactic in a repertoire of behaviors to exert control over the female partner. This type of abuse, which is also termed *coercive*

control, has been identified as more damaging to abused women than situational couple violence (Dobash et al., 1992; Dobash & Dobash, 2004; Stark, 2007). What is unique about intimate terrorism is that because of the position of men and women in the social structure, women are often unable to engage in this type of abuse (DeKeseredy, 2011b; Stark, 2007). Abusive men, given the patriarchal nature of society, are able to manipulate and control their partners more effectively.

Violent resistance arises when the abused partner, typically the female, is violent in response to her abuser's controlling and violent behavior. In this form of intimate partner violence, both partners are violent but only one partner is controlling (Johnson, 2006; Johnson & Ferraro, 2000). Violent resistance begins to challenge the idea that abused women are passive in response to intimate partner violence. Instead, it is consistent with the notion that abuse victims often seek out help and attempt to establish autonomy in an abusive relationship (Abraham, 2005; Gondolf & Fisher, 1988; Polletta, 2009; Rajah, 2007; Hayes, 2013). Lastly, *mutual violent control* is when both partners are violent and controlling. While uncommon, it is possible and deserves recognition (Simonelli & Ingram, 1998).

Intimate partner violence, and especially coercive control, can take an infinite number of forms. While as many as 14% to 35% of women who go to the emergency room are there because of intimate partner violence injuries (Boes, 2007; Plichta, 2004), the effect of intimate terrorism is long lasting and often seen by the victims as far worse than physical injuries (Adams, Sullivan, Bybee, & Greeson, 2008; Stark, 2007). Though abusers can use violence as a way to maintain power and control, they can also intimidate (e.g. threaten, degrade or stalk the victim), isolate, and control their victim (e.g. deny access to basic things or micromanagement of behavior), none of which necessarily involves violence (Johnson, 2006; Stark, 2007).

Abusers develop controlling behaviors through a process of trial and error (Stark, 2007). In turn, the ongoing process of determining "what works" highlights the rational nature of women abuse. Therefore, the opportunity structure to engage in abusive behavior influences not only if an abuser is able to engage in intimate partner violence, but also what form the abuse takes. The abuser, aided by the structure of society, will utilize abusive behaviors that are the most rewarding with the fewest risks. As noted, abusive men may be less likely to engage in physical violence after involvement with the criminal justice system for fear they will be rearrested. Instead, they may utilize other forms of abuse that does not readily come to the attention of outsiders or even the victim. This begins to highlight the complexity of factors that impact the occurrence of intimate partner violence.

Opportunity Theory

Situational Theory

Situational theory is interested in understanding why and how criminal events occur. The focus is on unraveling the opportunity structure that facilitates or hinders a crime from occurring (Clarke, 1997; Wortley, 2008). The situation itself and the precipitators of it interact with an individual's rational choice to either increase or decrease the likelihood of a crime event happening (Wortley, 2008). Abused women may experience events or have certain demographic features that increase or decrease the likelihood of later abuse. By understanding the characteristics of the individuals within the relationship and the type of events leading up to an abusive incident, policy and services can be tailored to reduce the opportunity of later abuse occurring.

Despite some events having certain features that alter risks, which may precipitate an abuse incident, intimate partner violence literature has not given much attention to the distinct

characteristics of events (Wilkinson & Hamerschlag, 2005). Changing the perception of risk and/or rewards through these events may impact the opportunity structure and in turn decrease the likelihood of later abuse. Since the abusive incident is disconnected from the event, the negative effects can be addressed at three different points: pre-abuse, during the abusive incident, and post-abuse (Haddon, 1980; Mair & Mair, 2003). The opportunities for the events are further shaped by the individual's routine activities based on his/her demographics.

Routine Activity Theory

Routine activity theory posits that in order for a crime event to occur, a motivated offender must converge in time and space with a suitable target in the absence of a capable guardian (Cohen & Felson, 1979). When these three elements converge, the opportunity to commit a crime increases. It is possible abusers glean advantages for engaging in abusive behavior, such as not having to do something they do not want to, (Bancroft, 2002; Stark, 2007), providing them with motivation to continue the abusive behavior in the future.

Abusers who are still in a relationship with their partner are afforded an increased opportunity to be abusive because they can also serve as their target's guardian. This presents the offender with almost continued access to his target, especially when the abuser and victim live together and the victim has been isolated from support networks (Lanier & Maume, 2009; Stark, 2007). Isolating the victim decreases risk to the offender by limiting capable guardianship and surveillance (Clarke, 1997). Therefore, the victim's level of isolation may impact the type and frequency of abuse.

Additionally, routine activity theory proposes that outsiders can serve not only as guardians but also as handlers to ensure that offenders do not engage in criminal behavior (Eck, 2003). In intimate partner violence cases, no one may be available to serve as the offender's

handler because the offense takes place within the confines of the home, thus limiting the prevention of abusive behavior by outsiders (Felson & Clarke, 1998; Sherman, 1995;). Victims may have difficulty being their partner's handler if their partner is engaging in criminal behavior against them. As a result of increased opportunity within the household, increased risk due to possible isolation, low levels of guardianship, and a lack of handlers for the offender, intimate partner violence should be more likely to occur when the couple is still in a relationship versus when the couple has begun the process of separation.

Once the couple begins the process of separation, there should be increased opportunity for outsiders to serve as the offender's handler and victim's guardian. If the couple has children in common, the court and child custody agents can monitor the abuser's behavior. Supervised visitation is just one example of incorporating a guardian to increase the victim's safety and thereby limit the likelihood of abuse post-separation.

Yet, the current design of child custody cases when there was a history of abuse presents the abuser unique opportunities to continue indirectly abusing his former partner. For example, even if there is an allegation of intimate partner violence, many child custody workers assign joint custody and/or unsupervised visitation so that the children can maintain a relationship with their father. The abuser is then able to use custody and visitation arrangements as avenues to control his former partner because they allow him to converge in time and space with the victim (Shepard & Hagemeister, 2013).

While the role of routine activities and physical violence in general has been analyzed (Felson, 1997), there has been more of focus on understanding the role of routine activities and sexual assault/dating violence on college campuses than intimate partner violence (Gover, 2004; Schwartz, DeKeseredy, Tait, & Alvi, 2001). The routine activities of an intimate partner violence

victim with children and/or more serious commitment to the offender, such as owning property together, may differ from college students. The current study untangles how events and features of a relationship may interact with the routine activity triangle, specifically the level of guardianship for intimate partner violence victims, to limit or increase the opportunity for abuse.

Repeat Victimization

The concept of repeat victimization or revictimization is increasingly becoming a topic of focus in the crime opportunity literature, with intimate partner violence being a crime with high rates of revictimization. Repeat victimization is defined as "multiple criminal incidents experienced by either a person or place" (Farrell, 1992, p. 86). It is typically reported that a small proportion of people and/or places experience the vast majority of criminal activity (Farrell, 1992, 1995; Farrell & Buckley, 1999; Sherman, Gartin, & Buerger, 1989; Walby & Allen, 2004). Farrell (1992, 1995) argued crime rates should decline if prevention measures are targeted at people and places that experience the most crime. Risk of victimization is therefore tied to the opportunity structure.

Women in abusive relationships often experience multiple incidents of abuse, if not hundreds, during the course of a relationship (Stark, 2007; Walby & Allen, 2004). These on-going assaults in intimate partner violence cases are a prime example of repeat victimization, particularly committed by the same offender. Since the victim and offender know each other in cases of women abuse, prevention measures addressing repeat victimization among intimate partner violence victims will differ from prevention measures addressing other crimes with high rates of repeat victimization. It is therefore important to understand the ongoing nature and patriarchal motivations of abusive relationships before identifying the types of measures that can be implemented to improve the safety of women in abusive relationships.

Though traditional crime surveys and the criminal justice system focus on *incidents* of abuse, intimate partner violence victims often experience continued victimization (Buzawa & Buzawa, 2003; Genn, 1988). Women in abusive relationships characterized by intimate terrorism or coercive control reported the abuse they experience is ongoing and cannot be broken down into a series of isolated incidents (Dobash & Dobash, 2004; Stark, 2010). A variety of opportunity factors may contribute to the increased rates of repeat victimization among intimate partner violence victims. As previously noted, abusers are afforded increased opportunity to engage in criminal behavior because they can also serve as their target's guardian. The intimate partner violence offender has almost continued access to his target increasing the risk of repeat or ongoing victimization.

There may be no one available to serve as the offender's handler to ensure he does not engage in abusive behavior (Eck, 2003). Intimate partners typically serve as their partner's handler to limit their partner's criminal behavior, such as burglary or robbery. Yet, the woman may have difficulty being her partner's handler if he is engaging in criminal behavior against her. Introducing an outside handler may be a viable prevention measure to hold the abuser accountable. For instance, the community can serve as the offender's handler by engaging in reintegrative shaming (Braithwaite, 1989). Handlers can also be in the form of monitoring by the criminal justice system (e.g. restraining orders, batterer intervention programs). Changing the opportunity structure by introducing handlers and guardians may limit repeat or ongoing victimization among intimate partner violence victims.

Repeat victimization highlights the ongoing nature of women abuse by identifying potential opportunity structures that increase or decrease the likelihood of another crime event occurring. The concept links together tenants from feminist theory and opportunity theories by

highlighting how patriarchy creates ongoing opportunities for abusers. Though earlier research on repeat victimization called for tangible prevention measures, like portable alarms or incident reports, (Farrell, 1995) events and relationship characteristics may shape revictimization risks in ways that allow for the introduction of handlers and guardians over a longer time frame. Abuse that occurs during the process of separation and that involves the use of third parties may be a ripe area for the introduction of prevention measures.

CHAPTER 3

LITERATURE REVIEW

Numerous theoretical frameworks have been used to study women abuse. Given the focus on indirect abuse and events in the current study, the ecological model, as informed by feminist and opportunity theories, underlies the construction of the project. A review of the literature as it relates to these theories and areas of interest is discussed as follows. First, the process of separation is explained and the opportunities for abuse associated with it. Next, research on the role of children, family and friends is highlighted as well as how these relationships with third partners increase or decrease an abuser's ability to engage in continued abusive behavior. Lastly, characteristics and sequencing of events are examined and if they differ for women in the process of ending an abusive relationship compared to those who are still in a relationship with their abuser.

Process of Separation

For some abused women, the end goal may be safety, not separation (Yoshioka & Choi, 2005). Nevertheless, some women in abusive relationships may decide the risks of remaining in the relationship outweigh any perceived benefits (e.g. children growing up in a home with two parents). At this junction, the abused woman may begin the process of separation.

Separation is often viewed as ongoing or a continuum, instead of a distinct moment in time (DeKeseredy & Schwartz, 2009). Depending on the features of the relationship that tie the woman to her abusive partner (e.g. children, property in common), she may need to continually maintain contact with her abuser for years, even though the couple may no longer be in a relationship. Separation may not be permanent. The couple may separate and reconcile numerous

times before the final separation, highlighting the ongoing nature of ending an abusive relationship and the possible continued opportunities for abuse throughout the process.

DeKeseredy and Schwartz (2009) relied on a definition of separation that begins when the woman wants to end, is in the process of ending, and when she finally ends the relationship. An ongoing process of separation acknowledges the possible continuing nature of the relationship, though specific aspects may change. It further highlights the evolving opportunity structure that may increase or decrease the likelihood of later abuse. A diagram of the process can be found in Appendix B.

Events bring the couple together and that occur post-separation may affect the risk of later physical abuse, which has been shown to increase during separation (Brownridge, 2006; Fleury, et al., 2000). Abusers may also begin to use indirect controlling methods against former partners post-separation (Bancroft & Silverman, 2002; Beeble, et al., 2007; Hayes, 2012). If the abuser is motivated to continue controlling his former partner, he will need to devise methods that do not come to the attention of outsiders who are possibly serving as guardians. Indirect abuse may be the new tactic the abuser engages in to avoid detection when the couple begins the process of separation. It is not only important to understand the association of events with both physical and indirect abuse but to also consider if the separation process has a unique contribution to the type of abuse an abuser engages in.

Indirect Abuse

Role of Children

Bancroft and Silverman (2002) were some of the first researchers to bring attention to a number of ways in which an abuser may use the children to manipulate his partner, both before and after the couple separates, that do not necessarily involve the use of violence. An abuser may

allow the children to do things the mother does not approve of, have the children report on the mother's behavior or make threats that he will harm the children. Once the couple separates he may threaten to or actually take the children for longer than allowed during visitation. In the most extreme cases, the abuser may become violent and murder the children because he knows the mother will often put her children's needs first (Beeble, Bybee, & Sullivan, 2007; Ferraro, 2006).

Before the abused woman begins the process of separation, the abuser may not need to use the children to control her, since he may have other avenues to monitor her behavior. This can be seen in cases where the abuser serves as the woman's guardian, in which he isolates her from outsiders allowing himself continued access to his target. However, once the couple separates the opportunity structure changes and the abuser presumably has less access to his former partner. Given separation is a direct challenge to an abuser's control he may become more controlling (Bancroft, 2002; Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Wilson & Daly, 1998). The children may be the only opportunity for him to contact his former partner and maintain some form of power and control over her if the couple is no longer in a relationship.

Though earlier research identified ways in which abusive men evolve their tactics once the couple separates so that the continued abuse does not come to the attention of outsiders, there is still a lack of empirical work on this topic (Beeble, et al., 2007). Based on their work as practitioners, Bancroft and Silverman (2002) discussed how abusers might use children as pawns during the process of separation. Former partners who have children together may need to contact one another to discuss matters related to the children. The abuser is therefore able to use the children, and circumstances surrounding them, to create opportunities to contact his former partner in order to continue to control and manipulate her.

Another situation/environment abusers may use to maintain control and manipulate their former partners is through child custody and visitation disputes (Jaffe, Crooks, & Poisson, 2003; Logan & Walker, 2004; Sauders, 1994; Shepard, 1992). Fathers who were previously uninvolved in their children's lives may pursue custody in order to maintain any contact with their former partner. Zorza (1996) reported that abusers apply for child custody more frequently and obtain custody almost as often as non-abusers. An abuser is often at an advantage in child custody cases because he is not the one who experienced years of abuse, thereby impacting the abused woman's parenting skills (Jaffe, Crooks, & Bala, 2008). If the abuser was the one in charge of finances or did not let his partner work, the abused woman may not have the finances to hire an attorney for the child custody case. Therefore, the design of child custody cases may create opportunities for ongoing abuse post-separation.

The court system and the judicial outcomes of these procedures create opportunities for the abuser to further manipulate his former partner with little risk attached. Unsupervised visitation creates an opportunity for the abuser to come in contact with his former victim, possibly with limited guardians to monitor the situation. The current study assesses if there are differences between women who have begun the process of separation and those who have not in terms of how abusers use of children as tools for continuing abuse. The study hypothesizes that abusive men still involved with their partner may not need to resort to this form of abuse that involves third parties. By identifying these differences, safety plans and child custody policies can be tailored for abused women with children depending on if the couple is still together or not.

Family and/or Friends

Research on the role of family and friends has focused on their role in an abused woman's help seeking behaviors and how an abuser may isolate a victim from family or friends (Ansara & Hindin, 2010; Beeble, Bybee, Sullivan, & Adams, 2009; Lanier & Maume, 2009). Family and friends are typically seen as a protective factor and not a vehicle for further abuse. However, Bancroft (2002) was one of the first researchers who discussed the possibility of an abuser using family and friends to coerce and control the woman. There is a lack of empirical research on how an abuser may involve family and friends, possibly without their knowledge they are being used as pawns, to manipulate or control a partner, especially during the process of separation.

The abuser may not be abusive in front of family and friends, thereby presenting a different image of himself to others (Bancroft, 2002), and further showcasing the rationality underlying his abusive behavior. During the course of the couple's relationship, family and friends may only be exposed to the loving and caring husband and father. Given the possible stigma associated with identifying oneself as a victim of women abuse (Dalton, 1999), a victim may not disclose the abuse until after she begins the process of separation.

Victims often report family and friends believe abusers when they are told about the abuse (Bancroft, 2002), creating the opportunity for the abusive partner to use outsiders to coerce his former partner. It is not only important that the abused partner has a social support network. The social support network must stand behind the abused woman's decision and be able to help her through the process of separation.

By isolating his partner from family and friends, the abuser is able to influence whether his partner is able to reach out to them and/or impact the likelihood they will be used as pawns

for further abuse. Isolation is a tactic used by abusers that allows them to maintain power and control over their partners (Johnson, 1995; Stark, 2007). The isolation may strain the victim's relationship with third parties and poses unique challenges if the victim decides to begin the process of separation since she may not have the support of family or friends. Isolation may also affect the abuser's relationship with family and/or friends and limit the likelihood they will be useful pawns to manipulate the victim. The current study untangles how an abuser may indirectly abuse his partner through family and friends by looking beyond the victim's help seeking behaviors and level of isolation. That is, the type of events leading up to the abuse and relationship characteristics that may influence the likelihood of an abuser engaging in indirect abuse that involves family and/or friends.

Events: Specific Moments in Time Abused Women Identify

A "precipitating event" is an event that is interpreted as threatening and disrupts an individual's life, resulting in a crisis (Greene, Lee, Trask, & Rheinscheld, 2005; Roberts, 2005a). The crisis intervention literature focuses on a number of precipitating events, such as violent crimes or accidents (Roberts, 2005a), suicide (Roberts, 2005b) and transitional stressors like divorce (Granvold, 2005). Intimate partner violence researchers have identified a number of precipitating events that may lead to a crisis, including serious physical injury from a recent abusive incident, an escalation of abuse, women's first use of violence against an abusive partner, a high-profile intimate partner violence story or an incident that involved or was witnessed by the children (Campbell, Rose, Kub, & Nedd, 1998; Roberts & Roberts, 2005). Though the prevalence and dynamics of these events have been identified, there has not been much empirical examination of events associated with intimate partner violence (Roberts & Roberts, 2005; Wilkinson & Hamerschlag, 2005). In each of these examples, the focus is on an

especially salient event. There is a need to shift the focus to smaller events that occur earlier. These smaller events may then influence the occurrence of precipitating events leading up to the separation process.

Abused women can often identify a moment in time when they realize they want to live a life without abuse or the risks associated with the relationship are too great, thereby triggering the process of ending the relationship (Campbell, et al., 1998; Eisikovits, Buchbinder, & Mor, 1998; Polletta, 2009). Even though the vast majority of participants were able to identify a precise moment, Eisikovits et al. (1998) did not explore the impact of that distinct moment any further. It may be possible to categorize these events. The current study explores if such a categorization is possible and if the type of event influences the process of separation and experience of continued abusive behavior.

Planned Study

The current study incorporates a focus on indirect abuse, expanding the scope beyond physical violence, by relying on a feminist and opportunity theoretical framework nested in the ecological model. The goal of the current study is to understand not only the types of events women in abusive relationships experience but also how these events are associated with different types of abuse. It is important to assess if particular events or physical abuse incidents quickly lead to another abusive incident, within a matter of days, or if there is a stretch of time between the two that would allow for long-term intervention measures. The type of events abused women experience may therefore shape the opportunity structure that increases or decreases the risk of later abuse. Events are just one aspect of an intimate partner violence victim's experience. Understanding the complex interplay between individual characteristics,

associations with third parties, and relationship dynamics will better inform policy that can then be tailored to each victim's needs.

CHAPTER 4

RESEARCH QUESTIONS AND HYPOTHESES

Research Questions

The current study has three general goals (1) to identify the types of events abused women experience while still in an abusive relationship and during the process of separation, (2) to understand the association of these events and relationship characteristics with both physical abuse and indirect abuse, and (3) to examine the impact of separation on the time between physical abuse incidents.

Events and Features of Abusive Relationships

The first series of research questions relate to identifying the types of events abused women experience and determining the association of these events with features of the relationship, such as employment status of the couple or presence of children in the household. As is discussed shortly, certain relationship features are associated with women abuse. The current study unravels if these features also have a relationship with particular events, thereby influencing the opportunity structure leading up to the physical abuse incident.

1) What types of events does a victim experience during and after an abusive relationship?
2) What features of an abusive relationship impact the type of events the victim experiences?

Features of the Relationship, Events, and Risk of Physical and Indirect Abuse

It is routinely noted that separation, a characteristic of the relationship, increases risk of physical abuse (Brownridge, 2006; Fleury, et al., 2000). However, it is important to expand the analysis beyond defining features of the relationship and look at ongoing changes both within the

individual and the relationship itself. In order to create relevant policy and services, it is vital to understand what types of events increase risk of later abuse (Wilkinson & Hamerschlag, 2005). Furthermore, it is important to understand how an abuser uses control tactics in different scenarios in order to tailor custody recommendations and services for intimate partner violence victims (Bancroft, 1998). The following research questions address the interplay between relationship features, events and type of abuse.

3) What features of an abusive relationship affect the victim's risk of experiencing physical and/or indirect abuse?
4) What events affect the risk of physical and/or indirect abuse?
5) Do particular events mediate the occurrence of physical and/or indirect abuse?

Impact of Separation on Timing of Later Abuse

The last research question addresses the impact of a prior physical abuse incident on the time until the victim experiences a second physical abuse incident. Given intimate partner violence is a crime with high rates of repeat victimization (Buzawa & Buzawa, 2003; Genn, 1988), policy measures will differ depending on if the second physical abuse incident immediately follows the first or if there is time to implement a more long term intervention between the two incidents of physical abuse. The current study hopes to unravel differences in the timing of physical abuse between those who separated from their abusive partner and those who are still together since separation has been shown to increase the risk of physical abuse (Brownridge, 2006; Fleury, et al., 2000). These ideas lead to the final research question:

6) Does physical separation influence the time elapsed between incidents of physical abuse?

Hypotheses

Based on the theoretical framework, existing literature and three overarching goals of the current study, the research questions and hypotheses are developed below.

Events and Features of Abusive Relationships

While researchers have found that abused women identify distinct moments in time (Eisikovits, et al., 1998; Polletta, 2009), the context surrounding these moments is often lost in analyses. Life history calendars allow a researcher to capture dates of different events and analyze the time between events. They can be especially useful for research on intimate partner violence (Yoshihama, Clum, Crampton, & Gillespie, 2002). By creating a typology of events intimate partner violence victims experience, policy makers and advocates can tailor programs to victims' needs. This notion leads to the first research question, which focuses on identifying types of events. Categorization of the events into six types can be found in Appendix C and will be discussed in further detail in the Results chapter.

The second research question addresses the associations of events with relationship features that are correlated with abusive behavior. In line with opportunity theory, particular relationship features may create a situation that in turn promotes or discourages abusive behavior. It is important to determine if there is association between relationship characteristics and events, as abusive incidents may occur following particular events. For instance, divorce should reduce the number of "Together Events" and increase the number of "Apart Events", which in turn may shape the opportunity to engage in later abuse. Particular relationship characteristics that may be associated with the dependent variables are discussed at length in the upcoming pages and include marital status, relationship length, total number of children, education of the abuser and

victim and the working status of the couple. Coding of these variables is reviewed in the Measures chapter.

Whether the couple is separated or not is just one aspect of the relationship that may impact the likelihood as well as the type of abuse. It has been found that cohabitation, compared to marriage, increases risk of violence (Brownridge, 2008; Johnson & Ferraro, 2000; Stets & Straus, 1990). This may be because marriage offers a sense of long-term commitment that cohabitation does not, with marriage possibly encouraging positive conflict resolution strategies (Counts, Brown, & Campbell, 1992; Gaertner & Foshee, 1999). Then again, the effect of marital status may be influenced by relationship length, with longer relationships making the victim more available for abuse (Gaertner & Foshee, 1999). It is important to unravel the differences between relationship duration and relationship status as they may each have a different impact on events abused women experience. In line with the ecological model, it must be kept in mind that relationship status may interact with other individual characteristics as well.

Intimate partner violence witnessed by or that involved the children has also been identified as a type of precipitating event or turning point that may lead an abused woman to begin the process of separation (Campbell, et al., 1998; Roberts & Roberts, 2005). The presence of children may impact the course of an abusive relationship and events an abused woman experiences, even if the children are not used as pawns for abuse.

Employment on the other hand has produced inconsistent results. A woman's employment may increase opportunities for her to separate from an abusive partner while an abuser's unemployment may increase the likelihood of violence and/or femicide (Benson & Fox, 2004; Block, 2000b; Campbell, et al., 2003). Employment of the victim brings her out of the home into contact with others who may potentially serve as guardians (Johnson, 1998; Eckberg, 1995 as

cited in Block 2000b). When the male is employed he is also removed from the home, decreasing the opportunity for abuse and increasing the likelihood he may be held accountable for his abusive behavior by outsiders.

Furthermore, MacMillian and Gartner (1999) proposed that the effect of employment is influenced by a partner's level of education. In other words, employment fulfills gender roles and when a male is without employment, risk of abuse increases because of the threat to his masculinity. The association between an abuser's unemployment and abuse can further be explained by opportunity theory, in that unemployment increases the amount of time the abusive male is able to spend with the woman and at home. The current study incorporates four variations of the couple's employment status: both employed, neither employed, only the male partner employed and only the female partner employed. While these features have been shown to affect later *abuse*, it is unclear what their effect on the types of events a woman may experience during or after an abusive relationship. These ideas underlying the formulation of the second research question lead to the following hypotheses:

H1a: Physical separation from an abusive partner will increase the odds of "Apart Events".

H1b: Victims not married to their abusive partner will experience more "Apart Events" than married women.

H1c: As relationship length increases, the odds of "Apart Events" will increase.

H1d: The presence of children in the household will increase the odds of "Apart Events".

H1f: Employed respondents, whether or not her partner is employed, will be more likely to report "Apart Events".

The goal of this subset of hypotheses is to explore what factors, beyond if the couple has begun the process of separation, may be associated with the events a woman experiences during and after an abusive relationship. Nevertheless, events are just one step in a chain of abuse. As previous research has shown, features of an abusive relationship may directly affect the likelihood of abuse.

Features of the Relationship, Events, and Risk of Physical and Indirect Abuse

As mentioned previously, abusive behavior can take a variety of forms. The analyses focuses on physical abuse, such as slapping, punching or forcing sex, along with indirect abuse, where the abuser uses third parties to control the victim. Controlling behavior is a distinct and problematic form of abuse (Johnson, 1995, 2006; Stark, 2007), with indirect abuse serving as a type of controlling behavior that occurs with increased frequency during the process of separation (Beeble, et al., 2007; Hayes, 2012; Shepard & Hagemeister, 2013). In spite of the evidence on indirect abuse, researchers have concentrated on how separation increases the likelihood of physical abuse and femicide (Brownridge, 2006; Fleury, et al., 2000). Relevant definitions of key terms as they pertain to abusive behavior are summarized in Table 1.

Table 1. Definitions of Key Terms

Key Term	Definition
Women Abuse & Intimate Partner Violence	"Misuse of power by a husband, intimate partner (whether male or female), ex-husband, or ex-partner against a woman… who is the direct victim of ongoing or repeated physical, psychological, economic, sexual, verbal and/or spiritual abuse" (DeKeseredy & MacLeod, 1997, p. 5)
Physical Abuse	As defined by the variables used to create the physical abuse index for the study: Forced sex, threaten to hit, slap/push, punch/kick, beat up/choke, threaten weapon use, and weapon use
Controlling Behavior & Psychological Abuse	Intimidation, manipulation, regulation of behavior to stereotypical gender roles and/or isolation (Follingstad, 2007; Stark, 2007)
Indirect Abuse	Abusers use of third parties (family, friends, children) as tools to control, monitor and/or manipulate the victim. Indirect abuse does not necessarily involve violence.

Important to the concept of indirect abuse, connections with third parties are one potential way the abuser's life remains entangled with his victim, even after the couple separates. The abuser may use his continuing connections as a way to indirectly manipulate and control his victim throughout the separation process. Children have been identified as a connection an abuser can use to continue to indirectly control the woman (Bancroft & Silverman, 2002; Beeble, et al., 2007). Family and friends may be another connection, beyond the children, the abuser uses to maintain control over his current or former partner (Bancroft, 2002).

As noted, features of the relationship associated with physical violence have received the bulk of attention in earlier research. The current study identifies what features of the relationship are associated with the occurrence of indirect abuse and if they are consistent with those associated with physical violence. Based on these ideas and the literature reviewed in the previous section below are the following hypotheses:

Features of the Relationship and Physical Abuse

H2a: Physical separation from an abuser will increase the number of physical abuse incidents.

H2b: Being married to an abusive partner will decrease the number of physical abuse incidents.

H2c: As the length of relationship increases, the number of physical abuse incidents will increase.

H2d: Having an unemployed abusive partner will increase the number of physical abuse incidents.

Features of the Relationship and Indirect Abuse

H3a: Physical separation from an abuser will increase the odds of indirect abuse.

H3b: Being married to an abusive partner will decrease the odds of indirect abuse.

H3c: As the relationship length increases, the odds of indirect abuse will increase.

H3d: Having an employed abusive partner will increase the odds of indirect abuse.

Events may have a unique effect on the type of abuse experienced. For instance, the effect of education and employment status on later abuse has been inconsistent. Therefore, research into events associated with employment and education changes, rather than just the status, may illuminate their impact on later abuse. Certain events may also shape the opportunity structure, by providing the abuser an opportunity to engage in a particular form of abusive behavior. With these ideas in mind and in order to develop policy that is relevant to abuse victims, one must understand if certain events increase the likelihood of abuse or influence the type of abuse experienced.

Events and Physical Abuse

H4a: "Together Events" will increase the number of physical abuse incidents.

H4b: "Apart Events" will decrease the number of physical abuse incidents.

H4c: A change in school and/or work will decrease the number of physical abuse incidents.

Events and Indirect Abuse

H5a: "Together Events" will decrease the odds of indirect abuse.

H5b: "Apart Events" will increase the odds of indirect abuse.

H5c: A change in school and/or work will decrease the odds of indirect abuse.

Again, features of the relationship, especially if the couple is together or separated, may shape the type of event. The type of event may in turn influence the likelihood of later abuse. For example, separation should decrease the likelihood of the couple coming together. This should

decrease the opportunity to engage in physical violence, leading the abuser to resort to indirect abuse if he is going to continue his abusive behavior. A diagram of this process can be found in Appendix D. In other words, the type of event may mediate the experience of later abuse. These ideas lead to the following hypotheses based on research question five:

"Together Events" as the Mediator

H6a: If the couple is physically separated, together events will decrease the number of physical assaults.

H6b: If the couple is physically separated, together events will increase the odds of indirect abuse.

"Apart Events" as the Mediator

H7a: If the couple is physically separated, apart events will decrease the number of physical assaults.

H7b: If the couple is physically separated, apart events will increase the odds of indirect abuse.

Impact of Separation on Timing of Later Abuse

Risk of physical abuse has been shown to increase during the process of separation, and that the more incidents of physical abuse that happen, the sooner the next victimization will occur (Farrell, Buck & Pease, 1993; Fleury et al. 2006; Brownridge, 2006; Mele, 2009). Having the date when the physical abuse incidents occurred allows for the calculation of time between each of the physical abuse incidents. Relationship characteristics associated with risk of abuse can be included as predictors for the time between physical abuse incidents. If risk of abuse increases during the process of separation, separated respondents should be more likely to report less time between physical abuse incidents. As stated earlier, employment of either the

respondent or her abusive partner should limit the likelihood of abuse because the opportunity for the abuser to converge in time and space with the victim is reduced. It is hypothesized that employment increases the time between incidents, leading to the last two hypotheses:

H8a: Physical separation will increase the time elapsed from the first physical abuse incident to second physical abuse incident.

H8b: Employment will increase the time elapsed from the first physical abuse incident to the second physical abuse incident.

Summary

Overall, the current study not only creates a categorization scheme for events abused women experience but also assesses differences between separated and non-separated respondents on the type and timing of abuse. In order to design policy measures and determine what factors increase or decrease risk of abuse, the association of relationship characteristics and events with different forms of abused is analyzed. In the next chapter, the data used in the project is discussed along with the measures created from the dataset. The analytic plan is then reviewed.

CHAPTER 5

SAMPLE, MEASURES, AND DATA ANALYSIS

Sample

Description of CWHRS Data

The Chicago Women Health Risk Survey (CWHRS) is a secondary data source and was originally conducted to determine what risk factors increase an abused woman's risk of femicide. This was accomplished by comparing intimate partner violence cases that resulted in homicide to those that did not. The CWHRS also assessed the respondent's attempts at interventions (e.g. contacting police) and provided a baseline comparison between abused women and non-abused women (Block, et al., 2000). Though the CHWRS captured the respondent's experiences on a life history calendar, only one study has been published which focused on this portion of the CHWRS (Block & DeKeseredy, 2007). The current study is one of the first to analyze the life history calendar portion of the CWHRS and is the first to incorporate a focus on multiple types of abuse beyond forced sex. The CWHRS employed a quasi-experimental design and included two samples: a hospital/clinic sample (n=705) and homicide sample (n=87).

CWHRS Hospital/Clinic Sample Selection Procedure

Roughly 2,740 women aged 18 and older were screened with a three-question questionnaire when they entered the hospital or clinic. The primary investigators for the CWHRS urged medical personal to screen for intimate partner violence among *all* women who accessed the health care facility during the period of study. The screening questions revolved around physical violence, sexual violence and fear of returning home within the past year. Two groups of women entering the hospital or clinic were then sampled based on their responses to the screening questions: almost all women who answered "yes-within the past year" to one of the

three screening questions (abused women N=497) and about 30% of those who did not respond affirmatively to any of the abuse screening questions (non-abused comparison sample N=208). The abused women sample is the focus of the current study. The non-abused women sample is not included in analyses since key variables of interest were not collected for this sample.

Follow up interviews, which occurred three months to two years after the initial interview, were conducted with 323 respondents of the abused women sample, a retention rate of 66.5%. A second follow-up interview was conducted with 180 respondents of the abused women sample. Of the women who completed the first follow-up, 32% did not need a second follow-up. The follow-up interview focused on a limited series of questions, the most relevant being total number of physical abuse incidents, and is therefore not included in analyses.

Data Collection Procedures

Once the women were selected and agreed to be included in the study, face-to-face interviews were conducted in a secure and private setting to ensure safety and anonymity. Respondents signed consent forms and were assured confidentiality. The interview included questions on physical and mental health, an assessment of social support, and the Conflict Tactics Scale. Respondents who answered affirmatively to one of the abuse questions during the interview also completed a life history calendar based on her responses to the Conflict Tactics Scale. The life history calendar collected retrospective data on physical abuse incidents and important events over the past year.

Life History Calendars

Life history calendars are data collection tools that quantitatively capture the sequencing of events by having respondents first identify more general events to orient recall of more specific events. Life history calendars collect data in a way that is similar to how

autobiographical memories are recalled (Belli, 1998; Freedman, Thornton, Camburn, Alwin, & Young-DeMarco, 1998; Sutton, 2010). Memories are stored hierarchically and then organized thematically (Belli, 1998). Life history calendars assist the respondent in recalling events by using sequential and parallel retrieval approaches that work in tandem with top-down retrieval (Yoshihama, et al., 2002). The respondent is able to recall events in the order they occurred (i.e. sequential) or when the event occurred in relation to another domain of the respondent's life (i.e. abuse ended when respondent moved out).

Life history calendars have been used to study other topics in criminal justice, such as aggressive and non-aggressive childhood behavior and prisoner self-report of criminal behavior (Eisner, et al., 2009; Sutton, Bellair, Kowalski, Light, & Hutcherson, 2011). Their use with intimate partner violence victims specifically has been shown to increase recall of events (Yoshihama, et al., 2002). Therefore, life history calendars are an appropriate way to collect self-report data on sequencing and timing of events intimate partner violence victims may experience.

Exclusion of CWHRS Homicide Sample

The current study focuses on the abused women from the CWHRS hospital/clinic sample and the events they experienced. This sample is used because the goal of the study is to understand differences between individuals who have begun the process of separation from their abusive partner from those who have not. The CHWRS also includes a homicide sample, which compromises all intimate partner violence homicides in Chicago over a two-year period. Similar interviews to the ones utilized for the hospital/clinic sample were conducted with the homicide victim's family or friends to allow for a comparison between abusive relationships that did and did not end fatally.

The homicide sample is excluded from the current study. The death of an intimate partner is a permanent separation that occurs at a distinct moment. Because death is not an ongoing process with the possibility of reconciliation, events may have a different impact on abuse and may be an area for future research.

Measures

Independent Variables

One of the key predictors in this study is if the respondent indicated she is currently separated from her abusive partner. This binary variable is coded 0 = currently in a relationship with the abuser and 1 = separated from the abuser.

A series of variables are included to capture other relevant features of the relationship. Marital status of the couple is coded into three binary variables, with "Married" serving as the reference. "Single" includes engaged and widowed respondents while "Divorced" captures those who reported they were separated or divorced. Relationship length is included as an ordinal variable ranging from 1 = "one year or less" to 6 = "181 months or longer".

The total number of children a respondent has is included as a continuous variable[2]. Level of education for the respondent and her abusive partner are also examined. Education ranged from 1 = "no schooling" to 9 = "graduate or professional degrees". A series of binary variables that capture the working status of the couple are included as predictors of opportunity. "Both Unemployed" is the reference category, with "Both Working", "Only the Female Working" and "Only the Male Partner Working" serving as the variables to be included in analyses.

[2] Prior research has found that the presence of children in the household not fathered by the abuser increases the risk of abuse (Miner, Shackelford, Block, Starratt, & Weekes-Shackelford, 2012).This variable was included in early analyses, was never found to be significant, and was therefore excluded from final models .

Table 2. Descriptive Statistics for Abused Women from CWHRS Who Reported at Least One Event on the Life History Calendar

Independent Variables (N=469)	**Mean/Percent**	**S.D.**
Physical Separation	44.22%	0.50
Single	59.79%	0.49
Married	22.09%	0.42
Divorced	18.12%	0.39
Relationship Length	3.30	1.64
Total Children	2.14	1.90
Female Education	3.85	1.21
Male Education	3.95	1.44
Both Unemployed	31.26%	0.46
Both Working	19.70%	0.40
Only Female Working	8.23%	0.28
Only Male Working	40.81%	0.49
Control Variables (N=469)		
African American	70.36%	0.46
Hispanic	19.83%	0.40
Other Race	9.81%	0.30
Age	30.68	9.00
Events (N=469)		
Together Events	39.66%	0.49
Apart Events	66.73%	0.47
No Apart Events	33.26%	0.47
Apart Event Before Physical Abuse	20.00%	0.40
Physical Abuse Before Apart Event	46.7%	0.50
Life Events	47.76%	0.50
Change in School and/or Work	58.42%	0.49
Health-Related Event	47.97%	0.50
Other Event	27.72%	0.45
Dependent Variables[3]		
Physical Abuse Index (N=469)	10.02	19.68
Threatened or Frightened Family (N=469)	21.54%	0.41
Threatened or Frightened Friends (N=469)	28.78%	0.45
Threatened to Harm Children (N=339)	8.26%	0.28
Threatened to Take Children (N=339)	23.60%	0.43

[3] Dependent variables are not imputed for missing data. The sample for research questions two through six is therefore limited to respondents who responded to each of the dependent variables used in the analysis.

Age and race of the respondent are included in analyses as control variables, as prior research has found increased rates of intimate partner violence among African Americans and minorities compared to whites (Caetano, Cunradi, Schafer, & Clark, 2000; Hampton, Oliver, & Magarian, 2003; Sokoloff, 2008). Race is coded into three binary groups, "African American", "Latina" and "Other Race", with "Other Race" serving as the reference category. Age is included in models as a continuous variable. A distribution of the independent and control variables can be found in Table 2.

Mediating Variables

Events serve as independent variables for some research questions and dependent variables to be predicted in others. A clarification of which variables are used for each research question and analysis can be found in Appendix E. Events are thematically coded based on the first research question discussed in the previous chapter into "Together Events", "Apart Events", "Life Events", "Changes in School and/or Work", "Health-Related Events" and "Other Events". The classification scheme for events can be found in Appendix C and is discussed in depth in the results chapter.

A variable that captures if the Apart Event occurs before or after the physical abuse incident is included in analyses using the dates provided on the life history calendar. Apart Events are recoded into those that came before a physical abuse incident and those that came after using if-than statements. The reference category is respondents who did not report an Apart Event. Descriptives of the event variables can be found in Table 2. All respondents in the sample reported at least one type of event on the life history calendar.

Dependent Variables

Physical abuse often escalates in lethality over time. For a woman in an abusive relationship, the violence likely begins as a slap or a push and slowly becomes assaults or more life threatening forms of violence over time (Melton & Belknap, 2003; Johnson, 1995). Physical abuse is measured with an additive index without make a distinction between types of violence. The index is included in the analyses as a continuous variable. The index ranges from 1 to 172 (*Mean*= 10.02, *S.D.*= 19.68, *Median*= 3.00) and is positively skewed (*Skewness* = 4.18, *S.D.* = 0.11). Since the outliers in this study are the women who experienced the most egregious intimate partner violence, they are not excluded from the study.

Indirect abuse is measured with four binary variables taken from the harassment scale. Respondents were asked if their partner ever threatened or frightened family (Yes = 21.1% vs. No = 78.9%) or friends (Yes = 28.1% vs. No = 71.9%). If the abuser ever threatened to harm (Yes= 8.1% vs. No = 91.9%) or take (Yes= 23.7% vs. No = 76.3%) the children should the respondent begin the process of separation captures indirect abuse involving children. Indirect abuse involving children was not available to the abusive partner of the 102 respondents who indicated they did not have children, reducing the total N for these analyses. A distribution of the physical abuse index and indirect abuse variables can be found in Table 2.

The last research question analyzes the difference between those who have physically separated and those who have not on the time between physical abuse incidents. In order to calculate this, the "date difference" function in SPSS is used to determine the time elapsed between the first physical abuse incident and the second. Time elapsed between incidents is calculated in days. The time between the second and third physical abuse incidents is then

calculated. The process is repeated for the timing of incidents up until the tenth incident, as 75% of the respondents did not report a physical abuse incident after the tenth.

28.4% of the sample did not report a second physical abuse incident after the first. Right censoring of the timing variable is a possibility when the respondent reports the first incident but not a second. In other words, observation ends before the respondent reports having the event, or in this case the second physical abuse incident (Allison, 2010). Survival analysis, which is discussed in the data analysis section, is capable of handling missing data in such cases that are right censored (Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2007).

In order to include right-censored cases in a survival analysis, the time between the first incident and some other time must be calculated. For respondents who did not report a second physical abuse incident, the date data collection ended (January 1, 1999) is used to calculate the timing variable. For respondents who reported a second physical abuse incident, the date of the incident is used to calculate the timing variable. The difference between these dates is then included in analyses as a continuous variable. Censored cases are coded as 0 while respondents who report a second physical abuse incident are coded as 1.

Multiple Imputation

In order to retain a large enough sample given the small sample size to begin with, multiple imputation is used for missing data on independent variables. Variables with the highest missing data are education status of the abusive partner (13.43% of cases missing data) and the working status of the couple (5.11% of cases missing data).

There are three types of missing data: missing completely at random (MCAR), missing at random (MAR) and non-ignorable missing data (NI). MCAR is unlikely to occur in social science datasets since it assumes the missing data does not have a pattern (Allison, 2001; Clark

2013). When missing data is NI, there is an association between the missing data and dependent variable (Tabachnick & Fidell, 2007). MAR occurs when the missing data is not associated with the dependent variable once control variables are included in the study. The MAR assumption cannot be empirically tested (Allison, 2001). Since data for the current study is missing primarily on one variable, the abuser's level of education, the data is assumed to be MAR. Abuser's education status may be related to working status, which is included in the models.

Unlike other methods often used for handling missing data (e.g. list wise deletion, mean substitution), multiple imputation does not assume the data is randomly missing (Tabachnick & Fidell, 2007). For this reason, multiple imputation is used for the current study to generate values for missing data instead of other approaches (see Allison, 2001). In this process, missing data is estimated from the measures that are not missing information and the associations among these measures (Clark, 2013). Data for the current study is not missing on the following dependent variables: physical abuse index, if the abuser threatened family and if he threatened friends. Since data may not be missing at random on the remaining dependent variables that focus on indirect abuse involving children (i.e. respondents missing data did not have children), data from these dependent variables are used for estimation of other predictors. Estimates of indirect abuse involving children are not included in the imputed datasets and not used in analyses.

For the current study, the multiple imputation function in SPSS is used to impute the missing data. Creating 10-stacked imputed datasets is only marginally more efficient than five imputed datasets (Schafer & Olsen, 1998). Therefore, five stacked datasets are created, which is consistent with Rubin's (1996) recommendation. Parameter estimates are then averaged across each of the five-parameter estimates. To assess the significant of models, Schafer's (1997)

combination of chi-squares into an F statistic with Allison's (2007) SAS macro is used (Roberts & Lyons, 2011).

Data Analysis

Restructuring of Data for Analysis

For the analyses, relevant variables are saved from each of the CWHRS datasets and the files are then merged to create a master individual level file. Each respondent was originally assigned a unique identifier that allows one to merge the datasets together. The event and physical abuse incident files provide characteristics for each event and incident the respondent reported on the life history calendar, as opposed to presenting the data per respondent. These two files are restructured so each row represents an individual respondent. The restructured event and incident files are then merged with the other individual level data so that events and the time between physical abuse incidents can be included in analyses.

Recoding of Events and Prediction of Abuse Risk

The analysis utilizes the 469 abused women who reported at least one event on the life history calendar. First, events are classified into thematic categories using a deductive approach (Bernard & Ryan, 2009). The original coding and thematic categories can be found in Appendix C.

The second research question relates to the impact of relationship features on the experience of events. A series of logistic regressions are run to determine what relationship features increase or decrease the odds of a respondent experiencing each type of event based on the coding from the first research question.

Following these analyses, the impact of particular relationship features on the occurrence of physical abuse and indirect abuse is assessed. Consistent with earlier work on skewed and

over dispersed physical abuse data, negative binomial regression models are used for analyses in which the physical abuse index serves as the dependent variable (Taylor, Guterman, Lee, & Rathouz, 2009; Sherman, Smith, Schmidt & Rogan, 1992). Logistic regression is used for the analyses in which relationship characteristics predict the odds of reporting each type of indirect abuse.

To analyze the impact of events on later abuse, first events are entered into models predicting the likelihood of each type of abuse. For those models in which events are significant predictors of each type of abuse, relationship characteristics and events are entered into models as steps predicting the likelihood of abuse. The first step is relationship characteristics. Events are included as the second step to determine if events remain significant predictors of abuse, controlling for relationship characteristics. Again, a negative binomial regression is used for the analysis of the physical abuse index while logistic regression is used for dependent variables relating to indirect abuse.

Survival Analysis

Lastly, survival analysis is run to identify factors that influence the time between the first physical abuse incident and second. Survival analysis is appropriate for the CWHRS life history calendar data because survival analysis seeks to determine how the time until an event happens is influenced by particular characteristics (Tabachnick & Fidell, 2007). Multilevel modeling has been used with life history calendars and to study intimate partner violence that involves data with dates (Leone, Johnson, & Cohan, 2007; Yoshihama & Bybee, 2011). But, life history calendars do not have the traditional nesting that is required for multi-level modeling (Raudenbush & Bryk, 2002) that students in schools (Lee, 2000) or individuals in countries do (Adamczyk & Hayes, 2012; Adamczyk & Pitt, 2009). Multilevel modeling also groups events

into larger clusters than days, which obscures the possibility that a second physical abuse incident may quickly follow the first.

To begin the survival analysis, a chi-square test for group differences with 1 degree of freedom is run to determine if the groups differ in survival time, or the time between the first and second physical abuse incident. The respondents are grouped into those who have separated from their abuser and those who have not. Survival functions are estimated with the Kaplan-Meier estimator. The two Kaplan-Meier estimates of survival functions are then plotted against each other.

Next, a Cox Regression, also referred to as the Proportional Hazards Models, is run. A Cox Regression determines if relationship characteristics influence survival time, or the time between the first and second physical abuse incident (Cox, 1972). Survival functions for the average respondent, or someone who scored the mean on all covariates included in the model, are also produced and plotted. Right-censored variables are included in survival analysis.

CHAPTER 6

RESULTS

In this chapter, the results from the research questions will be presented. To begin, events are thematically categorized. Each of the analyses described in the data analysis section in the previous chapter are then conducted. After each analysis, a summary of the results is presented as they relate to the literature and theory reviewed.

Research Question 1: What types of events does a victim experience during and after an abusive relationship?

The first research question focuses on classifying the different types of events women in abusive relationships experience and assesses if there are differences between separated and non-separated respondents in the likelihood of experiencing each event. The coding of these events is theoretically driven with a deductive approach (Bernard & Ryan, 2009). First, the different types of events reported by respondents on the life history calendar are recoded into six thematic categories: 1) Together Event, 2) Apart Events, 3) Life Events, 4) Change in School and/or Work, 5) Health-Related Events, and 6) Other Events.

The original responses provided by respondents for the classification scheme can be found in Appendix C. "Together Events" are those that bring the victim into contact with her abusive partner and/or increase the abuser's access to the woman. "Apart Events" are those in which the victim and offender should have reduced contact with one another. Apart Events are then reclassified into those that occur before a physical abuse incident and those that occur after based on the date of the first Apart Event and first physical abuse incident. Later analyses highlight that the impact of the Apart Event differs depending on if it occurs before or after a physical abuse incident.

"Life Events" consist of calendar events as well as positive and negative experiences that are not related to work, school or health. Life events may not clearly bring the couple together or signal separation. "Changes in School and/or Work" comprise if the respondent or her partner started, stopped, or changed their school or working status. Lastly, "Health-Related Events" focus on changes in physical health. Examples of each type of event can be found in Table 3.

Table 3. Examples of Each Event Type

Event Type	**Examples**
Together Events	Moving in with a partner, apology by an abusive partner
Apart Events	Moving out, infidelity by one of the partners, incarceration of one of the partners
Life Events	Anniversaries, birthdays, deaths, family/friends incarceration
Changes in School and/or Work	If the respondent or her partner started, stopped or changed their school or working status
Health-Related Events	Pregnancy, hospitalization, drug use and rehabilitation

The first research question also sought to ascertain the difference in types of events experienced by those still in an abusive relationship compared to those who begun the process of separation. As seen in Table 4, separated respondents report that they experience a Together Event (21.9%) more often than those who had not begun the separation process (17.7%). The likelihood of experiencing a Together Event significantly differs based on separation status (χ^2= 15.79, $p < 0.001$), though the strength of the association is weak (Phi= 0.18, $p < 0.001$).

The process of separation often represents the couple moving apart or making some change so that they begin to spend less time together and decrease the likelihood they converge in time and space. Consistent with the first hypothesis and seen in Table 4, 39.4% of separated

respondents report an Apart Event compared to 27.3% of respondents who are not separated from their partner (χ^2= 85.52, $p < 0.001$). The relationship between reporting an Apart Event and separation status is strong (Phi= 0.43, $p < 0.001$).

Table 4. Experience of Each Event Type Based on Separation Status (N=469)

	Not Separated	Separated	Chi Square Test
Together Event	17.7%	21.9%	15.79***
Apart Event	27.3%	39.4%	85.52***
Life Event	25.8%	22.0%	0.59
Change in Work and/or School	32.8%	25.6%	0.03
Health Related Event	27.5%	20.5%	0.38
Other Event	16.8%	10.9%	1.76

* p <0.05; ** $p < 0.01$; ***; $p < 0.001$

For the remaining events, there are no significant relationships between each event type and separation status. Both separated respondents and those still in a relationship with their abusive partner are equally likely to report experiencing a Life Event, Change in Work and/or School, Health-Related Event or Other Event.

Given researchers often find risk of physical and sexual abuse increases during the process of separation (Brownridge, 2006; DeKeseredy & Schwartz, 2009), it is important to distinguish if the Apart Event precedes the physical abuse or if the physical abuse occurs before the Apart Event. If the physical abuse occurs before the Apart Event, it may be a trigger or precipitating event to begin the process of separation. Evidenced in Table 5, respondents are less likely to report an Apart Event precedes physical abuse, with no significant difference between separated and non-separated respondents (χ^2= 1.64, $p > 0.05$), compared to respondents who did not report an Apart Event. There is a significant and strong difference between separated and non-separated respondents in reporting an Apart Event after the experience of physical abuse

compared to respondents who did not report an Apart Event (χ^2= 59.38, $p < 0.001$, Phi = 0.36). Separated respondents are more likely to report an Apart Event occurs after a physical abuse incident (29.4% of separated vs. 17.3% of non-separated).

Table 5. Experience of Physical Abuse and Apart Event Type Based on Separation Status (N=469)

	Not Separated	**Separated**	**Chi Square Test**
Apart Event Before Physical Abuse	10.0%	10.0%	1.64
Physical Abuse Before Apart Event	17.3%	29.4%	59.38***

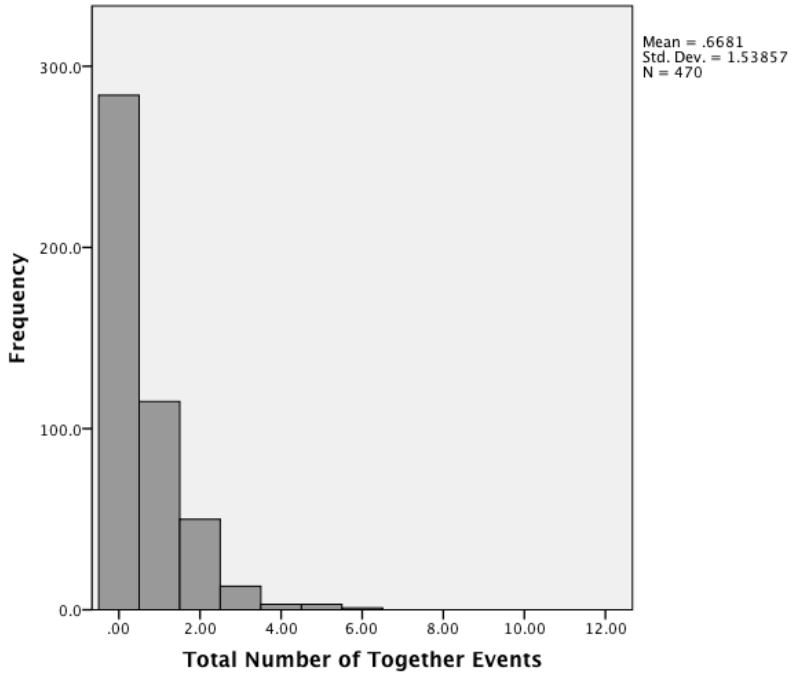
* p <0.05; ** $p < 0.01$; *** $p < 0.001$

To assess if Together and Apart Events are frequent occurrences for the sample and to capture if separation is an ongoing process or single event, a count of Together and Apart Events is calculated. Though the range of Together Events reported across respondents is large, (Range=0-27) the overall mean and standard deviation is low (Mean = 0.67, S.D. = 1.54). This is represented in Graph 1. The same can be said of the Apart Event count total, as shown in Graph 2. The mean number of Apart Events reported by respondents is 1.18 (S.D=1.19) and ranges from 0 to 10.

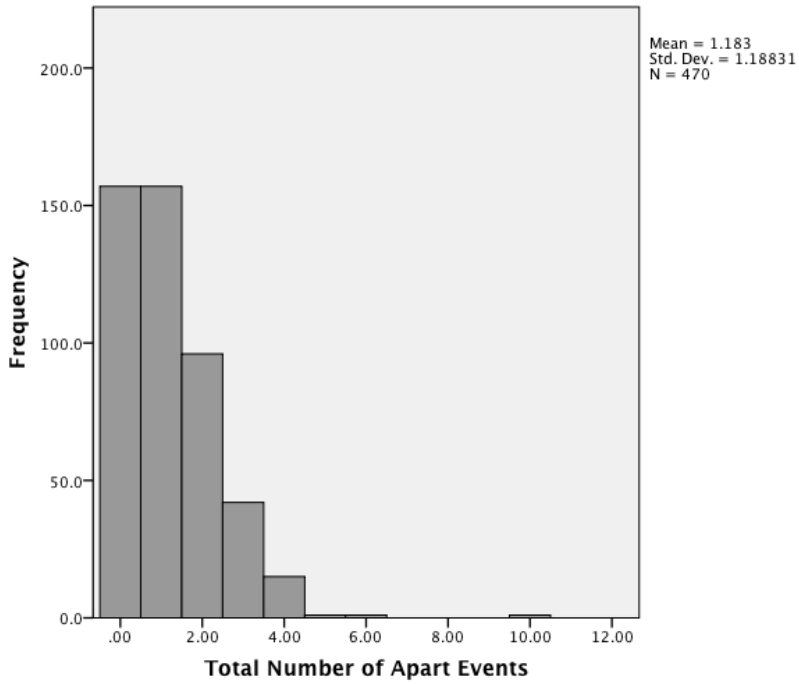
Summary of Research Question 1 Findings

While separated respondents are more likely to report Together and Apart Events, separated and non-separated respondents are equally likely to report the remaining types of events. It may be that events in which the underlying motivation is to explicitly increase or decrease the opportunity to come in contact with an abuser or victim are more important than events with different underlying motivations. For instance, the goal of a hospital visit may not be

Graph 1. Total Number of Together Events Reported by Respondents



Graph 2. Total Number of Apart Events Reported by Respondents



to come in contact with an abuser and/or victim. Instead, it may be for the child or respondent's well-being and in no way be related to the experience of abuse.

Separated respondents are more likely to report an Apart Event following a physical abuse incident, potentially indicating that the physical abuse incident serves as a precipitating event to begin the process of separation (Campbell, Rose, Kub, & Nedd, 1998; Roberts & Roberts, 2005). For the current sample, separation does not appear to be an ongoing process as originally conceptualized by DeKeseredy and Schwartz (2009).

Research Question 2: What features of an abusive relationship impact the type of events the victim experiences?

The second research question assesses if relationship characteristics shown to be associated with abuse are associated with the likelihood of experiencing each type of event. Logistic regressions are run to determine what relationship features increase or decrease the odds of a respondent reporting a Together Event, Apart Event, Life Event, Change in Work and/or School, Health-Related Event, and Other Event. For all logistic regression analyses where the experience of each event type serves as the dependent variable (Models A-F in Table 6), assumptions of multicollinearity and independence of errors are met. Except for Model F in Table 6, relationship characteristics are better than chance at predicting if the respondent reports each type of event.

Features of the relationship are better at predicting the odds of a Together Event than chance alone ($F_{13}= 6.05$, $p < 0.001$, Nagelkerke $R^2= 0.21$) and can be found in Model A of Table 6. Consistent with the significant difference between separated and non-separated respondents in reporting a Together Event, respondents who are separated from their partner are more likely to

report a Together Event (Exp (B)= 1.96, $p < 0.01$). As relationship length increases, the odds of reporting a Together Event decrease (Exp (B) =0.62, $p < 0.001$).

The relationship characteristics included in Model B are significant predictors of the odds of experiencing an Apart Event (F_{13}= 8.03, $p < 0.001$, Nagelkerke R^2= 0.28). Respondents who are separated from their partner are significantly more likely to report an Apart Event

Table 6. Odds of Experiencing Each Type of Event Based on Relationship Characteristics (n= 469)

	Model A Together Event	**Model B Apart Event**	**Model C Life Event**	**Model D Change in Work and/or School**	**Model E Health Related Event**	**Model F Other Event[4]**
	Exp (B)	Exp (B)	Exp (B)	Exp (B)	Exp (B)	Exp (B)
Separated	1.96**	7.95***	0.97	0.90	0.92	0.80
Relationship Length	0.62***	1.03	1.04	1.09	0.96	1.05
Single	0.81	1.26	2.04*	1.04	0.65	0.98
Divorced	1.08	3.15**	1.49	1.19	1.34	1.06
Hispanic	1.23	0.80	0.33**	0.82	0.97	0.75
African American	1.03	0.78	0.86	0.79	0.86	0.44*
Female Education	0.92	0.99	0.90	1.26*	1.07	0.95
Male Education	0.99	0.93	1.06	1.03	1.00	0.95
Both Working	1.38	0.79	1.13	2.29**	0.46**	0.62
Female Only Working	1.89	0.44	0.87	2.78*	0.63	1.16
Male Only Working	1.26	0.87	1.47	1.32	0.88	0.59*
Total Children	1.04	0.95	0.94	1.09	1.14*	1.00
Female Age	0.98	0.99	1.04**	0.96**	0.93***	0.95

* p <0.05; ** $p < 0.01$; *** $p < 0.001$

[4] Model 6 was not significant (F_{13}= 1.27, $p > 0.05$).

(Exp (B) = 7.95, $p < 0.001$), supporting hypothesis 1a. Divorced respondents, compared to married, are significantly more likely to report an Apart Event (Exp (B) = 3.15, $p < 0.01$). These findings confirm hypothesis 1b that women not married to their abusive partner will report more Apart Events. The female being the only partner in the couple working approaches significance in predicting an Apart Event (Exp (B) = 0.44, $p = 0.06$). Hypotheses 1c through 1f are not supported because no other relationship characteristics are significant predictors of an Apart Event.

In the third model of Table 6, relationship characteristics are better at predicting the odds of a Life Event than chance alone (F_{13}= 3.15, $p < 0.001$, Nagelkerke R^2= 0.11). Compared to married respondents, single respondents are more likely to report a Life Event (Exp (B)= 2.04, p <0.05). Hispanic respondents are less likely to report a Life Event compared to respondents who identify as an Other Race (Exp (B) = 0.33, $p < 0.01$). Lastly, the older a respondent is, the more likely she is to report a Life Event (Exp (B) = 1.04, $p < 0.01$).

Compared to chance alone, relationship characteristics are better at predicting the likelihood of a Change in Work and/or School occurring (F_{13}= 2.68, $p < 0.001$, Nagelkerke R^2= 0.10). The higher a respondent's education, the greater the likelihood she reports a Change in School and/or Work Event (Exp (B) =1.26, p <0.05). Compared to couples where both partners are unemployed, when both partners are working (Exp (B) = 2.29, $p < 0.01$) and only the female partner is working (Exp (B) = 2.78 $p < 0.05$), the likelihood of a Change in School and/or Work increases. Older respondents are less likely to report a Change in Work and/or School (Exp (B) = 0.96, $p < 0.01$).

Relationship characteristics predict the likelihood of a Health-Related Event occurring better than chance alone (F_{13}= 3.34, $p < 0.001$, Nagelkerke R^2= 0.12). When both the respondent

and her abusive partner are working, compared to couples where neither partner is working, the odds of a Health-Related Event decrease (Exp (B) =0.46, $p < 0.01$). As the total number of children a respondent has increases, so does the likelihood of reporting a Health-Related Event (Exp (B) =1.14, $p < 0.05$). Older women are less likely to report a Health-Related Event (Exp (B) = 0.93, $p < 0.001$).

Lastly, relationship characteristics are not significant in predicting the likelihood of an Other Event better than chance alone ($F_{13}= 1.27$, $p > 0.05$). Other Events capture a wide range and do not have a uniform motive underlying the event type.

Given the significant difference between separated and non-separated respondents on the timing of an Apart Event, an additional analysis is included to determine if relationship characteristics impact the odds of an Apart Event that occurs before or after a physical abuse incident. The model in which relationship characteristics predict an Apart Event that occurs before a physical abuse incident is not significant ($F_{13}= 0.94$, $p > 0.05$) and is not presented. In line with preliminary chi square analyses and included in Table 7, relationship characteristics are significant in predicting the likelihood of Apart Events that occur after a Physical Abuse incident ($F_{13}= 5.67$, $p < 0.001$, Nagelkerke $R^2= 0.20$).

Consistent with Model B in Table 6, separated respondents are more likely to report an Apart Event that occurs after a physical abuse incident (Exp (B) = 4.40, $p < 0.001$). Compared to couples in which both partners are unemployed, if only the female partner is working approaches significance (Exp (B) = 0.49, p =0.08), decreasing the odds that an Apart Event follows a physical abuse incident. Because there are significant differences depending on the timing of an Apart Event compared to the physical abuse incident, Apart Events are analyzed in further

analyses based on their timing in regard to physical abuse incidents. Respondents who did not experience an Apart Event are the reference category.

Table 7. Odds of Experiencing an Apart Event After Physical Abuse Incident Based on Relationship Characteristics (n= 469)

	Physical Abuse Before Apart Event
	Exp (B)
Separated	4.40***
Relationship Length	1.04
Single	1.44
Divorced	1.93
Hispanic	1.89
African American	1.44
Female Education	0.96
Male Education	0.89
Both Working	0.73
Female Only Working	0.49
Male Only Working	0.90
Total Children	0.92
Female Age	1.02

* p <0.05; ** p < 0.01; *** p < 0.001

Summary of Research Question 2 Findings

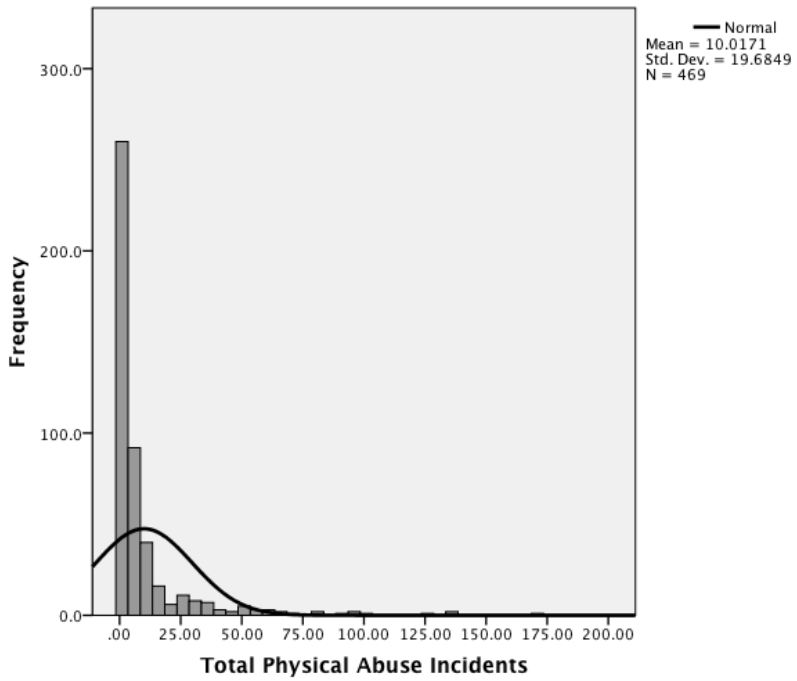
Separation from an abusive partner increases the likelihood of reporting an Apart Event, specifically an Apart Event that occurs after a physical abuse incident. Yet, separation status and reporting an Apart Event may just be a reflection of the same concept. Instead, employment status and age of the respondent seem to capture important differences in the experience of events and may be better predictors of events.

Research Question 3: What features of an abusive relationship affect the victim's risk of experiencing physical and/or indirect abuse?

Assumptions for the linear regression predicting physical abuse are violated. As evidenced in Graph 3, the physical abuse index is not normally distributed, is positively skewed, (Skewness = 4.18, S.E. = 0.11; Kurtosis = 21.80, S.E. = 0.23), and there is the presence of outliers. The homoscedasticity and normal distribution of residuals assumptions are also violated, though independence of observations (Durbin Watson= 1.77) and multicollinearity are not. There is no consistency in cases with a large residual and large leverage.

Given the physical abuse index can be conceptualized as a count variable and many of the linear regression assumptions are violated, the assumptions for generalized linear models are tested for all analyses predicting the total number of physical abuse incidents. The physical abuse index is over dispersed (Mean= 10.00; S.D= 19.64). This signals that a Poisson regression, a

Graph 3. Distribution of Total Number of Physical Abuse Incidents



type of generalized linear model, may be inappropriate. Comparing the BIC (Bayesian Information Criterion) from the Poisson regression model (BIC= 9110.37) to the negative binomial model (BIC= 3065.26), the negative binomial model is a better fit because the BIC is much lower than the BIC for the Poisson regression model. For the aforementioned reasons, analyses in which the physical abuse index serves as a dependent variable are analyzed with negative binomial models.

As seen in Table 8, relationship characteristics are significant predictors of the total number of physical abuse incidents (F_{13}= 12.26, $p < 0.001$). Compared to respondents in which both partners are unemployed, when someone in the relationship or both are working the risk of physical abuse decreases (Only Respondent working IRR= 0.42, $p < 0.001$; Only Abuser

Table 8. Incident Risk Ratio of Physical Abuse Based on Relationship Characteristics (N=469)

	Physical Abuse Index	
	Incident Risk Ratio (95% CI)	
Separated	1.12	(0.91, 1.39)
Relationship Length	1.13***	(1.05, 1.21)
Single	0.68**	(0.51, 0.90)
Divorced	0.79	(0.57, 1.11)
Hispanic	1.00	(0.65, 1.56)
African American	0.66*	(0.46, 0.95)
Female Education	0.93	(0.86, 1.01)
Male Education	0.92	(0.85, 0.99)
Both Working	0.27***	(0.20, 0.36)
Female Only Working	0.42***	(0.29, 0.62)
Male Only Working	0.54***	(0.42, 0.69)
Total Children	1.06*	(1.00, 1.12)
Female Age	1.00	(0.99, 1.02)

* p <0.05; ** $p < 0.01$; *** $p < 0.001$

working IRR = 0.54, $p < 0.001$; Both Working IRR = 0.27, $p < 0.001$), supporting hypothesis 2d. When both partners are working, the risk of physical abuse decreases by almost 75%. When at least one of the partners is working, regardless of if it is the abuser or respondent, the risk of physical abuse decreases by roughly 50%. As the number of children and relationship length increases, the risk of physical abuse increases (IRR= 1.06, $p < 0.05$; IRR= 1.13, $p < 0.001$ respectively). These findings confirm hypothesis 2c that relationship length increases risk of physical abuse. Lastly, risk of physical abuse decreases by about 30% for single respondents (IRR= 0.68, $p < 0.01$) compared to married respondents and does not support hypothesis 2b. Hypothesis 2a is not supported since separated and non-separated respondents are not significantly different on their risk for physical abuse (IRR= 1.12, $p > 0.05$).

Assumptions for logistic regression are not violated for the four models predicting the odds of indirect abuse. Relationship characteristics are significantly better than chance at predicting the odds an abusive partner threatened family (F_{13}= 1.93, $p < 0.05$; Nagelkerke R^2= 0.08), threatened friends (F_{13}= 1.94, $p < 0.05$; Nagelkerke R^2= 0.09), threatened to harm the children (F_{13}= 3.23, $p < 0.001$) and threatened to take the children (F_{13}= 5.75, $p < 0.001$). Relationship characteristics explain the most variation in predicting if the abuser threatened to harm (Nagelkerke R^2= 0.29) or take the children (Nagelkerke R^2= 0.32)[5]. Results for these analyses can be found in models A through D in Table 9.

Separated respondents are more likely to report their partner threatened family (Exp(B)= 1.67, $p < 0.05$). As relationship length increases, so does the odds the abuser threatened the family (Exp(B) = 1.20, $p < 0.05$) and threatened to take the children (Exp (B) = 1.59, $p < 0.001$),

[5] Nagelkerke R^2 is similar to R^2 in linear regression. Though the interpretation is slightly different, it can be conceptualized as method of assessing how good the model fits the data. Values approaching 1 indicate a better fit.

supporting hypothesis 3c. Compared to couples in which both the respondent and abuser are unemployed, respondents in couples in which both partners are working (Exp (B) = 0.31, $p < 0.001$) are less likely to report their partner threatened their friends, lending partial support to hypothesis 3d. Employment status was not a significant predictor for the remaining indirect abuse variables.

As commonly discussed in the indirect abuse literature and supporting hypothesis 3a, respondents who are separated from their abusive partner are significantly more likely to report their partner threatened to harm the children (Exp (B) = 4.62, $p < 0.01$) or threatened to take the

Table 9. Odds of Indirect Abuse Based on Relationship Characteristics

	Model A	**Model B**	**Model C**	**Model D**
	Threatened Family (N=469)	**Threatened Friends (N=469)**	**Threatened to Harm Kids (N=339)**	**Threatened to Take Kids (N=339)**
	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Separated	1.67*	1.16	4.62**	2.40*
Relationship Length	1.20*	1.06	1.24	1.59***
Single	1.27	1.25	3.09	0.86
Divorced	1.50	1.56	2.23	0.88
Hispanic	1.33	1.11	1.75	0.99
African American	0.69	1.62	1.24	0.27*
Female Education	0.88	0.86	0.40**	0.89
Male Education	0.94	0.88	0.70	0.72
Both Working	0.56	0.31***	1.43	1.44
Female Only Working	0.62	0.65	0.00	0.50
Male Only Working	0.62	0.71	0.47	1.27
Total Children	1.02	0.94	1.22	1.05
Female Age	1.01	0.99	1.01	0.93***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

children (Exp (B) =2.40, $p < 0.05$). As the respondent's education increases, the abuser is less likely to have threatened to harm the children (Exp (B) = 0.40, $p < 0.01$). Compared to respondents of other races, African American respondents are less likely to report their abuser threatened to take the children (Exp (B) = 0.27, $p < 0.05$). Lastly, as the respondent's age increases, the risk the abuser threatened to take the children decreases (Exp (B) = 0.93, $p < 0.001$). The effect of male education on threatening to take the children approaches significance (Exp (B) = 0.72, $p = 0.07$). Marital status does not impact the odds of reporting indirect abuse, offering no support for hypothesis 3b.

Summary of Research Question 3 Findings

The results show separated and non-separated respondents are not significantly different in their risk of physical abuse, which is not consistent with earlier research on increased risk of physical abuse post-separation (Fleury et al., 2000; Brownridge, 2006). However, separated respondents are more likely to report their abusive partner engaged in indirect abuse, especially forms of indirect abuse that involves the children. These findings indicate that the process of separation is related to type of abuse and that abusers may be switching forms of abuse to avoid detection by the criminal justice system or outsiders (Hayes, 2012).

Another significant finding is that employment serves as a protective factor against physical abuse. Employment should decrease the opportunity for the abuser to converge in time and space with the respondent to engage in physical violence (Cohen & Felson, 1979). Unlike physical abuse, indirect abuse does not necessarily occur when the victim and abuser come in physical contact with one another. A telephone call may present an opportunity for indirect abuse but would not allow the abuser to engage in physical abuse. Therefore, the opportunity structure

for some relationship characteristics may in effect limit or promote an abuser's ability to engage in different forms of abuse.

Research Question 4: What events affect the risk of physical and/or indirect abuse?

The next set of analyses focus on the impact of events on risk of abuse, both indirect and physical. Events are not significant predictors of if the abuser threatened family (χ^2= 10.99, p > 0.05) and threatened to harm the children (χ^2= 12.07, p > 0.05). Respondents reported these two types of indirect abuse less frequently than the two other types of indirect abuse (Threaten Family = 21.54%; Threaten Friends = 28.78%; Threaten to Take the Children = 23.60%; Threaten to Harm the Children = 8.26%). Combined models analyzing the effect of events and relationship characteristics on threatening family and threatening to harm the children are not presented, as events offer no additional information.

Events are significant in predicting if the abuser threatened to take the children (χ^2= 14.40, p < 0.05; Nagelkerke R^2= 0.06) or if the abuser threatened friends (χ^2= 15.38, p < 0.05; Nagelkerke R^2= 0.05). The Nagelkerke R^2 is low for these two models, found in Models B in Tables 10 and 11, indicating the model may not fit the data well. Consistent with hypothesis 5b and seen in Table 11, abusers are more likely to have threatened the respondent's friends when an Apart Event occurs after a physical abuse incident (Exp (B) = 1.65, p < 0.05). Life events increase the odds an abuser threatened friends (Exp (B) = 1.63, p < 0.05) but decrease the odds an abuser threatened to take the children (Exp (B) = 0.40, p < 0.001). Lastly, Health-Related events increase the risk an abuser threatened the respondent's friends (Exp (B) = 1.52, p < 0.05).

Table 10. Odds of Threatening to Take the Children Based on Relationship Characteristics and Events (N=339)

	Model A	**Model B**	**Model C**
	Exp(B)	Exp(B)	Exp(B)
Relationship Characteristics			
Separated	2.40*		2.51*
Relationship Length	1.59***		1.64***
Single	0.86		1.00
Divorced	0.88		1.02
Hispanic	0.99		0.85
African American	0.27*		0.24*
Female Education	0.89		0.90
Male Education	0.72		0.72
Both Working	1.44		1.45
Female Only Working	0.50		0.50
Male Only Working	1.27		1.27
Total Children	1.05		1.05
Female Age	0.93***		0.93**
Events			
Together Events		0.87	1.19
Apart Event Before Physical Abuse		0.91	1.01
Physical Abuse Before Apart Event		0.87	0.68
Life Events		0.40***	0.57
Changes in School and/or Work		0.80	0.73
Health-Related Events		1.10	1.11
Other Events		1.46	1.08

* p <0.05; ** p < 0.01; *** p < 0.001

Table 11. Odds of Threatening Friends Based on Relationship Characteristics and Events (n=469)

	Model A	**Model B**	**Model C**
	Exp(B)	Exp(B)	Exp(B)
Relationship Characteristics			
Separated	1.16		1.02
Relationship Length	1.06		1.07
Single	1.25		1.18
Divorced	1.56		1.36
Hispanic	1.11		1.36
African American	1.62		1.85
Female Education	0.86		0.85
Male Education	0.88		0.87
Both Working	0.31***		0.31***
Female Only Working	0.65		0.65
Male Only Working	0.71		0.68
Total Children	0.94		0.93
Female Age	0.99		1.00
Events			
Together Events		1.15	1.17
Apart Event Before Physical Abuse		1.55	1.65
Physical Abuse Before Apart Event		1.65*	1.47
Life Events		1.63*	1.66*
Changes in School and/or Work		1.02	1.23
Health-Related Events		1.52*	1.40
Other Events		1.29	1.24

* p <0.05; ** p < 0.01; *** p < 0.001

Table 12. Incident Risk Ratio of Physical Abuse Based on Relationship Characteristics and Events (N=469)

	Model A	Model B	Model C
	Incident Risk Ratio (95% CI)	Incident Risk Ratio (95% CI)	Incident Risk Ratio (95% CI)
Relationship Characteristics			
Separated	1.12 (0.91, 1.39)		0.92 (0.73, 1.15)
Relationship Length	1.13*** (1.05, 1.21)		1.12** (1.04, 1.21)
Single	0.68** (0.51, 0.90)		0.74* (0.55, 0.99)
Divorced	0.79 (0.57, 1.11)		0.85 (0.60, 1.22)
Hispanic	1.00 (0.65, 1.56)		0.97 (0.62, 1.52)
African American	0.66* (0.46, 0.95)		0.61** (0.43, 0.88)
Female Education	0.93 (0.86, 1.01)		0.89** (0.81, 0.97)
Male Education	0.92 (0.85, 0.99)		0.93 (0.86, 1.00)
Both Working	0.27*** (0.20, 0.36)		0.30***(0.22, 0.42)
Female Only Working	0.42*** (0.29, 0.62)		0.50** (0.33, 0.76)
Male Only Working	0.54*** (0.42, 0.69)		0.56***(0.43, 0.73)
Total Children	1.06* (1.00, 1.12)		1.05 (0.99, 1.12)
Female Age	1.00 (0.99, 1.02)		0.99 (0.98, 1.01)
Events			
Together Events		0.85 (0.69, 1.04)	1.03 (0.81, 1.29)
Apart Event Before Abuse		0.81 (0.61, 1.08)	0.94 (0.69, 1.29)
Abuse Before Apart Event		2.04***(1.64, 2.55)	2.10*** (1.62, 2.71)
Life Event		0.72***(0.59, 0.88)	0.88 (0.70, 1.10)
Changes in School and/or Work		0.77* (0.63, 0.94)	0.96 (0.77, 1.20)
Health-Related Events		0.97 (0.79, 1.18)	0.94 (0.76, 1.16)
Other Events		1.24 (1.00, 1.55)	0.91 (0.72, 1.15)

* p <0.05; ** p < 0.01; *** p < 0.001

Hypotheses 5a and 5c are not supported, as Together Events and Changes in School and/or Work are not significant predictors of indirect abuse.

Evidenced in Table 12, events are significant predictors for the risk of physical abuse incidents (Likelihood Ratio $\chi^2 = 42.39$, df= 6, $p < 0.001$). Consistent with earlier literature on the

increased risk of physical violence during separation (Fleury et al., 2000; Brownridge, 2006) and supporting hypothesis 4b, the risk of physical abuse increases when an Apart Event occurs after a physical abuse incident (IRR= 2.04, $p < 0.001$). It is interesting to note that separation status is not a significant predictor of physical abuse though (IRR= 1.12, $p > 0.05$). Life events decrease the risk of physical abuse by 28% (IRR= 0.72, $p < 0.01$). Similar to the lower risk of physical abuse found when either the respondent or her abuser is working, the risk of physical abuse decreases when there is a Change in School or Work (IRR= 0.77, $p < 0.05$), supporting hypothesis 4c. Hypothesis 4a is not supported since Together Events are not significant predictors of the total number of physical abuse incidents.

Summary of Research Question 4 Findings

Overall, events are not consistent predictors of abuse. Life Events reduce the risk an abuser threatened to take the children or engaged in physical abuse but increase the risk he threatened family. It could be that Life Events create the opportunity for an offender to engage in threats as the Life Event may bring the offender together in time and space with the family. Including events as a mediating step in the regression analysis will clarify if they are useful predictors, beyond relationship characteristics, of indirect and physical abuse.

Research Question 5: Do particular events mediate the occurrence of physical and/or indirect abuse?

Where events are found to be significant predictors of the different types of abuse, full models that include both events and relationship characteristics for predicting risk of abuse are analyzed. Full models for threatening to take the children, threatening friends, and risk of physical abuse can be found in Tables 10, 11, and 12, respectively, under Model C. Together,

relationship characteristics and events are significant predictors of physical abuse ($F_{20} = 10.52$, $p < 0.001$). Once relationship characteristics are controlled for, the only significant event for predicting risk of physical abuse is an Apart Event that occurs after a physical abuse incident (IRR = 2.10, $p < 0.001$). Since Life Events (IRR= 0.88, $p > 0.05$) and Changes in School and/or Work (IRR= 0.96, $p > 0.05$) are no longer significant once relationship characteristics are controlled for, relationship characteristics that capture the working status of the couple may be better predictors of risk of physical abuse than events that capture Changes in Work and/or School. Of particular importance are measures of female education (IRR = 0.89, $p < 0.01$) and working status of the couple (Both Working IRR = 0.30, $p < 0.001$; Female Only Working IRR = 0.50, $p < 0.01$; Male Only Working IRR = 0.56, $p < 0.001$). Once events are controlled for, longer relationships increase the risk of physical abuse (IRR = 1.12, $p < 0.01$).

Logistic regression models predicting the odds the abuser threatened friends and threatened to take the children with relationship characteristics as the first step and events as the second step are assessed. Though the full models including relationship characteristics and events are significant in predicting the odds the abuser threatened friends ($F_{20} = 1.86$, $p < 0.05$; Nagelkerke $R^2 = 0.13$), and threatened to take the children ($F_{20} = 4.00$, $p < 0.001$; Nagelkerke $R^2 = 0.34$), including events as a second step is not significant for if the abuser threatened friends ($F_7 = 1.75$, $p > 0.05$) or threatened to take the children ($F_7 = 0.86$, $p > 0.05$). Overall, relationship characteristics are better predictors of indirect abuse than events and hypotheses 6a, 6b, 7a, and 7b are not supported.

Summary of Research Question 5 Findings

Once relationship characteristics are controlled for, events are no longer significant predictors of indirect abuse, confirming the findings from the fourth research question. Instead,

working status of the couple and relationship length are better predictors of abuse. Again, these two characteristics can be tied to the opportunity structure associated with the relationship. Employment should decrease the amount of time the couple is able to spend together. Longer relationships make the victim more available for abuse (Gaertner & Foshee, 1999). It therefore may not be about the specific event per say but the opportunity created by certain relationship features.

Research Question 6: Does physical separation influence the time elapsed between each type of event and physical abuse?

Given events are not significant predictors of later abuse, survival analyses where events predict time until abuse would not yield any additional information and would not be reliable models. Instead, consistent with repeat victimization research, it is possible that relationship characteristics increase or decrease the likelihood and time until the next physical abuse incident (Mele, 2009).

As shown in Table 13, the median time between successive physical incidents decreases as the number of reported victimizations increases. The median, instead of the mean, is the appropriate measure of central tendency, especially if the greatest time between incidents is a censored case (Allison, 2010). In the current analysis, the median time from the first physical abuse incident to the second is 67 days compared to a mean of 187 days. As the number of physical abuse incidents increases, the number of valid participants decreases. Three quarters of the sample report experiencing 10 physical abuse incidents or less.

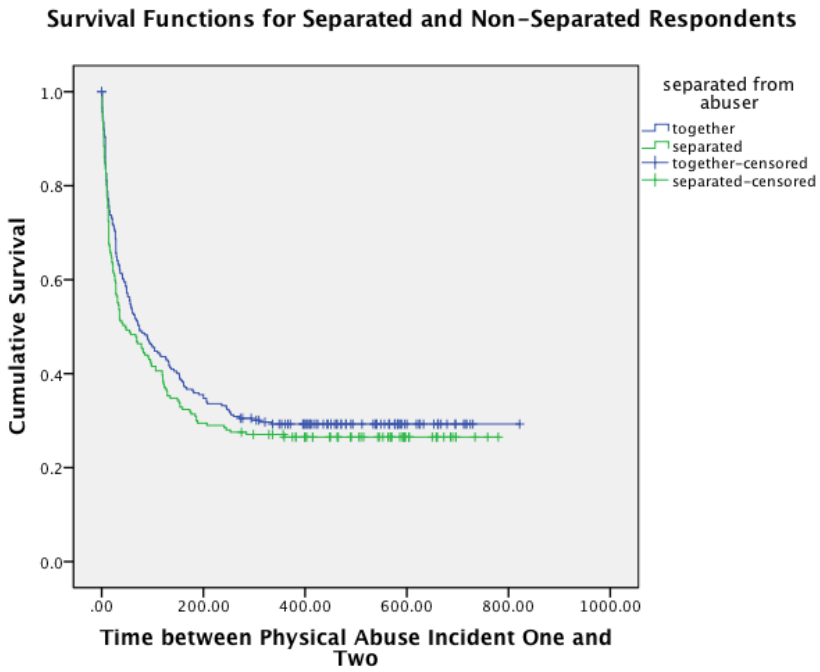
Table 13. Time Between Physical Abuse Incidents in Days

Physical Abuse Incidents	Median Number of Days	N
1st and 2nd	67	469
2nd and 3rd	18	260
3rd and 4th	13	209
4th and 5th	9	178
5th and 6th	9	160
6th and 7th	7	145
7th and 8th	7	127
8th and 9th	7	117
9th and 10th	5.5	112

Kaplan-Meier analysis is carried out to assess the time between physical abuse incidents and if separation status influences survival time, or time until the next physical abuse incident. Overall, 28.4% of the cases, regardless of separation status, are right-censored, or do not experience a second physical abuse incident before data collection ended. There are minimal differences between separated and non-separated respondents in the likelihood of being censored (29.9% vs. 26.6% respectively; $F_1 = 0.62$, $p > 0.05$). By the thirteenth day, 25% of separated respondents experience a second physical abuse incident, while 25% of non-separated respondents report the second physical abuse incident by fifteenth day. There are greater differences in the median time to the second physical abuse incident between separated (Median= 47 days) and non-separated respondents (Median= 74 days), with separation decreasing the time until the second incident. However, the survival distributions between the two are not significantly different ($F_1 = 1.37$, $p > 0.05$) as evidenced by the similar survival functions in Graph 4.

Next, relationship characteristics are included in a Cox Regression to predict the time between the first physical abuse incident and second. Two cases are dropped from the analysis because they are censored before any of the other respondents report a physical abuse incident.

Graph 4. Survival Functions for Separated and Non-Separated Respondents Using the Kaplan Meier Method



This resulted in a sample size of 467. Relationship characteristics are significant predictors of the time between the first physical abuse incident and second ($F_{13} = 4.13$, $p < 0.001$). The results from this analysis can be found in Table 14.

Consistent with the results for the negative binomial regression where relationship characteristics are predictors of total physical abuse incidents, measures that capture the working status of the couple are significant predictors of the time between the first and second physical abuse incidents. Regardless of who is working in the couple, compared to couples in which both the respondent and abuser are unemployed, the time between the first and second physical abuse incident increases, confirming hypothesis 8b. The hazard for couples in which both are unemployed is almost two times that where both the respondent and abuser are working (Exp (B) = 2.03, $p < 0.001$). Compared to couples where either the abuser or respondent is working, unemployed respondents have a greater hazard but not at as great a rate as when both are

Table 14. Hazard Ratio of Time Between First Physical Abuse Incident to Second Physical Abuse Incident Based on Relationship Characteristics (N=467)

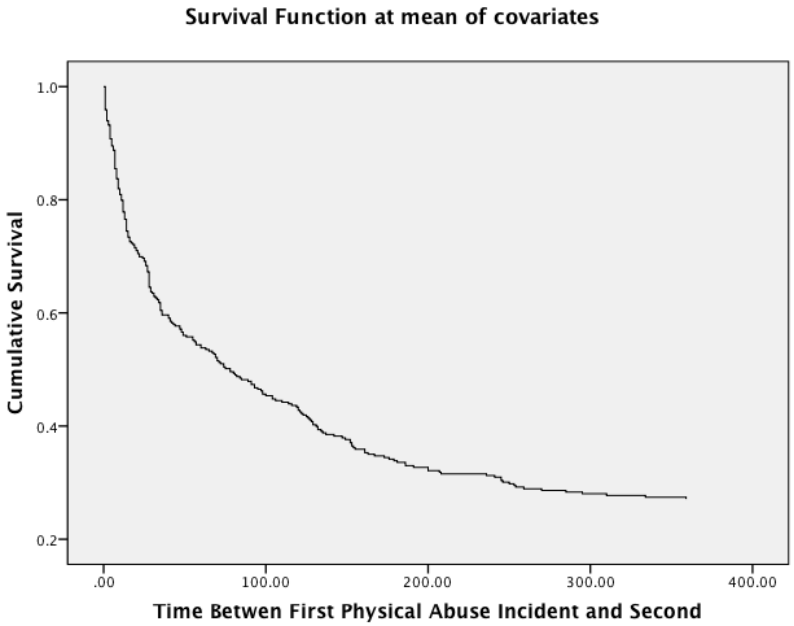
	Hazard Ratio (95% CI)	
Separated	0.81	(0.64, 1.03)
Relationship Length	0.98	(0.91, 1.05)
Single	0.97	(0.69, 1.35)
Divorced	1.00	(0.68, 1.47)
Hispanic	1.05	(0.67, 1.64)
African American	1.28	(0.87, 1.87)
Female Education	0.84***	(0.75, .93)
Male Education	0.93	(0.85, 1.03)
Both Working	2.03***	(1.45, 2.85)
Female Only Working	1.77*	(1.13, 2.77)
Male Only Working	1.49**	(1.15, 1.93)
Total Children	1.02	(0.96, 1.08)
Female Age	1.01	(0.99, 1.02)

* p <0.05; ** p < 0.01; *** p < 0.001

working (Female only working Exp (B) = 1.77, p < 0.05; Male Only Working Exp (B) = 1.49, p < 0.01). The respondent's education is a significant predictor of the time between the first physical abuse incident and second. For each increase in the respondent's education, the hazard decreases by 16%. Education and employment status are significant in reducing the risk of reoccurring physical abuse incidents. Hypothesis 8a is not supported since survival time does not significantly differ between separated and non-separated respondents.

The survival function for the average respondent, that is someone with mean scores on all predictor variables, can be seen in Graph 5. There is a sharp decline in survival time (from 100% to 40%) between 0 and 100 days, indicating over half of the second physical abuse incidents happened within 100 days of the first incident. After 100 days, the survival function continues to decline but at a slower rate.

Graph 5. Survival Time for First Physical Abuse Incident to Second for an Average Respondent



Summary of Research Question 6 Findings

Confirming results where physical abuse is included in analyses as an index, separated respondents are not significantly different from non-separated respondents on the time between the first and second physical abuse incident. These findings potentially indicate that risk of physical abuse does not drastically increase when the process of separation begins. Given indirect abuse increases post-separation, it would be beneficial to assess for all types of abuse post-separation and to not focus on physical abuse. Moreover, second incidents of physical abuse do not appear to immediately follow the first incident. This could allow for the implementation of long-term intervention measures. Another key discovery is that employment and victim's education appear to be protective factors against continued physical abuse. Long-term intervention measures may be aimed at promoting employment and increasing access to educational opportunities for women in abusive relationships.

CHAPTER 7

DISCUSSION, LIMITATIONS, AND POLICY IMPLICATIONS

Discussion

Events Abused Women Experience

Overall the analyses show that events are related to the experience of abuse when relationship characteristics are not controlled for. However, relationship characteristics are better predictors of both indirect and physical abuse. Of the relationship characteristics associated with abuse, many are related to the opportunity structure of the relationship, such as the employment status of the couple. Even though relationship characteristics are better predictors of abuse than events, the opportunity structure of these characteristics, rather than innate features of an individual, may allow for the design and implementation of situational crime prevention measures (Clarke, 1997).

Due to the fact that the experience of events differs across relationship characteristics for the sample, events may still prove to have potential to classify respondents for policy initiatives. There are significant differences between separated and non-separated respondents on the likelihood of reporting Together and Apart Events. It is intuitive that separated intimate partner violence victims are more likely to report an Apart Event since the process of separation suggests the abuser and victim will no longer come in contact, or do so in a much more limited fashion. On the other hand, separated respondents are also more likely to report a Together Event. This finding could be caused by the fact that separated victims reach milestones in the relationship before beginning the separation process. Relationships in which the couple is still together may not have reached the stage of a Together Event (e.g. moving in, marriage) yet. The greater likelihood that separated respondents report a Together Event may also indicate the couple

reconciled, possibly confirming earlier research that separation is more of a process than an event that occurs in a distinct moment of time (DeKeseredy & Schwartz, 2009).

The mean number of Together Events for the sample is less than one, suggesting many women in the sample are not having an ongoing reconciliation with their abusive partner. The Together Event that the separated respondent reported on the life history calendar may represent the beginning of the relationship and not a reconciliation event. These results stand in contrast to the often-reported finding that abused women reconcile seven times on average with their abusive partner (The Women's Community, Inc., 2010). For this sample of abused women who accessed a health care facility, separation is less of a process than previously conceived (DeKeseredy & Schwartz, 2009).

Future research should capture a broader range of Together Events. Many examples in the current study are formal transitions and include moving in together or marriage. There are a number of events not included in the study with the potential to bring the former couple into physical contact with one another without binding the couple together the way marriage and/or cohabitation does. Intimate partner violence victims may see their former partner during a child custody exchange or unexpectedly around town, bringing the former couple together in time and space without a motivation to reconcile. Attempts to reconcile may also occur without necessarily moving back in together. These more transient events have the potential to capture differences in events that bring the couple together. Such informal Together Events may also better capture the separation process.

Apart Events are those with the potential to limit contact between the victim and abuser. Though separated respondents are more likely to report an Apart Event, the average number of Apart Events is one. Overall, once there is an Apart Event, it is not followed by multiple Apart

Events. Consistent with the low average of Together Events, these findings diverge from the widely reported statistic that an abused woman often reconciles and separates from her abusive partner multiple times throughout the separation process (The Women's Community, Inc., 2010; DeKeseredy & Schwartz, 2009; Khaw & Hardesty, 2009).

The low levels of reconciliation events reported may potentially be explained by the sample selected for analysis. The sample in the current study includes those who accessed a healthcare facility, possibly indicating that those who are separated from their abuser experience more egregious and harmful forms of violence that require medical attention. If the violence is so severe and/or outsiders are made aware of the abuse, the likelihood of reconciliation may decrease after an Apart Event.

Because it is also often found that the risk of physical abuse increases once the separation process begins (Fleury et al., 2000; Brownridge, 2006), Apart Events are separated into those that occur before a physical abuse incident and those that occur after. In this sample very few respondents report the first physical abuse incident occurs after the Apart Event. The majority of respondents who experience an Apart Event report the Apart Event occurred after the physical abuse incident. The physical abuse incident may serve as the precipitating event for the victim to begin the process of separation by preparing for an Apart Event (Campbell, et al., 1998; Eisikovits, Buchbinder, & Mor, 1998; Polletta, 2009).

A significant difference between separated and non-separated respondents on Apart Events following the experience of physical abuse can be interpreted as the physical abuse sparking the separation process. As shown in the survival analysis, the second physical abuse incident does not instantaneously follow the first physical abuse incident. During that time, the respondent may have sought out education or employment to ease the transition before a formal

Apart Event so she is able to support herself and her children once she goes through with the Apart Event.

The victim may believe initiating an Apart Event, such as moving out, will provide her protection from the abuse. In line with opportunity theories, Apart Events should increase the perceived effort needed by the abuser to engage in physical abuse since his access to his victim is reduced (Clarke, 1997). When the couple is no longer living together, if the abuser wants to engage in abusive behavior, he will need to design ways to come in contact with his former victim. If one of the partners goes to jail is another example of an Apart Event that should provide protection from abuse. The opportunity to engage in abusive behavior is almost entirely eliminated in these cases because jails and prisons are designed to protect society by incapacitating offenders. However, if the abuser is motivated to continue his abusive behavior, he may attempt to create opportunities for abuse following an Apart Event. As is discussed in the following section, indirect abuse may be a form of abuse with low risk post-separation or when the offender is unable to come in physical contact with his victim.

Both separated and non-separated respondents are equally likely to report a Life Event, Change in Work and/or School, Health-Related Event, or Other Event. These types of events may not be intrinsic to an abusive relationship and the process of separation the way Together and Apart Events are. If the victim and abuser have children together, they may have to come in contact for a Life Event or Health-Related Event for the children, regardless of if they are separated. Therefore, Life Events and Health-Related Events may create opportunities for abuse since they allow the abuser and victim to converge in time and space (Cohen & Felson, 1979). Yet, during these events there may be available guardians to limit the likelihood of physical

abuse. Unbeknownst to the victim or guardians, the abuser may use these guardians as tools to continue his manipulation without engaging in physical violence.

Life events significantly increase the odds of an abuser threatening friends, once relationship characteristics are controlled for. Life Events are also associated with decreased risk of physical abuse and threatening to take the children when relationship characteristics are not included in the model. Life events, such as birthdays, deaths and reunions, are occasions where the abuser has the potential to come in contact with the respondent, children, and the respondent's friends. Thus creating the opportunity to engage in abusive behavior. The abuser may then reserve his physical abuse to Life Events where there are a limited number of available guardians. Future research should be directed at identifying how Life Events and the number of available guardians during the Life Event may create or hinder the opportunity to engage in different forms of abusive behavior.

Features of the Relationship and Events

The second research question assesses if features of the relationship previously shown to be associated with risk of abuse are also associated with the experience of the six different types of events identified in the first research question. Consistent with the chi square analysis, separated respondents are more likely to report Apart Events and Apart Events that occur after a physical abuse incident. Divorced respondents, compared to married respondents, are more likely to report an Apart Event but are not significantly more likely to report an Apart Event that occurs after a physical abuse incident. An instance of physical abuse may be the impetus to begin the separation process before an Apart Event.

It is possible the married respondents experience Apart Events later in the study, which ultimately terminates the relationship while divorced respondents already experienced that event.

Separation status, rather than marital status, may more accurately capture the nature of intimate relationships and the ongoing process of separation. Family structure and relationships have changed since the CWHRS data was originally collected in the mid to late 1990s. Given the increased likelihood of cohabitation and divorce among respondents with more recent sample (Kennedy & Bumpass, 2008; National Center for Family and Marriage Research, 2010), it is important to consider if divorce reflects the respondent's relationship with the abuser or a former partner that was not abusive.

Separated respondents are also more likely to report a Together Event while longer relationships decrease the likelihood of a Together Event. Together events include moving in and marriage. Presumably, the longer one is with their partner, the more likely they are to already be living together or taken the next steps to show more serious commitment. Given the low mean on both the total number of Together and Apart Events, it is unlikely the reconciliation process is reoccurring. Together, these findings potentially indicate that separation is not an ongoing process. Instead, if the respondent attempts to reconcile with an abusive partner, she does so only once.

Older and single respondents are more likely to report a Life Event. Life events may be positive or negative happenings in the respondent's own life or family and friends' lives. Single respondents may no longer be isolated thereby allowing them to experience these joys and hardships with family and friends (Lanier & Maume, 2009; Stark 2007). As one ages, she may be exposed to more life experiences, such as deaths in the family or children's birthdays. The features of the relationship associated with Life Events are possibly a reflection of the life cycle and stages of the relationship. If so, prevention measures can be tailored based on the respondent's characteristics.

The higher the respondent's education the more likely she is to report a Change in School and/or Work. Higher education may allow the respondent educational and employment opportunities. Furthermore, Changes in School and/or Work may represent the next step in education or careers, such as graduation, transition to a new job or a promotion. Compared to couples in which neither partner is working, those where both or only the female are employed are more likely to report a Change in Work and/or School. Being in the workforce may allow for fluctuations in job status that are not available to those currently not in the workforce. If so, having an education or employment is a protective factor. Employment of the respondent, her abuser, or both, is associated with a decreased risk of abuse, again highlighting the potential protective factor of employment. Lastly, older respondents may be less likely to report a Change in School and/or Work because they already have an established career and/or finished schooling. If so, the opportunity for change and potential policy measures may be limited for older respondents.

When both the respondent and her abuser are working, the likelihood of a Health-Related Event decreases. Many of the Health-Related Events revolve around drug and/or alcohol abuse. Substance abuse or frequent trips to the Doctor for a chronic condition may impact one's ability to maintain a job. Therefore, having a job and partner who also has a stable job may lead to a more conventional lifestyle that does not involve substance abuse.

Furthermore, the more children a respondent has increases the likelihood of a Health-Related Event while older women are less likely to report a Health-Related Event. Having more children may mean more trips to the doctor as some Health-Related Events are related to pregnancy. On the other hand, older women may no longer have young children currently residing with them thereby making them less likely to access the health care system. Older

women may also be less likely to become pregnant, limiting the likelihood they need to access the healthcare system for prenatal care.

Prior research has found that the presence of children in the household not fathered by the abuser increased risk of abuse (Miner, Shackelford, Block, Starratt, & Weekes-Shackelford, 2012). Yet, this predictor is never significant and total number of children is only significant in predicting Changes in School and/or Work. The results indicate that the presence of children may not affect the likelihood a particular event occurs. Though prior research has found children are often named as a reason for a precipitating event invoking the process of separation (Campbell et al., 1998; Roberts & Roberts, 2005) that is not the case for the current sample. It is therefore important to explore if children are instead being used as pawns in the abuse process and to not solely capture their presence or absence for a particular couple.

Overall, employment and changes in school and/or work appear to be important predictors. Education may increase opportunities for change within one's career while unemployment by both partners hinders the potential for change or advancement. Though MacMillian and Gartner (1999) found the abuser's level of education impacts risk of physical abuse, the abuser's education does not impact the occurrence of events or the risk of abuse for the current sample. Therefore, employment status of the couple and female education appear to have more of an impact and should be the focus of intervention efforts.

Features of the Relationship and Abuse

Previous work about the effect of employment and education on the likelihood of abuse and the impact of arrest on later victimization has produced inconsistent results (Brush, 2003; Riger & Staggs, 2004; Maxwell, Garner, & Fagan, 2001). In this study, the respondent's education and employment status of the couple consistently decreases the risk of abuse, both

physical and indirect such as if the abuser threatened friends. A Change in Work and/or School, an actual event and not a characteristic of the couple, also decreases the risk of physical abuse. For a sample that accesses the healthcare system, employment may serve as a protective factor against abuse, particularly physical abuse.

In initial research about the impact of arrest on the likelihood an abuser reoffended, employment of the arrested abuser was included as a control variable in analyses (Sherman, Schmidt, Rogan, & Smith, 1992; Berk, Campbell, Klap, & Western, 1992; Pate & Hamilton, 1992). In these early studies, arrest deterred employed abusers but did not have the same effect for unemployed abusers. Stark (2007) argued unemployed abusers did not have as much to lose by reoffending and may be less invested in the status quo, potentially diminishing the deterrent effect of arrest.

When pooling all the domestic violence arrest experiments, Maxwell et al. (2001) found that employment lowers revictimization when official records are used compared to victim reports. The current study employs victim reports of violence, with the results confirming strong support of employment as a protective factor against abuse. In many of these early experiments, only the male's employment status was included in models. The current study extends earlier work by considering both the female and male's employment status in comparison to one another.

Typically, gender inequality or differences in status within the couple is measured by comparing the difference in the abuser and victim's educational levels (MacMillian & Gartner, 1999; Yount 2005; Yount and Carrera 2006; Vyas and Watts 2009; Yount and Li 2009). Yet, educational differences may only capture the tenants of feminist theory. Instead, employment differences may be stronger predictors as they capture aspects of opportunity theory.

Employment of the female, and not the abuser, may be symbolically important to the abuser as it highlights he is no longer the breadwinner of the family, which is a role often associated with masculinity (MacMillian & Gartner, 1999). If the abuser has a job, his masculinity should not be threatened and employment should decrease the opportunity for him to converge in time and space with the victim (Cohen & Felson, 1979). Moreover, the abuser may not risk a stable wage by engaging in abusive behavior. An abuser involved in the work force may have more ties to society that would be damaged if family and/or friends report he threatened them and/or found out about the physical violence. Relying on both feminist and opportunity theories, employment status of the couple may capture gender inequality and opportunity within the couple better than educational differences.

Physical abuse is a more overt form of abusive behavior. If an employed abuser is to engage in physical abuse or be violent against his employed partner, it may readily come to the attention of outsiders. If the abuser is physically violent, he may jeopardize his or his partner's employment and impact his and the victim's ability to pay the bills or provide for the children. Since risk of abuse decreases with a Change in Work and/or School, the effect of employment on abuse may be better explained by opportunity theory than threats to masculinity.

Opportunity theory proposes that abusers are always motivated to engage in abusive behavior to gain pleasure and avoid pain (Bentham 1907; Felson, 2002). Indirect abuse may afford such benefits (Stark, 2007) without the risk of getting caught associated with physical violence. Previously, Hayes (2012) found that women's education increased the risk of indirect abuse. According to the current study, the woman's education serves as a protective factor against the abuser threatening to harm the children and the time between physical abuse incidents. In this sample, the respondent's education is significantly correlated with her working

status. If the respondent is educated and employed she may have more options (e.g. ability to hire an attorney) to remove the children from the abuser's care that are not available to those who are unemployed or without higher levels of education. Future research should attempt to unravel the unique contributions of education and employment.

The longer the relationship is, the more likely the abusive partner threatened family, threatened to take the children or engaged in physical abuse. Longer relationships allow the abuser more occasions to come in contact with his victim, thereby making the victim more available to him and increasing the opportunity for him to engage in physical violence (Gaertner & Foshee, 1999). Longer relationships also create more opportunities for the abuser to come in contact and develop a relationship with the victim's family. As the relationship length increases there is the potential for the abuser and victim's lives to become more entwined. The abuser may use these new ties to his advantage and attempt to have the family align with him or threaten those closest to the abused partner (Bancroft, 2002).

Marital status is not a reliable predictor of abuse, with the exception that single respondents are at a decreased risk of physical abuse. Being single may represent that the process of separation has begun or is almost complete. If the process of separation is almost complete, the opportunity for the abuser to come into contact with his victim should be reduced and/or the abuser may accept there is a low likelihood of reconciliation. Additionally, being single may represent that the woman is no longer involved in a relationship with anyone, which should limit the potential opportunity for any type of abuse. Again, separation status may be a more appropriate measure than marital status because the process of separation may indicate if the abuser is still pursuing the female; even if the female believes the relationship is over.

Separated respondents are more likely to report their abuser threatened to either harm or take the children. Earlier research discussed how abusers manipulate and control their victims during the process of separation through child custody disputes and visitation (Jaffe, Crooks, & Poisson, 2003; Logan & Walker, 2004; Sauders, 1994; Shepard, 1992). Though researchers have begun to discuss ways in which abusers may use the children as pawns to further control and manipulate their victim (Bancroft & Silverman, 2002; Beeble, et al., 2007), there is still a lack of empirical work on this topic. The findings within the current study highlight the ways in which abusers use children throughout the separation process to manipulate and control the victim. Since the victim may no longer be directly available to the abuser post-separation, the children possibly become his remaining connection to her. The greater likelihood of indirect abuse involving the children during the separation process highlights that this form of abuse may become a tactic when the opportunity to engage in other forms of abuse is limited.

Separation also increases the risk the abuser threatened family, but not friends. Bancroft (2002) discussed how an abuser attempts to manipulate family to understand his perspective and slowly turn them against the victim. The abuser may believe he will be more successful in manipulating the family because one cannot change their family. Friends may change depending on living arrangements, employment status or children's lives and may not be as committed to understanding the abuser's point of view.

Compared to respondents with identified as Other Race, African Americans are also less likely to report their partner threatened to harm the children or engage in physical violence. Earlier research did not find race differences in the experience of indirect abuse (Hayes, 2012) though other studies have found race differences in the use of physical violence (Caetano et al., 2000; Hampton et al., 2003; Sokoloff, 2008). This difference is possibly caused by the fact that

African American respondents in a health care setting are more likely to report their partners are jealous (Block 2000b). There is a need to untangle if there are race differences in risk of indirect abuse that are driven by differences in jealously or if these differences are caused by another factor.

As the total number of children increases, so does the number of physical abuse incidents and the risk of an abuser threatened to harm the children. Number of children has previously been found to be associated with physical violence (Straus, Gelles, & Steinmetz, 1980). The current study extends the literature by showing the association between number of children and risk of indirect abuse. A greater number of children create more opportunities for the abuser to engage in indirect abuse.

More children may create additional opportunities for this type of indirect abuse as the abuser can make threats against any of the children. Although, total number of children may not increase the risk an abuser threatened to take them. More children would mean the abuser has to deal with the logistics of taking a larger group undetected. The same ideas may underlie the finding that older women are less likely to report their abuser threatened to take the children. Older women may have older children, limiting the opportunity for an abuser to engage in this type of abuse. Older children may have begun to develop their own life, be more likely to report he took them, or challenge him if he took them.

Models are the most reliable when relationship characteristics predict indirect abuse in which children are the third parties used to control and manipulate the victim. Indirect abuse was originally conceptualized as the use of children by the abuser to further his manipulation (Tolman, 1989; Bancroft & Silverman, 2002; Stark, 2007). Given technological advances that facilitate communication since the CWHRS was originally conducted, family and friends may be

more likely to serve as proxies for abuse in social media forums such as Facebook, Twitter, etc. If the abuser and/or victim post comments in these forums, family and friends may be exposed to their words/actions in ways they might not have been in the past. In these interactive environments, family and friends can also comment on what the abuser and/or victim say. As discussed in the data limitations section, future research should be directed at assessing the impact of social media on threatening, controlling, and manipulating the victim.

The results within in the current study confirm that indirect abuse involving children is associated with particular features of the relationship, especially separation. The findings also support the idea that abusers switch to indirect abuse during the process of separation, possibly to avoid detection by third parties or the criminal justice system. Recommendations for child custody agreements are discussed in the Policy Implications section.

Timing Between Physical Abuse Incidents

Originally the six different types of events were going to be used to determine if particular events increase or decrease the time to a physical abuse incident. Yet, none of the events are significant predictors of abuse when relationship characteristics are controlled for. This may be due to the fact that event categories, though theoretically driven, cover a broad range within a category. More concrete events, such as a custody exchange instead of Together Events broadly defined may actually have an association with risk of abuse. Also, since events are not strongly associated with risk of physical abuse, it would not be reliable or valid to extend their application to a survival analysis. Instead, relying on the repeat victimization literature (Buzawa & Buzawa, 2003; Farrell, 1992; Genn, 1988), time between physical abuse incidents is calculated to determine what factors increase or decrease the time between physical abuse incidents.

Given risk of revictimization is greatest immediately following an abusive incident (Farrell, 1995), it is likely the second physical abuse incident immediately follows the first. However, the median time until the second physical violence incident is a month and a half for the sample. Earlier work used to construct the hypotheses focused on revictimization among intimate partner violence victims who called the police (Farrell, 1995). Police involvement may expedite the risk of violence since the abuser may feel outsiders should not be involved in personal matters (Stark, 2007). In these cases, release from jail after an arrest increases the opportunity for him to engage in abusive behavior, which the abuser justifies with patriarchal attitudes. The difference in the timing of physical abuse incidents may be a reflection of the sample used in the current study.

Consistent with the repeat victimization literature, as the number of physical abuse incidents increases, the time between each successive incident decreases (Farrell et al., 1993; Mele, 2009). Though earlier research has shown separation increases risk of physical abuse (Fleury et al., 2000; Brownridge, 2006), the current study does not find significant differences between separated and non-separated respondents on the time between the first and second physical abuse incidents. Instead, other determinants of opportunity may increase or decrease the time between the first and second physical abuse incidents.

Couples in which both partners are unemployed have the greatest hazard of a second physical abuse incident. Unemployment increases the contact between the abuser and victim thereby increasing the opportunity to engage in abusive behavior. These findings stand in contrast to the idea that employment is a "symbolic resource in relationships" (MacMillian & Gartner, 1999, p. 957). Had it been a story of symbolic resources, risk of physical violence would increase when only the respondent is working. Instead, as long as someone in the couple

is working, hazard of physical abuse is reduced.

Consistent with earlier research (Vyas & Watts, 2009), when female partners have higher levels of education the hazard of a second physical abuse incident decrease. Male education does not have the protective effect some research has found (MacMillian & Gartner, 1999; Vyas & Watts, 2009). These findings reinforce opportunity, and not necessarily patriarchy or gender inequality within the couple, is what increases the risk of physical abuse. Future research should incorporate more measures that capture opportunity.

Data Limitations and Areas for Future Research

Although the data used for this study includes information on the timing of events and extends the intimate partner violence literature, some limitations need to be considered. First, despite a sizable sample size to conduct analyses there are still a small number of available cases for each type of event. Apart Events are divided into three separate categories, limiting the number of available respondents for each type. An avenue for future research would be to use predefined theoretically driven event categories on life history calendars so that classifications would be meaningful and not occur post hoc. The thematic categories used in the current study for events are some examples of what could be included. As mentioned earlier in the discussion, Together and Apart Events should be further divided to capture other dimensions and smaller milestones in the relationship.

Life history calendars are designed to facilitate retrospective recall of events within a cross-sectional study (Freedman, et al., 1988). The alternative, prospective longitudinal studies, are also designed to study events over the lifetime, but allow for casual explanation better than cross-sectional studies. Yet, the drawback is that longitudinal studies are costly and suffer from attrition (Dichter & Gelles 2012; Yoshihama & Bybee, 2011). Previous work has also shown that

life history calendars improve recall on prevalence and frequency of events without necessarily improving accuracy in the timing of events (Morris & Slocum, 2010). Despite these limitations of the life history calendar, it can be administered as a semi-structured interview and was conducted in under an hour for the CWHRS (Block, 2000b). Life history calendars are a cost-effective, easy to administer alternative to longitudinal studies. Given that events are not significantly related to the experience of abuse, future research could use life history calendars to identify if there are other types of events that impact the risk of abuse before undertaking a longitudinal study on the topic.

The sample is limited to women who accessed a health care facility in Chicago and may not be representative of all abused women. Though intimate partner violence is commonly seen in the emergency room setting (Boes, 2007; Plichta, 2004), it is not the only service abused women access. It is possible women who seek out shelter services report different types and frequencies of events and/or abuse. Research on indirect abuse and events for victims who access shelters and intimate partner violence homicide victims is lacking.

A similar study utilizing the homicide sample from the CWHRS could be undertaken to assess if the events have the same impact for intimate partner violence homicide victims compared to the hospital/clinic sample. Another study could also use the CWHRS homicide sample to examine the association of relationship characteristics with indirect abuse and the timing of physical abuse incidents with intimate partner violence homicide. If indirect abuse and events are shown to be associated with intimate partner violence homicide, shelters may be more willing to partake in a study that captures not only indirect abuse but also allow for the incorporation of the life history calendar into intake forms. By incorporating the life history

calendar, other possible effects of events for intimate partner violence victims across different samples could be clarified.

Prior to the completion of the current study, shelters and intimate partner violence organizations in the tri-state area were contacted for access to clients and to gauge their willingness for data collection using the life history calendar. All agencies contacted chose not to participate as they saw such restructuring of an intake form as arduous or were currently involved in other projects. This study is one of the first to empirically confirm the occurrence of indirect abuse, especially post-separation, and to show that risk of physical abuse does not drastically increase once the victim begins the process of separation. Given the findings from the current study diverge from earlier research, if more studies challenge preconceptions about risk of abuse post-separation agencies may be more willing to let researchers collect data.

The date is only provided for physical abuse incidents, not indirect abuse or other forms of controlling behavior. Survival analysis is therefore limited to assessing the impact of particular covariates on the timing between physical abuse incidents. Nevertheless, this is the best publically available data that captures the timing of abusive incidents. Future research that relies on the life history calendar method should collect date data on all types of women abuse, not just violent incidents. It is possible that incidents that follow a physical assault involve controlling behaviors or indirect abuse. Having the date for multiple types of abuse will identify if abusers are indeed switching to more covert tactics once their abusive behavior comes to the attention of others or the process of separation begins.

Furthermore, the nuclear family structure has been evolving within the United States. Many individuals are now delaying marriage, cohabitating before marriage and dissolving marriages (Kennedy & Bumpass, 2008; National Center for Family and Marriage Research,

2010). Compared to prior research, current family arrangements may have an additional impact on the opportunity structure that facilitate or hinder the experience of intimate partner violence and indirect abuse. To further understand the impact of these changes in family structure, future research should allow for a dynamic categorization of martial and separation status.

The data was collected cross-sectionally and may not reflect the ongoing nature of a relationship and the process of separation. Separation status is captured with a single binary indicator. A variable that captures the number of times the respondent reports beginning the separation process (e.g. moving out, closing a bank account shared with abuser) may better capture the ongoing nature of it. Moreover, an ordinal separation variable may identify differences between separated respondents who completed the process and those just beginning the process.

Relationships are inherently complex and can change quickly. For example, a respondent may report the date she moved back in with her partner on the life history calendar. Though this event is classified as a Together Event, the couple may be cohabitating for financial reasons and not because of a desire to continue the relationship. In the current study, events are captured on a daily basis, allowing the respondent to identify changes that happen quickly. But, the span of the life history calendar in the study is over a year, limiting the number of events the respondent is able to recall or report during the interview. Future research on events may be directed at understanding the process underlying a particular event to unravel the complexity and assess how quickly things change. It would be worthwhile to have victims discuss the steps they took to prepare for the actual Apart Event of moving out.

Indirect abuse is captured with a series of four variables, two of which involve threatening or frightening the respondent's family or friends. Threats are vague and can range

from minor threats to death threats. Respondents may have different interpretations as to what is meant by threats. Future research should allow the respondents to identify the different ways in which an abuser may threaten or frighten their family and/or friends. This will allow for a better understanding of how abusers use family and friends as pawns for manipulation and control.

The study is also unable to answer *why* the risk of indirect abuse increases post-separation. Theoretically, it is hypothesized that the opportunity structure changes once the victim begins the process of separation. Separation may also increase the number of available guardians making indirect abuse an attractive type of abuse to avoid detection by the criminal justice system. Even though opportunity type variables, like employment status of the couple, are included in the models, future research should be directed at unraveling abusive men's justifications for engaging in indirect abuse post-separation. It is also important to include measures that capture involvement with the criminal justice system post-separation or the number of available guardians and/or handlers.

The remaining two indirect abuse variables assess if the abuser used children as tools to manipulate the mother. Researchers have identified a multitude of ways children can be used as pawns by the abuser (see Bancroft 2002; Bancroft & Silverman, 2002). Previous empirical work on indirect abuse used different measures, like did the abuser keep the children longer during visitation or try to convince the children that the respondent should take him back (Beeble, et al., 2007; Hayes, 2012). Regardless of the measure used, intimate partner violence victims report experiencing indirect abuse, especially that which involves the children. Future research should be directed at refining measures of indirect abuse and incorporating these measures into intimate partner violence studies. Indirect abuse questions should become standard in intimate partner violence studies much the same way the Conflict Tactics Scale has.

The CWHRS data was collected from 1997 to 1998. Since then, changes in the culture and policies of the United States have taken place. Technological advances and the prevalence of smart phones facilitate communication among individuals. Given the ease in which individuals can communicate on many different forums, abusers may be more likely to contact and manipulate family and/or friends. Future research should consider the role of technology when examining indirect abuse.

Social networking is a daily part of life and has been shown to be a reflection of actual personality (Back et. al., 2010). Abusers can now use sites like Facebook and Twitter as a forum to voice their opinion on their current or former partner's behavior. In some cases, these electronic comments have been used to justify orders of protection. Such websites also create an interactive environment where family and friends can see the comments posted. Despite research just beginning to look at the impact of Twitter and Facebook, script analysis of the process by which indirect abuse occurs on these websites is a viable area for further study. It would also be worthwhile to include questions in future surveys relating to if the abuser threatens family and/or friends in person or online. This will determine if there are differences between the two, as each will have different policy implications. Given that social media content and text messages have been considered forms of hearsay in criminal trials (Randall, 2008), policy for indirect abuse will have to focus on protecting the victim without relying on the criminal justice system.

Policy Implications

Relying on an ecological model, the current study identifies how different systems create opportunities to engage in abuse. Through identification of events and relationship characteristics that increase opportunities for abuse, methods of guardianship can be tailored to individual cases. Despite the fact that abused women do identify events to researchers and practitioners

(Campbell, et al., 1998; Eisikovits, et al., 1998; Polletta, 2009), these events are seldom considered in analyses (Wilkinson & Hamerschlag, 2005). A key goal of the study is to assess if the type of event influences risk of abuse. By understanding the interrelationship between particular events and later abuse, services can be tailored to a victim's needs.

Risk of both physical abuse and threats to take the children are significantly reduced by Life Events. On the other hand, Life Events do increase the risk the abuser threatens friends. Life events such as birthdays have the potential to bring the abuser and victim together in time and space with third parties. If the abuser is to engage in violence at one of these events, it is possible other individuals at the event may reach out for formal help (e.g. call the police). Instead, since the abuser has access to the victim during a Life Event, he may engage in a series of threats that do not come to the attention of others around. Unfortunately, it may be unrealistic for couples not to come together for events post-separation. Victims should design a safety plan based on events that spark the separation process to limit the likelihood of abuse while considering the role of guardians during these events (Chang, et al., 2010). Since Life Events are significantly related to the likelihood of this type of indirect abuse, victims should be aware of the potential for continued abuse that does not necessarily involve violence in these scenarios.

Nevertheless, the majority of events are not significant predictors of abuse once relationship characteristics are controlled for. Apart Events in this sample may represent the particular moment in time when the abused woman formally begins the process of separation (Campbell, et al., 1998; Eisikovits, et al., 1998; Polletta, 2009). Concrete Apart Events, such as moving out or going to jail, may be driven by the physical abuse incident. It is important to identify the factors that occur between the physical abuse incident and Apart Event to determine what faciliated, if anything, the victim's transtition to the Apart Event.

One of the often reported findings in the intimate partner violence literature is that risk of physical abuse increases post-separation. Yet, the current study finds that separation does not influence the time between physical abuse incidents.. It is possible that previous studies find risk increases post-separation because separated respondents may be more willing to disclose abuse (Dalton, 1999).

Once separation status is controlled for, the median time to the second physical abuse incident for the current sample is over two months. This time frame may allow for the implementation of long-term protection measures instead of short-term responses, like security alarms. Potential prevention measures include community members engaging in a process of reintegrative shaming (Braithwaite, 1989; Loeffler, Prelog, Unnithan & Pogrebin, 2010) or restorive justice (Grauwiler & Mills, 2004), though there has been caution against using restorive justice for intimate partner violence (Cheon & Regehr, 2006). Regardless, prevention measures should move beyond target hardening and focus on holding the abuser accountable for his behavior.

It is clear separation increases the risk an abuser uses children as pawns to threaten his former partner. Abused women have reported that in spite of the abuse experienced and potential safety concerns, they want their children to maintain a relationship with their father (Shepard & Hagemeister, 2013). Despite the fact that indirect abuse has been identified in the court system during child custody disputes (Hayes, 2012; Jaffe, et al., 2003; Sauders, 1994; Shepard, 1992), victims report child protective service workers often do not understand and do not support the victim (Johnson & Sullivan, 2008). Abusers may also manipulate child service workers in much the same way he does family and/or friends (Bancroft & Silverman, 2002). Often, child

protective service workers put blame on the victims for the abusers' behavior. (Shepard & Hagemeister, 2013).

When there is an allegation of intimate partner violence during a child custody case, it should be investigated without preference to either party (Bancroft & Silverman, 2002). A child protective service worker has the potential to limit abusive behavior, both physical and indirect. Measures, such as the Use of Children Scale that captures indirect abuse (Beeble, et al., 2007), should be validated and incorporated into child custody assessments. Training should be provided to child custody workers, including the possibility that the abuser may manipulate the child service workers.

One of the most beneficial services intimate partner violence victims identify is supervised visitation. As the structure with supervision is decreases, the risk of manipulation increases (Bancroft & Silverman, 2002) because there are fewer guardians around to monitor the abuser's behavior. The abuser would face more challenges if he tried to harm or take the children during a visitation observed by a court worker. Supervised visitation allows an individual appointed by the court to serve as a guardian to reduce the likelihood of continued abuse.

Prior research on the role of family and friends has identified how an abused woman may become isolated and cannot reach out to family and/or friends for help (Ansara & Hindin, 2010; Gondolf & Fisher, 1988; Lanier & Maume, 2009). The role of family and friends as pawns for abuse has been largely unexplored. Through technological advances that ease communication, such as texting and social networking, family and friends may be new routes for an abusive partner to monitor or control his victim. Criminal trials have begun the debate on the inclusion of text messages and postings to social media sites. Due to the fact that this of communication may be considered a form of hearsay (Randall, 2008), it is unlikely a consensus will be reached soon

on if and how indirect abuse should be criminalized. Instead, identifying and limiting social media use in child custody disputes has the potential to reduce the likelihood of indirect abuse during the process of separation.

CHAPTER 8

CONCLUSION

Indirect abuse is clearly a unique type of abuse, extending the feminist framework on intimate partner violence to include another type of controlling behavior and form of psychological abuse. When studying intimate partner violence it is important researchers do not focus solely on physical abuse and more common controlling behaviors. Additional focus should be toward how the abuser might use outsiders to his advantage, especially during the process of separation.

There is a lack of empirical work on indirect abuse (Hayes, 2012). This study is one of the first to confirm that indirect abuse occurs more frequently among victims who have begun the process of separation. Within the current study, separated respondents are more likely than those still in a relationship with their abuser to report their abuser threatened to harm and/or take the children. By considering how the opportunity structure changes post-separation, it becomes clear why indirect abuse involving the children becomes an attractive alternative to physical abuse.

The study also confirms that indirect abuse extends beyond the children to include the manipulation of family and friends. This is a worthwhile area for future research given the increased levels of communication associated with technological advancements. Compared to the culture when the CWHRS data was originally collected, it is more likely that this form of indirect abuse is currently used.

Also, in contrast to earlier research on increased risk of physical violence post-separation, the current study consistently finds separated and non-separated respondents have a similar risk of physical abuse. Furthermore, the time between the first and second physical abuse incident is

almost two months, which stands in contrast to earlier work that found increased risk immediately following the crime event. The current study challenges previously held conceptions about risk of abuse post-separation.

Even though abuse victims are typically able to identify particular relevant moments in time, overall these events are not significant predictors of abuse. In the current study, despite being driven by thematic coding, events within each category type are diverse. More frequent and daily events, like child custody exchanges and communication between former partners, than the broader types of events reported in the current sample may more accurately capture dynamics in abusive relationships. Nevertheless, Life Events do have a marginal association with predicting abuse, possibly because they create an opportunity for the abuser and victim to converge in time and space. Allowing the abuser to not only come in contract with the victim but also with family and/or friends will increase the opportunity for abuse that involves third parties. Events intimate partner violence victims experience proves to be an exciting area for further research as much still remains unknown about their processes.

Within this study, factors associated with opportunity appear to be the main determinate of risk of abuse and the time between physical abuse incidents. Employment, and to a lesser extent the respondent's education, serve as protective factors against physical abuse and increases the time between physical abuse incidents. Had risk of abuse been driven primarily by feminist theory, only the female partner working should have increased risk of physical abuse. The findings confirm that compared to unemployed couples, so long as either the male or female is working, risk of abuse decreases and time until the next incident increases. Services and policies should be tailored to increasing employment opportunities for both victims and abusers.

Educational and employment opportunities may be more viable options than changing one's attitudes and beliefs, which is what feminist theory would call for.

Overall, the current study challenges notions regarding post-separation abuse and timing of revictimization. Separation may instead offer protection from continued physical abuse because of changing opportunities. Instead, it is important to see if abusers are switching forms of abuse to avoid detection. Understanding how opportunity and tenants of feminist theory interact better captures intimate partner violence victims' experiences and allows for the creation of innovative policy measures. The current study highlights the importance of opportunity in intimate partner violence cases, an important theoretical framework that has been lacking in intimate partner violence research.

CHAPTER 9

APPENDICES

Appendix A

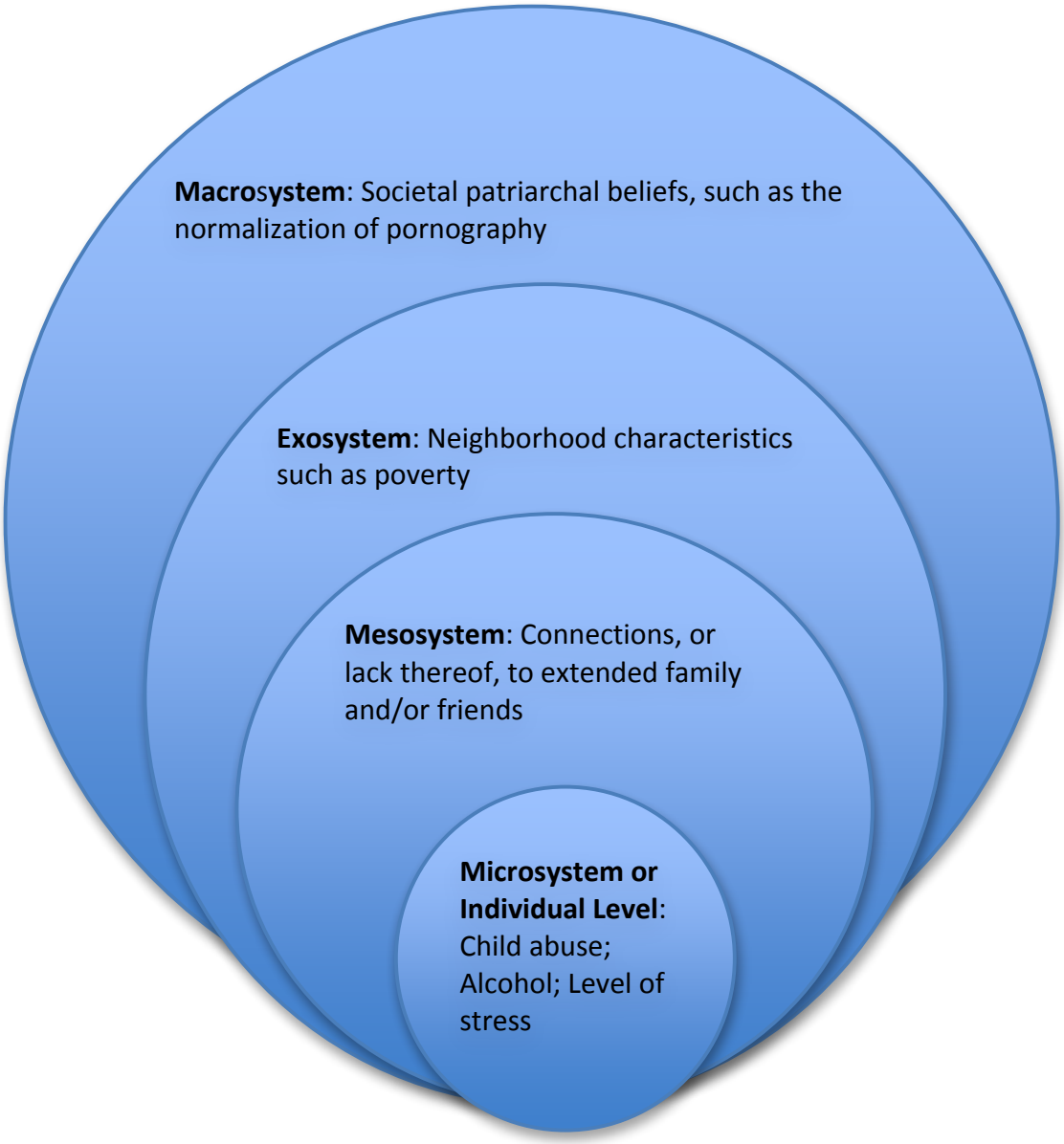


Figure 1. Diagram of the Intimate Partner Violence Ecological Model

Appendix B

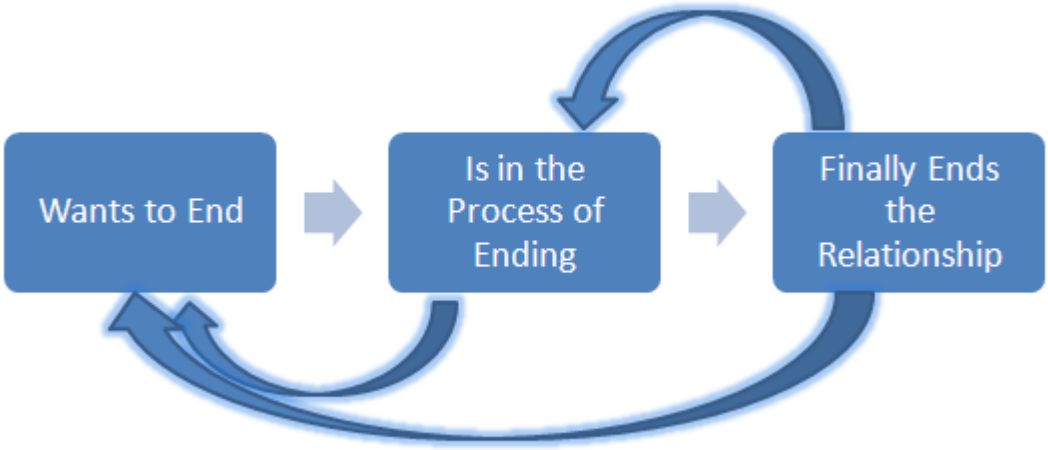


Figure 2. Diagram of the Process of Separation

Appendix C

Table 15. Categorization of All Events Abused Women Experienced in CWHRS Regardless of Timing (N=2403)

Recoding of Events	N	Percent	Original Classification of Events by Block (2000a)
Together Events	314	13.1%	R moved in with partner; R returned to partner's home; Partner moved in with R; R and partner met/started dating; R and partner reconciled; R marries partner; Partner away from home and return; Argument; Restraining behavior by partner; Partner destroys R's property; Partner stalks/unexpectedly appears; Promises/apology of partner; R violent to partner; Other violence by partner
Apart Events	556	23.1%	R moved out; R moved to a new apartment; R moved to a different city; R moved in with friends and family; R moved back home; R moved into a shelter; Partner left R; Partner moved out; R asked partner to leave; R moved away/hid from partner; R broke up with partner; R and partner got divorce; R lost home/homeless; Infidelity of partner; Sexual relations stop; Infidelity of R; R called police on partner; R got an order of protection against partner; R went to court against partner; Partner jailed for abuse; R jailed for abuse; Partner taken to jail; R taken to jail
Life events	462	19.2%	Anniversary of R and partner; R's birthday; Partner's birthday; Child's birthday; Parent's birthday; Other family's birthday; R had family reunion; R went out of town; R returned from out of town; Went to immigrations; Friends or family joys; Visit with children; Death of partner; Death of R's children; Death of R's partner; Other family or friend's death; R in car accident, R raped; Other crime against R; Miscellaneous criminal justice issues; Family/friends incarcerated; DCFS takes children away; Changes in guns in home
Changes in School or Work for either Respondent or Partner	518	21.6%	Miscellaneous changes in R's schooling; R's work schedule changes; Miscellaneous changes in R's working; Change in partner's work schedule; R started school; Partner starts school; R graduated school/finished school; R quit school; Partner quit school; Partner graduated/finished school; Payday; R started or went back to work; Partner started working; Partner changed jobs or was promoted; Income stops/financial trouble; R stopped working; R stopped going to work because of abuse; Partner stopped working

Health-Related Events	363	15.1%	R got pregnant or discovered she was pregnant; R had an abortion; R had a miscarriage; R had a live birth; R hospitalized because of abuse; R went to hospital; R left hospital; Miscellaneous health issues for partner; R committed for mental illness; R suffered from depression; HIV and/or STD; Children's health problems; Family's health problems; R threatens/attempts suicide; Partner threatens suicide; Partner using drugs/alcohol; R using drugs; R goes into treatment/detox; Partner in treatment/detox; Changes in counseling
Other	190	7.9%	Other beginning/end of relationship; Occurrences in families' lives; Other events/changes; R's friends or family move in with R; R's friends/family moved out from R's; Friends or family of partner move in; Friends/family of partner move out; Miscellaneous moving of partner and R; Partner released from jail; R released from jail; Family/friends moved away; Children left

Appendix D

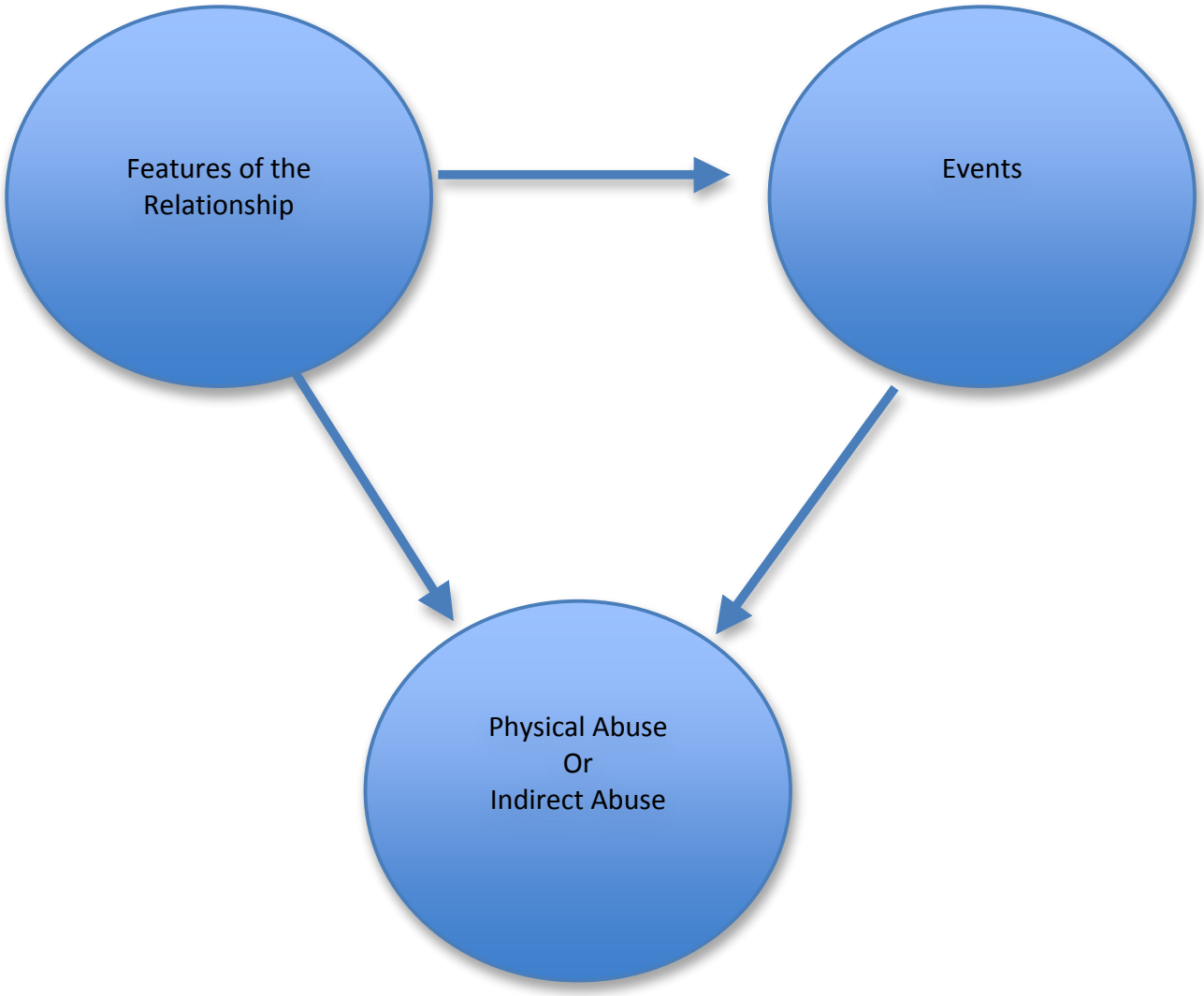


Figure 3. Proposed Relationships Between Relationship Features, Events, and Abuse

Appendix E

Table 16. Measures Used to Analyze each Research Question

Research Questions	Independent Variables	Mediator	Dependent Variables	Type of Analysis
1. What types of events does a victim experience during and after an abusive relationship?				Recoding from the Data. No independent or dependent variables
2. What features of an abusive relationship impact the type of events the victim experiences?	Separation, Single, Married, Divorced, Relationship length, Total Children, Children not Fathered by Abuser, Female Education, Male Education, Both Unemployed, Both Working, Only Female Working, Only Male Working, African American, Hispanic, Other, Age		Events[6]	Logistic Regression for each Event Type
3. What features of an abusive relationship affect the victim's risk of experiencing physical and/or indirect abuse?	Separation, Single, Married, Divorced, Relationship length, Total Children, Children not Fathered by Abuser, Female Education, Male Education, Both Unemployed, Both Working, Only Female Working, Only Male Working, African American, Hispanic, Other, Age		1) Physical Abuse Index 2) Indirect Abuse[7]	1) Negative Binomial Regression 2) Logistic Regression

[6] Events include "Together Events", "Apart Events", "Life Events", "Changes in School and/or Work", and "Health-Related Events".

[7] Indirect abuse variables include "Threatened/ Frightened Family", "Threatened/ Frightened Friends", "Threaten to Harm Children", and "Threaten to Take Children".

4. What kinds of events affect the risk of physical and/or indirect abuse?	Events		1) Physical Abuse Index 2) Indirect Abuse	1) Negative Binomial Regression 2) Logistic Regression
5. Do particular events mediate the occurrence of physical and/or indirect abuse?	Separation, Single, Married, Divorced, Relationship length, Total Children, Children not Fathered by Abuser, Female Education, Male Education, Both Unemployed, Both Working, Only Female Working, Only Male Working, African American, Hispanic, Other, Age	Events	1) Physical Abuse Index 2) Indirect Abuse	1) Negative Binomial Regression 2) Stepwise Logistic Regression
6. Does physical separation influence the time elapsed between each type of event and physical abuse?	Separation, Features of the Relationship found to be significant in earlier analyses		Survival Time between Events and Abusive Incidents	Survival Analysis

CHAPTER 10

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