SPOUSE ABUSE BY ARMY SOLDIERS: SEX DIFFERENCES AND THE ORGANIZATIONAL RESPONSE

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Abstract

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Spouse Abuse by Army Soldiers: Sex Differences and the Organizational Response

(Under the direction of J. Michael Bowling)

Intimate partner violence (IPV) is a significant public health problem for U.S. families, including those with a member in the military. While female-perpetrated intimate partner violence is being increasingly recognized, much remains unknown. This study addresses these gaps through examination of five years of data (2000-2004) from the U.S. Army Central Registry, an electronic data system that contains information on family violence cases. Study aims were to: 1) describe differences by sex in spouse abuse perpetration by soldiers in the U.S. Army; 2) explore how the organizational response to spouse abuse varies by the sex of the perpetrator; and 3) examine the influence of the sex of the soldier perpetrator on spouse abuse reoffense.

Males had significantly higher rates of initial spouse abuse perpetration than females in all racial/ethnic groups. Among offenders, females were more likely than male offenders to commit physical abuse, and were less likely to commit emotional abuse. Slightly more than half of females were also victims of abuse during the incident, more than double the percentage of males. Males committed emotional violence of higher severity. Sex did not predict physical violence severity.

The Army's response to male and female spouse abuse perpetrators and victims is largely ungendered. However, differences were found in victim protective actions taken, namely, male offenders were more likely to be removed from the home, and the spouses of

male offenders were less likely to be sheltered. These differences may be due to the greater availability of housing options for males than females on Army installations.

Males and females had equivalent five year recidivist rates, and did not differ in the types and severity of recidivist incidents. Cox proportional hazard models found males had 35% greater risk than females of reoffending during the study period, controlling for other factors (p = .072).

These findings suggest males should be the main target for primary prevention efforts, while both sexes need equivalent attention once the initial incident has occurred. Further research should explore the effects of the Army's intervention efforts on male and female recidivism.

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List of Abbreviations

ACR	Army Central Registry
CTS	Conflict Tactics Scale
DMDC	Defense Manpower Data Center
FAP	Family Advocacy Program
IPV	Intimate Partner Violence

Chapter 1: Introduction

Intimate partner violence (IPV) is a significant public health problem for U.S. families, including those with a member in the military (Bohannon, Dosser, & Lindley, 1995; Heyman & Neidig, 1999; Marshall, Panuzio, & Taft, 2005; McCarroll, et al., 1999; H. S. Pan, Neidig, & O'Leary, 1994; Rentz, et al., 2006; L. N. Rosen, Parmley, Knudson, & Fancher, 2002a, 2002b). The response to military families who experience IPV is unique because they are typically served by law enforcement and social services organizations that may collaborate with, but are separate from, civilian agencies. Additionally, because of centralized record keeping, military families offer an exceptional opportunity to explore patterns, risk factors, and organizational responses to IPV. With approximately 1.4 million active duty military members in the U.S. today ("Selected manpower statistics fiscal year 2005," n.d.), it is crucial that we understand how IPV operates and is addressed in this population.

While female-perpetrated intimate partner violence is being increasingly recognized, much remains unknown. Research on IPV has demonstrated divergent findings regarding perpetration of IPV by males and females, with some studies finding similar levels of violence perpetrated by both sexes (see: Caetano, 2000; Sorenson, 1996; M. A. Straus, & Gelles, R. J. , 1990), and others finding males perpetrate higher levels of partner violence (see: Rennison & Welchens, 2000; Tjaden & Thoennes, 2000). The discrepancy in sex-related findings regarding perpetration of IPV is controversial and could be a result of

numerous factors, including measurement issues, samples utilized, the types and severity of violence perpetrated by sex, injuries sustained, and the context of the violence (e.g., self-defense, retaliation) (Archer, 2000; Dobash, Dobash, Wilson, & Daly, 1992; Johnson, 1995; Rennison & Welchens, 2000).

In a review of the literature, Rentz et al (2006) found that the few studies that have examined spouse abuse in military families as compared to civilian families consistently find spouse abuse to be more prevalent in military families. However, female perpetration of spouse abuse in military families is not well understood. Little is known about how male and female soldiers who perpetrate spouse abuse differ in terms of sociodemographics, rates of perpetration, characteristics of the violent incident, services provided, and reoffenses. This study will examine all of these issues and will provide valuable data to inform prevention and treatment services for spouse abuse in the Army, the largest branch of the U.S. military by far.

The primary data source for this study is the Army Central Registry, an automated incident-based reporting system which contains data from investigations of reports of suspected family violence in the Army (*Manual for child maltreatment and domestic abuse*, 2005). This data has also been utilized by another study entitled, "Spouse Abuse, Child Abuse, and Substance Abuse among Army Families: Co-occurrence and Service Delivery Issues" through RTI International[1]. The RTI International study focused on examining the co-occurrence of spouse abuse, child abuse, and substance abuse, and the extent to which the Army identifies co-occurrence of these problems in families and provides services to families

[1] RTI is the trade name of Research Triangle Institute.

addressing all relevant issues. When manuscripts from the RTI International study are referenced in this dissertation, they are duly noted as originating from the same data set.

This dissertation has three specific aims:

1. To describe differences by sex in spouse abuse perpetration in the U.S. Army.
2. To explore how the organizational response to spouse abuse varies by the sex of the perpetrator.
3. To examine the influence of the sex of the perpetrator on spouse abuse reoffense.

These aims will be addressed through analysis of Army Central Registry data from January 1, 2000 to December 31, 2004. The specific research questions and hypotheses are guided by the conceptual model which is based on organizational and sociological frameworks, and empirical evidence, including the influence of organizational culture in the U.S. Army, and the functioning of a gendered organization. The model is described in chapter three.

This dissertation is organized into eight chapters. Chapter two, the literature review, explores IPV, particularly within military families, and gender differences in perpetration. Chapter two also discusses the theoretical and conceptual frameworks describing the enactment of gender in the Army and how this may lead to differential treatment by sex of IPV perpetrators and victims. Chapter three presents the conceptual model that guides this research as well as the research questions and hypotheses. Chapter four describes the methodology and data analysis strategies that will were used to address the research questions and hypotheses.

The findings are organized into three manuscripts, each exploring one of the specific aims. The first manuscript, presented in chapter five, explores the differences by sex in spouse abuse perpetration in the U.S. Army (aim 1). The second manuscript, presented in chapter six, examines how the organizational response to spouse abuse varies by sex (aim 2). The third manuscript, presented in chapter seven, examines the influence of the sex of the perpetrator on spouse abuse reoffense (aim 3). Finally, conclusions are discussed in chapter eight, including implications of the research on theory, practice, and future research.

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Chapter 2: Literature Review

Intimate partner violence (IPV), also referred to as domestic violence, spouse abuse, battering, and family violence, is widely recognized as a public health problem (Heise, 2003). IPV is physical, sexual, or psychological abuse perpetrated or threatened by a current or former partner or spouse (Saltzman, Fanslow, McMahon, & Shelley, 1999). It is a societal problem of staggering proportions, affecting all socioeconomic, racial, and ethnic groups, and military as well as civilian populations.

This review of the literature will examine IPV, particularly within military families. Areas of emphasis include: the prevalence and effects of IPV, types and severity of IPV, gender differences in perpetration, demographic characteristics of perpetrators, IPV services in the Army for victims and perpetrators, and IPV reoffenses. Finally, theoretical and conceptual frameworks describing the enactment of gender in the Army and how this may lead to differential treatment by sex of IPV perpetrators and victims is considered.

The Scope of the Problem

While estimates of the magnitude of the problem vary, due to various methodological issues including the type of violence measured, and the sample utilized (Tjaden & Thoennes, 2000), the recognition of IPV as a serious threat to public health is undisputed. Every year in the U.S., women are the victims of approximately 4.8 million physical assaults and/or rapes by their intimate partners, and men are the victims of about 2.9 million intimate partner

related physical assaults (Tjaden & Thoennes, 2000). Between 22% to 29% of women report having experienced IPV during their lifetime in nationally representative samples (Bureau of Justice, 1998; Coker, et al., 2002; Tjaden & Thoennes, 2000). Almost 2 million injuries result from IPV annually ("Costs of intimate partner violence," 2003). Nearly 11% of homicide victims were murdered by an intimate partner from 1976 to 2002 (Fox, 2004). In 2005, 1510 people were murdered by their partners; 22% of the victims were male and 78% were female ("Homicide trends in the United States," 2007).

IPV has been shown to be a significant problem in military families (Bohannon, et al., 1995; Heyman & Neidig, 1999; Marshall, et al., 2005; McCarroll, et al., 1999; H. S. Pan, et al., 1994; Rentz, et al., 2006; L. N. Rosen, Parmley, et al., 2002a, 2002b). In fact, evidence suggests a higher prevalence of spouse abuse perpetration and greater severity of violence perpetrated by husbands in the military compared to civilian husbands (Cronin, 1995; Griffin & Morgan, 1988; Heyman & Neidig, 1999). For example, a study of active duty male Army soldiers representative of racial/ethnic and pay grade distributions which was standardized to match civilian demographics found moderate to severe husband violence during the past year was reported by 13.3% of men and by 17.5% of their wives, as opposed to 10.6% of civilian men and 12% of their wives (Heyman & Neidig, 1999).

Effects of IPV

IPV has serious consequences for the health and wellbeing of its victims. The National Violence Against Women Survey (NVAWS) which utilized a nationally representative sample, found approximately 42% of women and 20% of men sustained injuries from their most recent victimization (Tjaden & Thoennes, 2000). Approximately 2

million women sustain an injury annually as a result of intimate partner physical assault or rape, and 552,192 women receive medical treatment. An estimated 581,391 men are injured annually from IPV, and 124,999 receive medical treatment (Tjaden & Thoennes, 2000). These injuries place a substantial burden on the U.S. healthcare system. In 2003, the annual financial cost of IPV to the U.S. for expenses including medical care, mental health services, and lost worker productivity, was estimated to be $8.3 billion dollars ("Costs of intimate partner violence against women in the United States," 2003; Max, Rice, Finkelstein, Bardwell, & Leadbetter, 2004).

Both men and women who have been victimized by IPV are more likely than those who have not been victimized to report poor health status and have a history of chronic disease (Coker, et al., 2002). A study of women enrolled in a health maintenance organization found that those who had ever experienced IPV reported approximately 60% more health problems overall than women who had never been abused. Abused women had higher self reports of myriad physical health problems including headache, back pain, digestive problems, abdominal pain, vaginal infection, and sexually transmitted disease (Campbell, et al., 2002). Additionally, studies have shown an association between IPV victimization of women and unwanted pregnancy and pregnancy complications (Cokkinides, Coker, Sanderson, Addy, & Bethea, 1999; Hathaway, et al., 2000).

Intimate partner violence also has significant psychological and emotional consequences which can negatively impact victims' functioning. These include depression, anxiety, low self-esteem, post traumatic stress disorder, and suicidality (Coker, et al., 2002; Heise, 2003). Additionally, victims of IPV have shown to be at increased risk for partaking in dangerous health behaviors including alcohol and substance abuse, risky sexual behaviors,

and unhealthy eating behaviors (Coker, et al., 2002; Heise, 2003; Silverman, Raj, Mucci, & Hathaway, 2001).

Types and Severity of Violence

Intimate partner violence can take multiple forms, including physical, sexual, or psychological abuse. In a literature review exploring studies comparing intimate partner violence in military and civilian populations, Rentz et al., 2006, discusses three studies that examined the types of spouse abuse perpetrated in military families (McCarroll, et al., 1999; McCarroll, Ursano, Fan, & Newby, 2004a; Mollerstrom, Patchner, & Milner, 1992). These studies, which examined spouse abuse cases substantiated via an official investigation and case review, found that in the Air Force and the Army, physical violence was the most frequent form of spouse abuse, constituting 89.3% to 92.4% of all IPV. Substantiated emotional abuse was much less common; it accounted for only 6.7% of all Air Force spouse abuse and 8.5% to 10.6% of all Army spouse abuse. The studies found little occurrence of substantiated sexual abuse. Substantiated spousal neglect, defined as, "A type of domestic abuse in which an adult fails to provide necessary care or assistance for his or her spouse who is incapable of self-care physically, emotionally, or culturally" (*Manual for child maltreatment and domestic abuse incident reporting system*, 2005, p. 35), was also rare. Sexual abuse was found to comprise 0.5% of all substantiated spousal abuse in the Air Force and neglect accounts for only 0.4% of all spouse abuse cases (Mollerstrom, et al., 1992). In Army families, sexual abuse accounted for only 0.1% of all substantiated spouse abuse cases (McCarroll, Ursano, Fan, & Newby, 2004b).

Studies examining IPV commonly utilize the Revised Conflicts Tactics Scales (CTS2) (M. A. Straus, Hamby, Boney-McCoy, & Sugarman, 1996), and fewer have utilized the Modified Conflict Tactics Scale (MCTS) (Pan, Neidig, & O'Leary, 1994). These scales classify the violence by level of severity, minor or severe, as indicated by the items endorsed by respondents. Minor physical violence includes behaviors such as throwing something at the partner, pushing, shoving or grabbing, slapping, and restraining the partner. Severe violence includes behaviors such as kicking, biting or punching with a fist, beating the other person up, and threatening the other person with a knife or gun (Straus, et al., 1996). Studies utilizing non-clinical samples have shown that most of the spouse abuse in Army families is minor in severity according to the CTS2 or MCTS (Heyman & Neidig, 1999; McCarroll, et al., 1999; Mollerstrom, et al., 1992; Rosen, Parmley, et al., 2002a). However, when studies that examine subjects in clinical settings are considered, the severity of violence increases. In a study examining military couples mandated for IPV treatment, 55% of the men and 37% of the women perpetrated severe IPV (Langhinrichsen-Rohling, Neidig, & Thorn, 1995).

Researchers have proposed that the violence in relationships is more severe when it is unidirectional, that is, only one partner has perpetrated violence against the other (McCarroll, et al., 2004a; Vivian & Langhinrichsen-Rohling, 1994). McCarroll et al. (2004a), examined the extent to which spouse abuse in Army families was perpetrated by the man, woman, or both partners and the associated severity of the violence. He examined data from the Army Central Registry of substantiated cases of physical and emotional spouse abuse involving an enlisted victim or perpetrator for fiscal years 1998 to 2002. This study utilized the Army Family Advocacy Program's classification of severity (U.S. Army, n.d.), which includes a third severity level, moderate, that is not included in the CTS2 or the MCTS. Across the

study years, nonmutual physical abuse was consistently more severe than mutual abuse, and the severity of physical violence was greater for female victims. Females were the victims of 79% of severe nonmutual physical abuse incidents and 58% of severe mutual abuse incidents. The severity of mutual emotional abuse was also greater than the nonmutual incidents, and females were more often the victims of severe emotional abuse than were males (McCarroll, et al., 2004a).

IPV Perpetration by Sex

Much debate has occurred in the field concerning who the primary aggressor in intimate relationships is most likely to be – males or females. In a meta-analytic review which examined 82 published articles, book chapters, dissertations, and other unpublished sources, Archer (2000), explored sex differences in aggression between heterosexual partners. Physical aggression was defined as reports of acts with no indication of their consequences (i.e., injuries). Archer found that women were more likely than men to commit physical aggression when studies that used perpetrator self-reports are considered, and that women are equally likely to commit acts of physical aggression when studies utilizing partner reports of victimization are considered. Additionally, in studies where measures of aggression were based on specific acts (e.g., the Conflict Tactics Scale), women were significantly more likely than men to have used aggression against their partner though the effect size was small (d=-.05). In contrast, when injuries were considered, men were more likely to have injured their partners; 62% of victims injured by IPV were women (Archer, 2000).

However, when studies focus on intimate partner violence in the context of criminal victimization, the picture changes. While the National Crime Victimization Survey (NCVS) collects data on people's self-reported experiences with violence, regardless of whether they are technically crimes or whether they are reported to law enforcement, respondents are told that the survey's purpose is to, "(D)etermine how often people are victims of crime" (Bureau of Justice Statistics, 2003, pp. A2-2). The NCVS, which utilizes a nationally representative sample to measure the frequency, characteristics, and consequences of criminal victimization, found that women were approximately 6 times more likely than men to be victimized by intimate partner violence (Bachman, 1994; Bachman & Saltzman, 1995). Similarly, researchers have argued that the National Violence against Women Survey (NVAWS), a nationally representative telephone survey, shares characteristics of crime surveys (which find men perpetrating IPV at higher rates than women) by emphasizing violence and threats to safety (Archer, 2000; Straus, 1999). The NVAWS found that men were significantly less likely than women to be victimized by a partner (Tjaden & Thoennes, 2000). This held true for all types of violence assessed – rape, physical assault, or stalking, and if the period of time in question was the preceding 12 months or lifetime victimization. Additionally, the difference in victimization rates between men and women increased along with the severity of the violence.

> For example, women were two or three times more likely than men to report that an intimate partner threw something that could hurt them or pushed, grabbed, or shoved them. However, they were 7 to 14 times more likely to report that an intimate partner beat them up, choked or tried to drown them, or threatened them with a gun or knife. (Tjaden & Thoennes, 2000, p. 17)

Similar differences in IPV perpetration rates by gender have been found in Army families by studies that utilize crime data and those that utilize act-based scales. Rosen, et al., 2002, conducted a study comparing gender differences in the experience of IPV among active duty U.S. Army Soldiers. The study sample consisted of 99 married, active duty Army women, and 477 married active duty Army men based at an installation in Alaska. Participants completed multiple measures including the Modified Conflict Tactic Scale (MCTS). (Rosen, Parmley, et al., 2002a). Rosen, et al. (2002) found that 39% of the women and 38% of the men were victims of IPV in the preceding year. Twelve percent of women and 10% of men were victimized by at least one act of moderate to severe violence. Thirty-eight percent of the women and 32% of the men perpetrated at least one act of IPV in the preceding year. Seventeen percent of the women and 12% of the men reported perpetrating severe IPV. This study did not examine the demographic characteristics correlated with IPV perpetration or victimization (Rosen, Parmley, et al., 2002a).

The vast majority of participants in the Rosen, et. al (2002a) study reported experiencing psychological abuse in their intimate relationships; only 10% of men and 8% of women reported experiencing no psychological abuse. Women reported perpetrating more psychological abuse than men. Significant associations were found among all types of IPV perpetration (severe physical, mild physical, and psychological) and victimization. No differences between men and women were found in psychological distress levels, marital adjustment, or peer support (Rosen, Parmley, et al., 2002a).

McCarroll et al. (2004a), examined the extent to which spouse abuse in Army families was perpetrated by men, women, or both partners. He examined data from the Army Central Registry of substantiated cases of physical and emotional spouse abuse

involving an enlisted victim or perpetrator for fiscal years 1998 to 2002. During this time period there were 20,959 victims of spouse abuse; 63% women and 37% men. The majority of the victims were involved in nonmutual abuse (58%), and of these, most were female (73%). Thirty-nine percent were victims of same day mutual abuse (both partners were perpetrators and victims on the same day) and 3% were victims of different day mutual abuse (both partners were perpetrators and victims on different days). The average age of all male victims was 27 years, and that of females was 26 years. Overall, 45% of the victims were Black, 40% were white, 11% were Hispanic, 3% were Asian/Pacific Islander, and 1% were American Indian/Alaskan Native. The rates of spouse abuse among married, enlisted Army personnel decreased 32% over the 5 year study period, from 11.9/1,000 in 1998 to 8.1/1,000 in 2002. Throughout the time period, the female victim rate was approximately 5/1,000 greater than the male victim rate (McCarroll, et al., 2004a).

Little research has focused exclusively on female-to-male spouse abuse in the Army. Newby, Urasano, & McCarroll, et al (2003) surveyed 1,185 active duty female soldiers married to male civilians utilizing the Conflict Tactics Scale. Nearly 25% of these women reported using moderate violence (threw something, push, grab, shove, slapped, kick, bit, hit) against their husbands in the previous year, and 8% reported using severe violence (choked/strangled, beat up, threaten with a knife or gun, used a knife or gun) (Newby, et al., 2003).

Possible Reasons for Sex Differences

There are numerous possible reasons for the conflicting evidence regarding the incidence of IPV perpetration and victimization by sex. Some researchers point to the two different types of samples used by feminist and family conflict researchers. Archer (2000) described feminist researchers as those who view IPV as the result of patriarchy and perpetrated predominantly by men, while family violence researchers examine the institution of the "family" or "couple" and the characteristics of those units that make them prone to violence, therefore exploring determinants of IPV shared by both sexes. Johnson (1995) asserts that feminist researchers typically utilize samples that, by definition, have experienced a high degree of violence perpetrated by men, such as women in domestic violence shelters or men in batterer intervention programs. Violence found in these samples is often in the form of systematic force used by the male to maintain control; Johnson calls this pattern of IPV "patriarchal terrorism". Conversely, family conflict researchers typically utilize samples of dating, co-habitating, or married heterosexual couples, and often find more equivalent rates of IPV perpetration between the sexes. Johnson termed this "common couple violence" which involves occasional lapses of control by men and women (Johnson, 1995).

As mentioned, some researchers argue that studies utilizing data on IPV collected in the context of criminal behavior, as well as the NVAWS, underestimate the actual occurrence of IPV, particularly that perpetrated by women (Archer, 2000; Straus, 1997, 1999). This may be because respondents do not consider IPV, especially when perpetrated by women, to be criminal, as well as intentional underreporting.

Alternatively, another argument asserts that women would almost always be identified as the true victims of IPV if resultant injuries were considered and the context of the violence was taken into account. This perspective criticizes the commonly used act-based scales, most notably the Conflict Tactics Scale, as not taking into account the context – such as self-defense - or consequences of the violence and thereby falsely depicting women as equal perpetrators (Dobash, et al., 1992).

Spouse Abuse Rates by Demographic Groups

Some research has shown that some minority groups are at a greater risk for IPV, particularly African Americans and Native Americans. Most studies investigating the relationship between race and IPV involving nationally representative samples have examined victimization rates by race, rather than perpetration rates. For example, Tjaden and Thoennes (2000) found the following lifetime prevalence of IPV victimization (including rape, physical assault, and stalking) by race among women in a nationally representative sample: 25% white; 29% African American; 15% Asian/Pacific Islander; 38% American Indian/Alaskan Native; 30% mixed race. The following lifetime IPV victimization prevalence was found among men: 8% white; 12% African American; 3% Asian/Pacific Islander; 12% American Indian, Alaskan native; and 9% mixed race. This study suggests that the racial/ethnic groups most at risk for IPV are American Indian/Alaskan Native women and men, African-American women, and Hispanic women without controlling for other demographic, social, and environmental factors. However, when they did control for other factors, these racial/ethnic differences substantially decreased or disappeared (Tjaden & Thoennes, 2000).

Similar patterns of IPV rates among racial/ethnic groups have been found among married Army couples. For example, Rosen, et al. (2002), conducted a survey of 648 married male Army personnel at a post in Alaska and found the following percentages self-reported an act of spousal violence in the past year: 26% of white soldiers (n=377); 45% of black soldiers (n=136); 35% of white Hispanic soldiers (n=43); 26% of black Hispanic soldiers (n=16); 50% of the Asian soldiers (n=6); 28% of the multiracial soldiers (n=18); and 30% of the soldiers who gave their race as "other" (n=37).

Multiple studies have found similar demographic characteristics commonly associated with IPV among military couples. Younger age has been found to be associated with IPV in military couples (Cantos, Neidig, & O'Leary, 1993; Langhinrichsen-Rohling, et al., 1995; Rosen, Knudson, et al., 2002). Additionally, numerous studies have found the majority of spouse abuse perpetrators were men in the lower pay grades (Shupe, Stacey, & Hazlewood, 1987; Wasileski, Callaghan-Chaffee, & Chaffee, 1982).

Spouse Abuse Services in the Army

The U.S. military has created an organization that is responsible for handling cases of family violence, including spouse abuse, among military families. This organization, the Family Advocacy Program, has been mandated by the Department of Defense to be in place in all military services (Directive Number 6400.1, 2004). The Family Advocacy Program (FAP) handles family violence identification, investigation, and treatment (Army Regulation 608-18: The Army Family Advocacy Program, 2006), and is staffed by clinical social workers, psychologists, and other professionals. The Family Advocacy Program defines spouse abuse as,

> An assault, a battery, a threat to injure or kill, any other unlawful act of force or violence, or emotional maltreatment inflicted by one spouse in a marriage against the other when the victim, regardless of age, is authorized treatment in a medical facility of the military services. Emotional maltreatment is conduct which, although not criminal, is so offensive to the victimized spouse that a reasonable person would find such conduct abhorrent within a marital relationship. (U.S. Army, n.d.)

Reported incidents of spouse abuse are reviewed by a Case Review Committee. The Case Review Committee is supervised by the medical treatment facility commander for the installation. The Family Advocacy Program leads an investigation into the incident, and the case is either substantiated or unsubstantiated by the Case Review Committee. If substantiated, the soldier receives a clinical assessment conducted by an assigned Family Advocacy Program case worker. Based upon this assessment, the case worker determines the appropriate treatment for the perpetrator, including formulation of the treatment plan, length of treatment, and the sequencing of treatment. The Spouse Abuse Manual provides guidelines for the Case Review Committee and case workers' reference in determining appropriate treatment plans based upon the type and severity of the violence perpetrated. The recommendations include one or more individual counseling sessions for a level one offender (a single physical incident with no visible injury and no pattern of non-physical abuse), all the way to removal of the perpetrator from active duty for a level 5 offense (partner homicide, extreme emotional abuse, repeated level 4 - serious assault) (U.S. Army, n.d.). Treatment programs, also known as "clinical interventions", are recommended for level 2 through 4 offenders, ranging in length from "short term" to 12 months. Additionally, services to military and non-military victims are recommended at all levels (U.S. Army, n.d.).

Spouse Abuse Referrals and Investigations

Only one published study has examined the sources of referral of spouse abuse cases in the Army to the Family Advocacy Program. This study examined Army Central Registry data from 1989-1997, and found law enforcement, medical and dental professionals, and commanders to be the primary sources of referral of spouse abuse offenders to the Family Advocacy Program (McCarroll, et al., 1999). If the source of referral differs by sex of the perpetrator is not known. No studies have examined the agencies involved in spouse abuse investigations.

Clinical Interventions and Protective Actions

The Family Advocacy Program is responsible for determining what, if any, clinical interventions to provide to spouse abuse perpetrators and victims as well as any victim protective action that is taken. McCarroll, et al. (1999) analyzed Army Central Registry data from 1989-1997. Over 90% of victims received social services including counseling, about one fourth received outpatient medical services, and less than 2% received inpatient medical services. No studies have examined if/how these services vary by victim gender, nor have they explored victim protective action taken by the Family Advocacy Program (e.g., spouse sheltered, offender removed from home, removing the offender from his/her normal duty station, etc.), or services provided to perpetrators.

Spouse Abuse Reoffense in the Army

More than 90% of spouse abuse offenders in the Army receive treatment, and a significant number of spouse abuse offenders reoffend (McCarroll, et al., 1999). In their analysis of Army Central Registry data from 1989-1997, McCarroll et al. (1999) found 9.3%

of those with initial incident had subsequent incidents (defined as spouse abuse incidents that occurred while the initial case was still open) and 6.3% had reopened cases (spouse abuse incidents that occurred when the initial case was closed) (McCarroll, et al., 1999).

McCarroll, et al. (2000) examined recidivism rates of spouse abusers in Army families. Specifically, all cases of substantiated spouse abuse perpetrated by active-duty and civilian offenders between fiscal years 1989 and 1997 were examined. There were 34,690 active-duty spouse abusers and 13,640 civilian spouse abusers who had their first substantiated incident during this eight year period and had complete data files (1,551 offenders were excluded for incomplete data). Each spouse abuser was followed for up to two reoffenses.

The authors found that males were 55% more likely to reoffend than women, and civilians were 12% more likely to reoffend than active-duty offenders after controlling for the number of dependents, age, education, race, and alcohol and/or drug involvement. Additionally, age had a positive association with reoffense of spouse abuse, whereas the number of dependents and the level of education were negatively related to spouse abuse reoffenses. Race was examined using two dichotomous variables – white/non-white and black/non-black – with other races/ethnicities functioning as the reference group. The analysis found blacks were more likely than other racial groups to reoffend, and whites were less likely than other racial groups to have spouse abuse reoffenses. Approximately 20% of the initial spouse abuse offenses did not have data on substance use during the incident. However, it was found that those with substance use during the initial incident were more likely to have a spouse abuse reoffense than those without substance use. For all four groups examined (male active-duty and civilian, and female active-duty and civilian), the probability

of reoffense peaked at two months following the initial incident. At the end of the 5 year study period, the probabilities for a spouse abuse reoffense by group were: 30% of male civilian offenders; 27% male active duty offenders; 21% of female civilian offenders; and 19% female active-duty offenders (McCarroll, Ursano, et al., 2000).

Theoretical and Conceptual Influences

Several social science theories and frameworks found in empirical and theoretical work on IPV inform the conceptual model that guides the dissertation (described in Chapter 3). These theories and frameworks are outlined below.

Militaries and warfare have largely been the realm of men in the modern world. While women play a greater role in the U.S. Army than ever before, they remain far outnumbered by men within the organization, and still constitute only 14% of active duty personnel ("Active duty service personnel," 2007). Women's career options remain restricted in the Army. "Women are now permitted to serve in more than 90 percent of military occupations, though they are still barred from jobs or units whose main mission is direct ground combat" (Yeager, 2007). The commonly articulated beliefs underlying bans on women in combat are that women are constitutionally unsuited for fighting and would create dangerous distractions to their male counterparts on the battlefield (Kovitz, 2003).

For an army to function as an effective, cohesive unit whose members are willing to risk their own lives and take the lives of others, orders must be followed precisely and without question. A strict authoritarian structure creates and enforces this obedience (Kovitz, 2003), as well as an organizational culture that serves to bind members to each other and to the organization. Organizational culture has been defined as, "the deeper level of basic

assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic 'taken for granted' fashion an organization's view of itself and its environment" (Schein, 1985, p. 6). It is slow forming and not easily changed (Steckler, Goodman, & Kegler, 2002). Organizational culture is developed largely as a coping response to the environment (Schein, 1985).

The culture of an organization includes the manner in which gender, or the qualities and behaviors expected of men and women, is conceptualized and applied (Acker, 1999). Gender is now recognized as an essential facet of social processes and structures which have a large impact on the functioning of organizations. Tangible manifestations of gender inequality within organizations include sex segregated jobs and limited career mobility (see: Acker, 1999; Burchell, 1996; Rubin, 1997). However, the influence of gender is also seen in more subtle ways, including everyday interactions between men and women (Acker, 1999; West & Fenstermaker, 1995), and the creation and implementation of organizational policies that, "produce and confirm gender images" (Acker, 1999, pp. 183-184).

A primary influence on the organizational culture of the Army is the construction of masculinity (Abrams, 1993; Morris, 1996). In fact, some researchers suggest the Army has a culture of hypermasculinity. Hypermasculinity is defined as "(E)xpressions of extreme, exaggerated, or stereotypic masculine attributes and behaviors" (Rosen, Knudson, & Fancher, 2003, p. 326). Hypermasculinity emphasizes toughness, self-sufficiency, and dominance (Morris, 1996) and is thought to be imparted on troops in an informal socialization process. Research suggests the bonding of men in all male peer groups often results in hypermasculinity (Messerschmidt, 1993; Rosen, et al., 2003). This culture of hypermasculinity is credited with increasing cohesion within all-male units and thus, troop

readiness (Morris, 1996). Cohesion, or group bonding, creates a loyalty between unit members that helps to ensure members will stand their ground to protect each other during combat and to literally be prepared to die to protect one another's lives (Grossman, 1995; Harrison, 2003).

The Army's policies and procedures are not carried out in a vacuum; they are interpreted by individuals functioning within a cultural environment. Like all organizations, the Army is a gendered institution, meaning that gender is, "(P)resent in its processes, practices, images and ideologies, and distributions of power" (Acker, 1992, p. 567). Britton, 2000, further explains the implications of an organization's genderedness:

> To say that organizations are inherently gendered implies that they have been defined, conceptualized, and structured in terms of a distinction between masculinity and femininity, and presume and will thus inevitably reproduce gendered differences. (Britton, 2000)

Researchers assess the genderedness of an organization by considering multiple aspects through which gender is reflected, including structural divisions, such as division of labor and representation in positions of power, overall numeric representation, and the construction of gender in the organization's culture (e.g., Carreiras, 2006; Britton, 2000). Based on these criteria, Carreiras (2006) calls the military an "extreme case of gendered organization" (p. 40).

Certainly, the Army remains, at its core, a masculine organization (Carreiras, 2006). The military continues to hold the male combat soldier who demonstrates violence and aggression as the ideal type (Winslow & Dunn, 2002). Therefore, women in the military can never be the ideal and may be seen to be threatening not only traditional gender stereotypes, but also the ways in which men demonstrate their masculinity (Segal & Segal, 1983).

Women are typically viewed in society as the bearers, rather than the takers, of life and are associated with peace rather than war (Carroll & Welling Hall, 1993; Winslow & Dunn, 2002). The acceptance of women as soldiers is a slow process, as women attempt to adopt roles previously reserved exclusively for men.

The masculine, or hypermasculine, culture of the Army may influence the way in which male and female personnel are regarded and processed at the organizational level. Although Army policy for the treatment of spouse abusers does not suggest differential treatment by gender (Directive Number 6400.1, 2004), given the cultural milieu, it is possible that violence perpetrated by women against men in the context of an intimate relationship would be minimized and treated less seriously as compared to that perpetrated by men against women.

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Chapter 3: Conceptual Model, Research Questions, and Hypotheses

The Conceptual Model

This dissertation has three specific aims. The first is to describe differences by sex in spouse abuse perpetration in the Army. The second aim is to explore how the organizational response varies by sex. The third aim is to examine the influence of the sex of the perpetrator on spouse abuse reoffense. The conceptual model (Figure 3.1) that guides this dissertation is a "diagram of proposed causal linkages among a set of concepts believed to be related to a specific problem" (Earp & Ennett, 1991). Specifically, it illustrates how the initial spouse abuse incident, the Army's response, and spouse abuse recidivism are influenced by the sex of the perpetrator and other individual level characteristics.

This research draws upon organizational and sociological frameworks, and empirical evidence discussed in Chapter 2, including the influence of organizational culture, the functioning of a gendered organization, and the effects of the culture of hypermasculinity in the U.S. Army. The operationalization of the included variables will be further described in Chapter 4.

Three aspects of the initial spouse abuse incident are considered, namely, the type and severity of abuse, and the occurrence of mutual abuse. The types of spouse abuse are physical, sexual, emotional, and neglect (see Types and Severity of Violence, Chapter 2). The severity of the offense is determined by the Family Advocacy Program caseworker, and may be classified as mild, moderate, or severe. Mutual abuse has occurred if the perpetrator

is also listed as a victim during the incident. The conceptual model illustrates these characteristics of the initial spouse abuse offense are influenced by the sex of the perpetrator and other individual factors including age, race/ethnicity, pay grade, and Army status (enlisted or officer). The initial spouse abuse incident, in turn, influences the organizational response.

Five aspects (dependent variables) of the organizational response to initial spouse abuse incidents are represented, all of which are believe to be influenced by sex. These aspects of the organizational response are: 1) referral source; 2) agencies involved in spouse abuse investigations; 2) the provision of clinical interventions for spouse abuse offenders; 3) the provision of clinical interventions for spouse abuse victims, and 4) victim protective action taken.

Finally, the type and severity of spouse abuse reoffense is also considered. The independent variables are the sex of the perpetrator, individual-level factors including age, race/ethnicity, pay grade, and Army status, the type and severity of the initial substantiated spouse abuse offense, and if mutual abuse occurred at the initial offense.

Research Questions and Hypotheses

This study is divided into three papers. The first paper includes the following research aim and questions:

AIM 1: To describe differences by sex in spouse abuse perpetration in the U.S. Army.

RQ1 How do male and female spouse abuse perpetrators in the Army vary on sociodemographic characteristics?

RQ2 How do rates of spouse abuse vary by sex and race/ethnicity?

RQ3 How does the occurrence of mutual abuse vary by the sex of the perpetrator?

RQ4 How do the type(s) and severity of spouse abuse perpetrated vary by the sex of the perpetrator?

RQ5 Is sex a predictor of the severity of emotional and physical abuse perpetrated, controlling for other perpetrator and incident characteristics?

Several hypotheses accompany research questions 1 through 5. These hypotheses are informed by the literature discussed in Chapter 2 on sex differences in intimate partner violence perpetration.

H 2.1 Males will be more likely than females to perpetrate spouse abuse for all racial/ethnic groups.

H 3.1 Female perpetrators of spouse abuse will be more likely to be victimized by spouse abuse than males.

H 4.1 Males will perpetrate more physical and more severe abuse than females.

H5.1 Males will perpetrate more severe physical abuse, controlling for other perpetrator and incident characteristics.

The second paper analyzes the sources of referral, the investigation of cases, and clinical intervention provided to offenders and victims of initial spouse abuse offenses by sex.

AIM 2: To explore how the organizational response to spouse abuse varies by sex.

RQ6 How do the following vary by the sex of the perpetrator?

6.1 referral source to the FAP; and

6.2 the agencies involved in the investigation?

RQ7 How does the receipt of a clinical intervention for spouse abuse perpetration vary by the sex of the perpetrator?

RQ8 How do the services provided for spouse abuse victimization vary by the sex of the perpetrator, specifically:

8.1 the receipt of a clinical intervention for spouse abuse victimization, and

8.2 victim protective action taken?

No literature exists on sex differences in how spouse abuse perpetrators are handled in the Army. However, given the masculine nature of the Army, it is reasonable to suggest spouse abuse perpetrated by females and the victimization of males may be minimized, therefore, the following hypotheses are proposed:

H6.1 The investigation of offenses involving male perpetrators will be more likely to involve multiple agencies than investigations involving female perpetrators, for any given type and severity of spouse abuse offense.

H7.1 Male perpetrators will be more likely to receive a clinical intervention than female perpetrators for any given type and severity of spouse abuse offense.

H8.1 The victims of male perpetrators (females) will be more likely than the victims of female perpetrators (males) to receive a clinical intervention and to have victim protective action taken for any given type and severity of spouse abuse offense.

The third paper examines spouse abuse reoffenses. Specifically, the third paper will address the following aim and research questions:

AIM 3: To examine the influence of the sex of the perpetrator on spouse abuse reoffense.

RQ 9: What are the rates of recidivism for males and females?

RQ 10: How do sociodemographic characteristics vary between male and female recidivists, between female single offenders and female recidivists, and between male single offenders and male recidivists?

RQ 11 How do the violence types and severity perpetrated vary between male and female recidivists, between females at the initial offense and females at the reoffense, and between males at the initial offense and males at the reoffense?

RQ 12 How is the relationship between sex and reoffense affected by large scale deployments?

RQ 13 Does the sex of the offender predict spouse abuse reoffense when controlling for other characteristics of the offender and the initial incident?

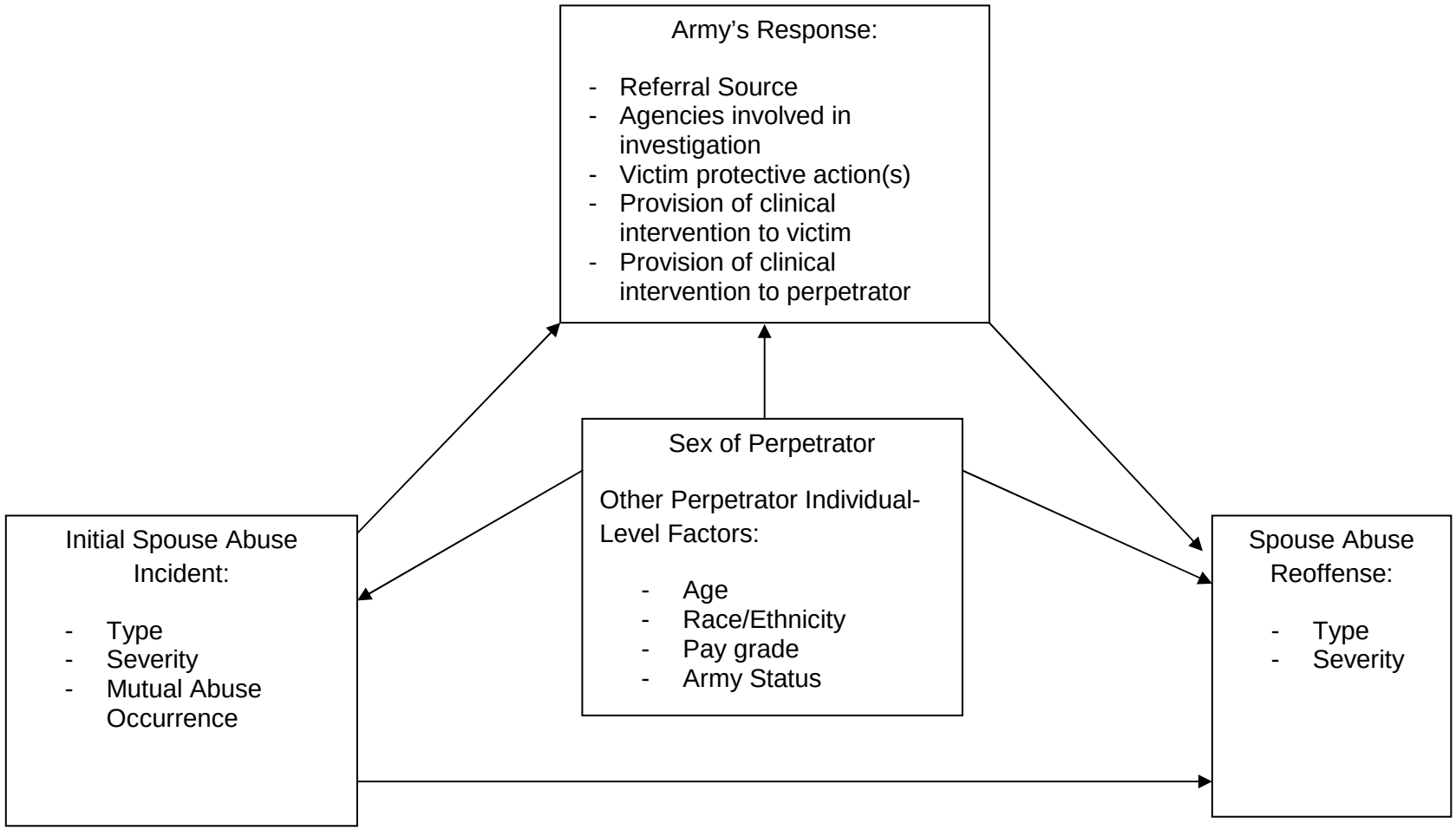
Several hypotheses accompany research questions 9 through 13. These hypotheses are informed by the literature discussed in Chapter 2 on sex differences in intimate partner violence reoffenses.

H9.1 Males will have higher rates of recidivism than females.

H11.1 Males recidivists will perpetrate more physical reoffenses, and physical reoffenses of greater severity than females.

H13.1 Males will be more likely than females to perpetrate reoffenses when controlling for other characteristics of the offender and the initial incident.

Figure 3.1. Conceptual Model



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CHAPTER 4: METHODS

This chapter describes the research methods, including a description of the Army Central Registry from which the data are drawn, and the data analysis undertaken for the dissertation.

Design and Methodology

The primary data source for this study is the Army Central Registry, which contains data from investigations of approximately 7,700 reports of suspected spouse abuse per year. The Army Central Registry is an automated incident-based reporting system (*Manual for child maltreatment and domestic abuse incident reporting system*, 2005); Family Advocacy Program personnel enter information into the registry for each reported case of family violence. This file contains information about the offender, victim, abusive incident, and the organizational response. Demographic data on the victim and offender are provided, as well as the soldier's branch of service, component of Army (regular, reserve, guard), and pay grade. The type and severity of the abusive incident, and if alcohol or drugs were involved is also recorded. Additionally, the Army Central Registry documents the agencies involved in the investigation of the abusive incident, victim protective action taken, and what agency/agencies provided clinical intervention to the victim and offender. While the Army Central Registry currently collects information on all cases of domestic violence involving

soldiers (including unmarried couples), at the time the data to be used for this study were collected, only domestic violence involving married soldiers was recorded.

The Army Central Registry data from January 1, 2000 to December 31, 2004 was utilized. The data was prepared for analysis by selecting the data items and records necessary to address study aims and hypotheses. After SPSS files were created, frequencies on discrete data items were run as well as summaries on other data items to check variable range and consistency, and to identify outliers and missing data.

Additional demographic data utilized on all married active duty Army soldiers is from the Defense Manpower Data Center (DMDC), the organization responsible for maintaining manpower and personnel data for the Department of Defense. The demographic data, specifically, the race/ethnicity of all married soldiers, from DMDC represents five time points, June 31, 2000-2004. Finally, data from the Army Personnel Database was used to determine the dates of soldiers' active duty status during the study period and had been merged with the Army Central Registry data before I received the data set.

To be included in the study sample, an Army family including an active duty soldier must have at least one substantiated case of spouse abuse perpetrated by the soldier, as recorded in the Army Central Registry, between January 1, 2000 and December 31, 2004.

Operationalization of Variables

The following section discusses the operational definitions of the variables. Variables included in this study may be independent variables in some analyses and dependent variables in others (e.g., the type and severity of the initial spouse abuse offense are dependent variables for research questions under specific aim 1, but independent variables

for questions under specific aims 2 and 3). All variables are operationalized via their coding in the Army Central Registry.

The initial spouse abuse offense is examined. Offenses are classified as "initial spouse abuse offenses" if the following criteria are met in the Army Central Registry data. The first is that the type of victim is recorded as spouse, as opposed to child. The second is that the incident type is recorded as initial, as opposed to "subsequent incident" or "reopen". Three aspects of the initial spouse abuse offense are considered, specifically, the type and severity of the violence, and the occurrence of mutual abuse. The types and severity of spouse abuse are operationalized by the Army Central Registry. The options for type of violence are physical, sexual, emotional, and neglect (see Table 4.1). The severity of maltreatment for each type of violence is recorded as mild, moderate or severe (see Table 4.2). A spouse abuse offender was classified as being involved in mutual abuse if the offender is also listed as the victim in the substantiated spouse abuse incident report as recorded in the Army Central Registry.

Perpetrator individual level factors from the Army Central Registry were also examined, including sex, age, race/ethnicity, pay grade, and Army status. Race/ethnicity is recorded as one of the following options: white, not Hispanic; Black, not Hispanic; Hispanic; Asian/Pacific Islander; American Indian/Alaskan Native. Sex of the offender and victim is also recorded. Pay grade is operationalized by the Army's code for soldiers' pay grade, specifically, E1 through E9 for enlisted soldiers, W-1 through W-5 for warrant officers, and O1 through O10 for officers. Age was calculated using the date of birth and the incident date as recorded in the Army Central Registry. Age was classified into the following categories: 25 years and younger, and over 25. Army status is a dichotomous variable: enlisted or

officer. Soldiers categorized as an officer or warrant officer were classified as "officer", enlisted soldiers remained as such.

Characteristics of the initial spouse abuse offense are considered. Alcohol use by the offender and victim during the incident are operationalized by fields in the Army Central Registry labeled, "Offender's Alcohol Involvement", and "Victim's Alcohol Involvement", with three corresponding response options – yes, no, or unknown. Similarly, drug use during the incident is operationalized by fields labeled "Offender's Drug Involvement", and "Victim's Drug Involvement", with the same response option – yes, no, or unknown. Additionally, the location of the incident is recorded as either "on installation" or "off installation".

The second specific aim of this dissertation seeks to understand the organizational response to spouse abuse. The referral source of a potential spouse abuse incident to the Family Advocacy Program can be military or civilian sources. Military sources considered were military law enforcement and medical/dental professionals. All other potential referral sources were classified as other, including: commander (i.e. the chief commissioned officer of a military unit); child care/school personnel; military chaplain; family center professionals; other military; civilian social services; civilian law enforcement; civilian child care/school personnel; civilian medical/dental professionals; other civilian; the victim; the offender; a friend, relative, or neighbor, or other source.

An investigation is conducted for every reported case of spouse abuse in the U.S. Army (see Spouse Abuse Services in the Army, Chapter 2). The agencies involved in the spouse abuse investigation can also include military and civilian organizations, and is

operationalized by a field labeled, “Investigations”, with the corresponding response options: child protective services; military law enforcement; civilian law enforcement; SWS (for soldiers overseas), and “none”.

The provision of clinical intervention for offenders and victims refers to if any clinical treatment services were provided. If any providers of clinical intervention are indicated in the Army Central Registry (may include Family Advocacy Program personnel, another Department of Defense program, or a non-DOD program), the offender or victim is coded as receiving clinical services; if no providers are indicated the offender or victim is coded as not receiving clinical services.

The final aspect of the organizational response to spouse abuse offenses considered is victim protective action taken by the Family Advocacy Program. Protective action may or may not be taken in any given case. If it is taken, protective actions include sheltering the spouse, removing the offender from the home, removing the offender from his/her normal duty station, removing a child for substitute care, or some other protective action.

The type and severity of spouse abuse reoffense is also considered. As with the initial incident, the possible types of spouse abuse are physical, sexual, emotional, and neglect and the severity of the reoffense may be mild, moderate, or severe. The incident is identified as a reoffense if the incident type is recorded as “subsequent incident” or “reopen”, as opposed to initial.

Power Calculations

The Army Central Registry data contains substantiated cases of spouse abuse from January 1, 2000 to December 31, 2004. Within this time frame, there were 7,890 unique

perpetrators of spouse abuse. Of the perpetrators, 388 are female and 7502 are male. To determine the statistical power possible for the analyses, simple contrasts of bivariate relationships were considered.

Power calculations were performed using values for anticipated prevalence based on data from the research literature addressed in Chapter 2 (see: Langhinrichsen-Rohling, et al., 1995; Martin, et al., 2007; McCarroll, et al., 1999; McCarroll, et al., 2004a; McCarroll, Ursano, et al., 2000). Desired confidence intervals were set at 95% ($\alpha = 0.05$), with a minimum power of 80% ($1-\beta=0.8$).

Power calculations were conducted for a selection of the variables to be included in the regression models. Given the established sample size, the minimum detectable difference is 6 percentage points when all male and female initial offenders are compared on a given variable. Table 4.3 displays the expected proportion of males and females that exhibit selected variables of interest, in order to demonstrate that the minimum detectable differences were less than what we expected the differences to be between the groups given the sample size. Therefore, statistical differences in the actual analyses were anticipated.

A survival analysis examining reoffense by sex was also conducted. For this analysis, we considered the proportion of males and females we anticipated not reoffending by the end of the study period. We estimated, based on the literature (McCarroll, Ursano, et al., 2000), that approximately 81% of the females (n= 314) and 73% (n=5476) of the males would not reoffend, a difference of 8 percentage points. At least 290 individuals were needed in both groups to detect a difference of this size. Because the number of males and females we anticipated not reoffending was larger than 290, this requirement was exceeded at

alpha=.05 and with a power of 80%; we therefore anticipated differences between groups to be detected.

Analysis Strategies

This section describes the data preparation procedures and analysis strategies utilized to answer the research questions and test the hypotheses introduced in Chapter 3. Data quality checks, as well as analysis plans corresponding to each research question are presented.

Data Preparation

Data quality checks were performed on each variable of interest in the dataset including frequency distributions, range and consistency checking, and missing responses. Decisions about handling missing values were made based upon the difference between the distribution of missing responses and that of non-missing responses. These comparisons determined that for all analyses, the missing distribution was not significantly different from the study population (Rothman & Greeland, 1988).

After the data were cleaned, several new variables were created from the data. For example, a variable indicating the number of days from the initial spouse abuse offense to the first reoffense of all perpetrators with a reoffense was calculated. The age at the time of the incident was calculated using the date of birth and date of the offense. Age was then be classified into the following categories: 25 years and younger, and over 25. Also, a dichotomous variable indicating if a reoffense occurred or not during the data collection period was created. Similarly, dichotomous variables indicating if any clinical interventions for the perpetrator and victims were provided were created.

Data Analysis

Data analysis was conducted using SPSS 16.0 for Windows. Descriptive analyses were first conducted on all variables. Frequencies were determined for all categorical variables, and the mean and standard deviation were found for all continuous variables.

Prior to running any regression analyses, and once categorical variables had been dummy coded, separate contingency tables were created for each research question that included the independent and dependent variables in order to examine the bivariate relationships and potential multicollinearity among the independent variables and between each independent variable and its respective dependent variable. The extent of the bivariate correlations were assessed by examining correlations coefficients. No variables had a correlation coefficient greater than .8, and all planned variables were included in the models.

Likelihood ratio "chunk" tests were performed for all regression models to test if any of the independent variables were moderators of the effect of sex (D. G. Kleinbaum, 1994). Models were run, including all the independent variables identified above as well as their interaction terms with sex, and the -2 log likelihoods were compared with models containing only the main effects and no interaction terms. If no significant differences are found between the models, this implies that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

Analysis One: Differences by Sex in Spouse Abuse Perpetration

RQ1 1) How do male and female spouse abuse perpetrators in the Army vary on sociodemographic characteristics?

Descriptive analyses were conducted on sociodemographic variables to describe characteristics of male and female spouse abuse perpetrators. Frequencies and percentages were reported and compared by sex. Chi-square tests were performed to determine if the sociodemographic variables differed by sex.

RQ2 How do rates of spouse abuse vary by sex and race/ethnicity?

The rate of spouse abuse perpetration by sex per 1,000 married, active duty Army soldiers was then calculated on an annual basis for the 5 years of study data. Data from the DMDC provided the total number of active duty married soldiers by sex, and race/ethnicity groups in the Army as of June 30 for each year (2000-2004). These numbers were the denominators used for the rate calculations. Perpetrators were only counted once in the numerator in any given year, even if they perpetrated more than once in that year. Finally, 95% confidence intervals based on the Poisson probability distribution were calculated and compared between males and females to determine if the rates were significantly different.

Five years rates by sex and race/ethnicity were also calculated and compared. To ensure sufficient rate stability, racial/ethnic groups that had less than 15 male or female perpetrators over the study period were excluded in the rate calculations. Again, 95%

confidence intervals based on the Poisson probability distribution were calculated to determine if the rates were significantly different between the groups.

RQ3 How does the occurrence of mutual abuse vary by the sex of the perpetrator?

The relationship between sex of the offender and the occurrence of mutual abuse was examined. Frequencies and percentages were reported and compared by sex, and chi-square tests were performed.

RQ4 How do the type(s) and severity of spouse abuse perpetrated vary by the sex of the perpetrator?

The relationship between sex and the types and severity of violence perpetrated were examined. Frequencies and percentages for each violence type/severity category were reported and compared between the sexes using chi-square tests.

RQ5 Is sex a predictor of the severity of emotional and physical abuse perpetrated, controlling for other perpetrator and incident characteristics?

Ordinal logistic regression models were run to examine the relationship between sex and the severity of physical and emotional abuse perpetrated while controlling for other variables. All models included age, race/ethnicity, pay grade; Army status (enlisted versus officer); substance use by the offender and victim; location of the incident (on or off installation), and the occurrence of mutual abuse as control variables (meaning they were retained in the model even if they were not shown to be significantly correlated with the dependent variables).

Adjusted odds ratios were obtained from the regression models to compare differences across groups, and the Wald 95% confidence intervals were utilized to determine precision (Poole, 2001). Pearson chi-square statistics were considered as the indicators of the predictive ability of the models (Stokes, Davis, & Koch, 2000).

Analysis Two: Differences by Sex in Organizational Response

RQ6 How do the following vary by the sex of the perpetrator?

6.1 referral source to the FAP; and

6.2 the agencies involved in the investigation?

Frequencies and percentages were run the referral source to the FAP and the agencies involved in the investigation. Multinomial logistic regression models were run to examine the relationship between sex and those values of the initial referral source with sufficient sample size in both sex groups. One model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model was run including sex and the following control variables to obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

Two binary logistic regression models were run on the agencies involved in the investigations with sufficient sample size in both sex groups. For each dependent variable value, one model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model was run including sex and the following control variables to

obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

RQ7 How does the receipt of a clinical intervention for spouse abuse perpetration vary by the sex of the perpetrator?

Similarly, two binary logistic regression models were run on the provision of clinical interventions to offenders. Again, for each dependent variable value, one model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model was run including sex and the following control variables to obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

RQ8 How do the services provided for spouse abuse victimization vary by the sex of the perpetrator, specifically:

8.1 the receipt of a clinical intervention for spouse abuse victimization, and

8.2 victim protective action taken?

The provision of clinical interventions to victims was examined through two logistic regression models. As before, for each dependent variable value, one model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model

was run including sex and the following control variables to obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

Additionally, chi-square analyses were run separately for cases involving male and female offenders to further explore the relationship between two types of victim protective action: removing the offender from the home and sheltering the spouse.

Analysis Three: Differences by Sex in Reoffense

RQ 9: What are the rates of recidivism for males and females?

The five-year rates of spouse abuse recidivism for married soldiers by sex were calculated. The number of male and female soldiers who committed an initial spouse abuse offense were used as the rate denominators. Ninety-five percent confidence intervals were then calculated and compared for males and females.

RQ 10: How do sociodemographic characteristics vary between male and female recidivists, between female single offenders and female recidivists, and between male single offenders and male recidivists?

Descriptive analyses were conducted on sociodemographic variables to describe and compare characteristics of male and female spouse abuse recidivists as well as to conduct within sex comparisons between initial offenders and recidivists. Chi-square tests were performed to determine if the sociodemographic variables differed between groups.

RQ 11 How do the violence types and severity perpetrated vary between male and female recidivists, between females at the initial offense and females at the reoffense, and between males at the initial offense and males at the reoffense?

The characteristics of the first spouse abuse reoffense were examined by sex of the perpetrator. Chi-square tests were run to test the relationship between sex and violence type and severity. Ordinal regression models were run to determine if sex is a significant predictor of the level of physical and emotional abuse perpetrated at the reoffense alone and while controlling for characteristics of the offender at the time of the initial incident and the initial incident itself including: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, Black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), and mutual abuse occurrence (Y/N).

Additionally, the type and severity of violence perpetrated by female initial offenders and female recidivists was compared as was that of male initial offenders and recidivists. Chi-square tests were run to determine if the distributions of violence types and severity were equivalent for initial and reoffense incidents.

RQ 12 How is the relationship between sex and reoffense affected by large scale deployments?

Data were provided from DMDC for 2003 and 2004 of the total number of enlisted soldiers and officers by sex, the total number and percentage deployed by year, as well as the average number of annual deployments and the average length of deployments. These

descriptive analyses were compared to determine if one sex was more likely than the other to be deployed.

Cox proportional hazard models were run to determine if offender sex significantly predicts the risk of spouse abuse reoffense, taking into account the difference in the length of time perpetrators had in which to reoffend. The date an offender left the Army (if it was during the study period) or the last day of the study period (if the offender did not leave the Army before the end of the study period) was used as the censorship date. Only cases with sufficient and plausible date information (e.g., the date for the reoffense was after the date for the initial offense) were included in analyses. Three Cox proportional hazard models were run to assess if deployment affected the relationship between the sex of the offender and the occurrence of a reoffense: one including all initial offenses and reoffenses occurring between 2000-2002 (before large scale deployments began); the second including all initial offenses and reoffenses occurring between 2000-2003 (including the first year of heavy deployments); and a third including all five years of data. Adjusted Cox proportional hazard models assessed the effect of sex, controlling for the following characteristics of the offender at the initial incident and characteristics of the initial incident: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), emotional violence perpetrated (0-3), and physical violence perpetrated (0-3). Additionally, log likelihood chunk tests were performed for all Cox proportion hazard models to test if any of the independent variables were moderators of the effect of sex (D. G. Kleinbaum, 1994). Hazard functions were determined. The hazard ratios, which describe

the relationship between sex and survival time and estimate relative risk, are considered (Allison, 1995; D. Kleinbaum & Klein, 2005).

The hazard ratios for sex and their 95% confidence intervals were compared between the three data periods (2000-2002; 2000-2003; 2000-2004). If large variation exists between the effect of sex in the models, such variation would be indicative of deployment affecting spouse abuse reoffense differently in males and females. However, if the hazard ratios are similar, this would indicate deployment having comparable effects on both sexes.

RQ 13 Does the sex of the offender predict spouse abuse reoffense when controlling for other characteristics of the offender and the initial incident?

The analyses for RQ12 (described above) allowed us to determine which data period was appropriate to use for RQ13 (2000-2002, 2000-2003, or 2000-2004), as we don't want to include heavy periods of deployment if deployment is found to affect recidivism differently for males and females. However, as stated above, if the hazard ratios are similar across all data periods, this would indicate deployment having comparable effects on recidivism for both sexes, and the full data set (2000-2004), including periods of heavy deployment, can be utilized.

Once the appropriate data period was determined, the Cox proportional hazard model for that period (calculated for RQ 12) was assessed to determine the affect of sex on spouse abuse reoffense when controlling for other characteristics of the offender and the initial incident. Specifically, the hazard ratio for sex and its 95% confidence interval were examined.

Table 4.1. Spouse Abuse Type Definitions

Type	Definition
Physical	Use of physical force that caused physical injury to the spouse. Violence is generally used to intimidate, control, or force the spouse to do something against his or her will. This may include grabbing; pushing; holding; slapping; choking; punching; sitting or standing on; kicking; hitting with objects; and assaults with knives, firearms, or other weapons.
Sexual	The forcing of one spouse by the other spouse to engage in any sexual activity through the use of physical violence, intimidation, or the explicit or implicit threat of future violence, or abuse.
Emotional	A pattern of acts or omissions, such as violent acts that may not cause observable injury, that adversely affect the psychological well-being of the victim. Arguments alone are not sufficient to substantiate emotional maltreatment. Adverse impacts could include low self-esteem, chronic fear or anxiety, conduct disorders, affective disorders, or other cognitive or mental impairment. Includes: (1) Psychological violence is a pattern of behavior involving one or more of the following behaviors: explicit or implicit threats of violence, extreme controlling types of behavior, extreme jealousy, mental degradation (name calling, etc.), and isolating behavior. (2) Property violence by one spouse may constitute emotional abuse if intended as a means to intimidate the other spouse. Property violence includes, but is not limited to, damaging or destroying the other spouses property, hitting/kicking a door or wall, throwing food, breaking dishes, and intentionally or recklessly damaging automobiles. Threatening injury to or injuring pets is included in this category.
Neglect	Considered only in cases of spouse's failure to provide necessary care or assistance for spouse who is incapable of self-care physically, emotionally, or culturally.

Note. From U.S. Army F.A.P. Spouse abuse manual. Retrieved October 29, 2007, from http://child-abus.com/army/spam/spamindex.htm

Table 4.2. Indicators of the Severity of Spouse Abuse

Level	Indicator
Mild	Spouse verbally threatened. Mild physical injury or no medical treatment indicated.
Moderate	Something thrown at spouse. Spouse pushed, grabbed, or shoved. Spouse slapped. Spouse kicked. Spouse kicked, bitten or hit with a fist. Minor or major physical injury; short term medical treatment may be indicated.
Severe	Any injury during pregnancy. Spouse choked or strangled. Spouse severely beaten. Spouse threatened with a knife or gun. Spouse cut with knife or shot at. Battered spouse syndrome. Spouse threatened or hit with a motor vehicle. Spouse sexually abused. Major physical injury or long term medical treatment, inpatient care, or move to alternate environment for the safety of the spouse. Spouse killed.

Note. From U.S. Army F.A.P. Spouse abuse manual. Retrieved October 29, 2007, from http://child-abus.com/army/spam/spamindex.htm

Table 4.3. Minimum Difference by Sex in Values for Selected Variables

Variable	Expected proportion of females, n=388 % (n)	Expected proportion of males, n=7502 % (n)	Minimum detectable difference α=0.05 , 1-β=0.8, 2 tailed test
Victim of spouse abuse	58% (225)	33% (2476)	6%
Perpetrated severe violence	37% (144)	55% (4126)	6%
Reoffended	19% (74)	27% (2026)	6%

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Chapter 5: Male and Female Soldier Spouse Abuse Perpetrators: Perpetration Rates and Characteristics of the Offenders and Incidents

Abstract

Differences in spouse abuse perpetrated by male and female active duty Army soldiers were examined using five years of data (2000-2004) from the U.S. Army Central Registry, an electronic data system that contains information on family violence cases. Analyses found 95% of offenders were male (n=7315) and 5% (n=382) were female. Female offenders were significantly more likely than male offenders to be younger, Black, and in lower pay grades. The rates of spouse abuse perpetration among white, Black, and Hispanic soldiers were compared by sex. Males had significantly higher perpetration rates than females in all racial/ethnic groups. For both males and females, whites had the lowest five year rate, followed by Hispanics, then Blacks (the rates for whites and Hispanics were not significantly different for females). Slightly over half (52.5%) of the female perpetrators also were victims of spouse abuse during the initial incident, more than twice the percentage of males (25.3%). A higher proportion of female offenders than male offenders committed physical abuse ($p<.001$), and a smaller proportion of female offenders than males committed emotional abuse ($p<.001$). Males had greater odds than females of perpetrating higher severity levels of emotional abuse when controlling for other perpetrator and incident characteristics ($p = .049$). Sex was not a significant predictor of physical violence severity when controlling for other perpetrator and incident characteristics ($p = .254$).

Spouse Abuse in the U.S. Military

Intimate partner violence (IPV), also referred to as domestic violence, spouse abuse, battering, and family violence, is widely recognized as a public health problem (Heise, 2003). While IPV affects all facets of society, evidence suggests that the prevalence and severity of spouse abuse perpetrated in the military is greater than in civilian populations. (Cronin, 1995; Griffin & Morgan, 1988; Heyman & Neidig, 1999). With approximately 1.4 million active duty military members in the U.S. today ("Selected manpower statistics fiscal year 2005," n.d.), and the well publicized string of partner homicides among military personnel in recent years (Alvarez & Sontag, 2008), it is crucial that we understand IPV in this population.

Few studies have examined spouse abuse in military families as compared to civilian families; those that have consistently find spouse abuse to be more prevalent in military families (Cronin, 1995; Griffin & Morgan, 1988; Heyman & Neidig, 1999; Rentz, et al., 2006). However, little is known about how male and female soldiers who perpetrate spouse abuse differ in terms of sociodemographics, rates of violence, and the types and severity of violence perpetrated. This study will examine these issues and will provide data to inform prevention and treatment services for spouse abuse in the Army, the largest branch of the U.S. military.

Spouse Abuse Services in the U.S. Military

The U.S. military has created an organization that is responsible for handling cases of family violence, including spouse abuse, among military families. This organization, the Family Advocacy Program, has been mandated by the Department of Defense to be in place in all military services (Directive Number 6400.1, 2004). The Family Advocacy Program

(FAP) handles family violence identification, investigation, and treatment (Army Regulation 608-18, 2006), and is staffed by clinical social workers, psychologists, and other professionals.

Reported incidents of spouse abuse are reviewed by a Case Review Committee. The Case Review Committee is supervised by the medical treatment facility commander for the installation. The Family Advocacy Program leads an investigation into the incident, and the case is either substantiated or unsubstantiated by the Case Review Committee. If substantiated, the soldier receives a clinical assessment conducted by an assigned Family Advocacy Program case worker and appropriate treatment is determined. Information on every spouse abuse case is recorded in a centralized database, the Army Central Registry.

Studies that utilize data on substantiated spouse abuse cases from the Army Central Registry find males perpetrating spouse abuse at significantly higher rates than females, and/or females victimized by spouse abuse at higher rates than males (McCarroll, et al., 2000; McCarroll, Ursano, Fan, & Newby, 2004a). For example, McCarroll et al. (2004a), examined the extent to which spouse abuse in Army families was perpetrated by men, women, or both partners. He examined data from the Army Central Registry of substantiated cases of physical and emotional spouse abuse involving an enlisted victim or perpetrator for fiscal years 1998 to 2002. During this time period there were 20,959 victims of spouse abuse; 63% were women and 37% were men. Throughout the time period, the female victim rate was approximately 5/1,000 greater than the male victim rate; the female rate was 14.4/1,000 in 1998 and decreased across the study period to 10.8/1,000 in 2002, while the male rate began at 9.5/1,000 in 1998 and incrementally decreased to 5.4/1,000 in 2002 (McCarroll, et al., 2004a).

Spouse Abuse Rates by Demographic Groups

Some research has shown that some minority groups are at a greater risk for IPV (Benson, Fox, DeMaris, & Van Wyk, 2000; Newby, et al., 2000; Tjaden & Thoennes, 2000). Most studies investigating the relationship between race and IPV involving nationally representative samples have examined victimization rates by race, rather than perpetration rates. For example, Tjaden and Thoennes (2000) found that the racial/ethnic groups most at risk for IPV victimization are American Indian women and men, African-American women, and Hispanic women without controlling for other demographic, social, and environmental factors (Tjaden & Thoennes, 2000).

Similar patterns of IPV rates among racial/ethnic groups have been found among married Army couples. For example, Rosen, et al. (2002), conducted a survey of 648 married male Army personnel at a post in Alaska and found the following percentages of male soldiers by racial/ethnic groups self-reported an act of spousal violence in the past year: 26% white; 45% Black; 35% white Hispanic; 26% Black Hispanic soldiers; 50% Asian; 28% multiracial soldiers, and 30% of soldiers who gave their race as "other". Another study compared the rates of spouse abuse cases between Black and white Army soldiers over 9 years (1989-1997). The rates for Blacks were higher than whites for all age groups, and Black males and females had higher rates than white males and females, respectively, for all years (Newby, et al., 2000). The rates of spouse abuse perpetration by Army soldiers who are members of other racial/ethnic groups, including Hispanics, by sex are not known.

Multiple studies have found similar demographic characteristics commonly associated with IPV among military couples. Younger age has been found to be associated with IPV in military couples (Cantos, Neidig, & O'Leary, 1993; Langhinrichsen-Rohling,

Neidig, & Thorn, 1995; Newby, et al., 2000; Rosen, Knudson, et al., 2002). Numerous studies have found lower pay grades to be associated with spouse abuse (Shupe, Stacey, & Hazlewood, 1987; Wasileski, Callaghan-Chaffee, & Chaffee, 1982). Lower rank has also been shown to be associated with spouse abuse in the Army (Bell, Harford, Fuchs, McCarroll, & Schwartz, 2006; Rosen, Knudson, et al., 2002). How these sociodemographic characteristics of offenders vary by sex has not been previously explored.

Types and Severity of Violence

Intimate partner violence can take multiple forms, including physical, sexual, or psychological abuse. In a literature review exploring intimate partner violence in the military, Rentz et al., 2006, found three studies that examined the types of spouse abuse perpetrated in military families (McCarroll, et al., 1999; McCarroll, et al., 2004a; Mollerstrom, Patchner, & Milner, 1992). These studies, which examined spouse abuse cases substantiated via an official investigation and case review, found that in the Air Force and the Army, physical violence was the most frequent form of spouse abuse, constituting 89.3% to 92.4% of all IPV. Substantiated emotional abuse was much less common; it accounted for only 6.7% of all Air Force spouse abuse and 8.5% to 10.6% of all Army spouse abuse. The studies found little occurrence of substantiated sexual abuse. Substantiated spousal neglect, defined as, "A type of domestic abuse in which an adult fails to provide necessary care or assistance for his or her spouse who is incapable of self-care physically, emotionally, or culturally" (*Manual for child maltreatment and domestic abuse incident reporting system*, 2005, p. 35), was also rare. Sexual abuse was found to comprise 0.5% of all substantiated spousal abuse in the Air Force and neglect accounts for only 0.4% of all spouse abuse cases (Mollerstrom, et al., 1992). In Army families, sexual abuse accounted for only 0.1% of all

substantiated spouse abuse cases (McCarroll, Ursano, Fan, & Newby, 2004b). The types of violence committed by soldier spouse abuse perpetrators have not been examined by sex.

Studies examining IPV commonly utilize the Revised Conflicts Tactics Scales (CTS2) (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), and fewer have utilized the Modified Conflict Tactics Scale (MCTS) (Pan, 1994). These scales classify the violence by level of severity, minor or severe, as indicated by the items endorsed by respondents. Minor physical violence includes behaviors such as throwing something at the partner, pushing, shoving or grabbing, slapping, and restraining the partner. Severe violence includes behaviors such as kicking, biting or punching with a fist, beating the other person up, and threatening the other person with a knife or gun (Straus, et al., 1996). Studies utilizing non-clinical samples have shown that most of the spouse abuse in Army families is minor in severity according to the CTS2 or MCTS (Heyman & Neidig, 1999; McCarroll, et al., 1999; Mollerstrom, et al., 1992; Rosen, Parmley, Knudson, & Fancher, 2002). However, when studies that examine subjects in clinical settings are considered, the severity of violence increases. In a study examining military couples mandated for IPV treatment, 55% of the men and 37% of the women perpetrated severe IPV (Langhinrichsen-Rohling, et al., 1995).

Researchers have proposed that the violence in relationships is more severe when it is unidirectional, that is, only one partner has perpetrated violence against the other (McCarroll, et al., 2004a; Vivian & Langhinrichsen-Rohling, 1994). McCarroll et al. (2004a), examined the extent to which spouse abuse in Army families was perpetrated by the man, woman, or both partners and the associated severity of the violence. He examined data from the Army Central Registry of substantiated cases of physical and emotional spouse abuse involving an enlisted victim or perpetrator for fiscal years 1998 to 2002. This study utilized the Army

Family Advocacy Program's classification of severity (U.S. Army, n.d.), which includes a third severity level, moderate, that is not included in the CTS2 or the MCTS. Across the study years, incidents with nonmutual physical abuse were consistently more severe than incidents involving mutual abuse, and the severity of physical violence was greater for female victims. Females were the victims of 79% of severe nonmutual physical abuse incidents and 58% of severe mutual abuse incidents. The severity of mutual emotional abuse was also greater than the nonmutual incidents, and females were more often the victims of severe emotional abuse than were males (McCarroll, et al., 2004a).

Although much is known about male spouse abuse perpetrators in the Army, much less is known about how characteristics of the perpetrators and violent incidents differ for females. This study will examine these issues and will provide valuable data to inform prevention and treatment services for spouse abuse in the Army. Specifically, this paper addresses the following research questions: 1) How do male and female spouse abuse perpetrators in the Army vary on sociodemographic characteristics?; 2) How do rates of spouse abuse vary by sex and race/ethnicity?; 3) How does the occurrence of mutual abuse vary by the sex of the perpetrator?; 4) How do the type(s) and severity of spouse abuse perpetrated vary by the sex of the perpetrator?, and 5) Is sex a predictor of the severity of emotional and physical abuse perpetrated, controlling for other perpetrator and incident characteristics?

Methods

Data and Study Design

The primary data source for this study is the Army Central Registry, an automated incident-based reporting system (*Manual for child maltreatment and domestic abuse*, 2005). Family Advocacy Program personnel enter information into the registry for each reported case of family violence. The registry collects information about the offender, victim and abusive incident. Demographic data on the victim and offender are provided, including the soldier's race/ethnicity, and pay grade. The type and severity of the abusive incident, and whether alcohol or drugs were involved is also recorded. While the Army Central Registry currently collects information on all cases of domestic violence involving soldiers (including unmarried couples), at the time the study data were collected, only domestic violence involving married soldiers was recorded. All cases are investigated and reviewed by a multidisciplinary committee that determines if substantiation of the case is warranted. To be included in the study sample, an Army family including an active duty soldier must have at least one substantiated case of spouse abuse perpetrated by the soldier, as recorded in the Army Central Registry, between January 1, 2000 and December 31, 2004.

Additional demographic data utilized are from the Defense Manpower Data Center (DMDC), the organization responsible for maintaining manpower and personnel data for the Department of Defense. The demographic data from DMDC represents five time points: June 30, 2000; June 30, 2001; June 30, 2002; June 30, 2003, and June 30, 2004, and includes the number of married soldiers in the U.S. Army by sex and race/ethnicity.

Operational Definitions

Perpetrator individual level factors from the Army Central Registry include race/ethnicity, sex, age, pay grade, and Army status (enlisted or officer). Race/ethnicity is recorded as one of the following options: white, not Hispanic; Black, not Hispanic; Hispanic; Asian/Pacific Islander; American Indian. Sex of the offender is also recorded. Age was calculated using the date of birth and the incident date as recorded in the Army Central Registry. Pay grade is operationalized into two groups by the Army's code for soldiers' pay grade; specifically, E1-E3 (Private through Private First Class) is considered the "lower" pay grade group, while E4 (Specialist or Corporal) and higher are considered the "higher" pay grade group. Army status was determined from a "pay plan" variable in the ACR; perpetrators coded as "commissioned officer" or "warrant officer" were classified as officer; those coded as "enlisted" remained as such.

Incident characteristics are also considered. Offenses were classified as "initial spouse abuse offenses" if they were recorded in the Army Central Registry as initial, as opposed to "subsequent incident" or "reopen". The location of the incident is recorded in the Army Central Registry as either on installation or off installation. Additionally, drug and alcohol use by the offender and victim during the incident are each recorded in the Army Central Registry with three response options – yes, no, or unknown. Substance use variables were created for offenders and victims that indicate if any substance use (either alcohol or drug use) occurred during the incident.

Three aspects of the abuse occurring during the initial spouse abuse offense were examined, specifically, the type and severity, and the occurrence of mutual abuse. The types and severity of spouse abuse are operationalized by the Army Central Registry (ACR)

categories, and defined in the Family Advocacy Program's Spouse Abuse Manual. The options for type of violence are physical, sexual, emotional, and neglect. The severity of maltreatment for each type of violence is recorded as mild (1), moderate (2), or severe (3). Incidents wherein a certain type of violence did not occur were coded as zero for severity. Additionally, incidents in which the perpetrator was also a victim of spouse abuse were coded as having mutual abuse occurring.

Statistical Analysis

All data analyses were conducted using SPSS 16.0 for Windows. An alpha level of .05 was considered statistically significant in all analyses. Descriptive analyses were first conducted on sociodemographic variables to describe characteristics of male and female spouse abuse perpetrators. Frequencies and percentages were reported and compared by sex. Chi-square tests were performed to determine if the sociodemographic variables differed by sex.

The rate of spouse abuse perpetration by sex per 1,000 married, active duty Army soldiers was then calculated on an annual basis for the 5 years of study data. Data from the DMDC provided the total number of active duty married soldiers by sex, and race/ethnicity groups in the Army as of June 30 for each year (2000-2004). These numbers were the denominators used for the rate calculations. Perpetrators were only counted once in the numerator in any given year, even if they perpetrated more than once in that year. Chi-square tests were performed to determine the relationship between sex and the rate of spouse abuse among the married, active duty Army population for all years of data. Five years rates by sex and race/ethnicity were also calculated and compared. To ensure sufficient rate

stability, racial/ethnic groups that had less than 15 male or female perpetrators over the study period were excluded in the rate calculations.

The relationship between sex of the offender and the occurrence of mutual abuse was examined; frequencies and percentages were reported and compared by sex, and chi-square tests were performed. Similarly, the relationship between sex and the types and severity of violence perpetrated were examined. Frequencies and percentages for each violence type/severity category were reported and compared between the sexes using chi-square tests.

Ordinal logistic regression models were run to examine the relationship between sex and the severity of physical and emotional abuse perpetrated while controlling for other variables. All models included age, race/ethnicity, pay grade; Army status (enlisted versus officer); substance use by the offender and victim; location of the incident (on or off installation), and the occurrence of mutual abuse as control variables (meaning they were retained in the model even if they were not shown to be significantly correlated with the dependent variables).

Chunk tests were performed for all regression models to test if any of the independent variables were moderators of the effect of sex (Kleinbaum, 1994). Models were run, including all the independent variables identified above as well as their interaction terms with sex, the -2 log likelihoods were compared with models containing only the main effects and no interaction terms. If no significant differences are found between the models, this implies that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

Adjusted odds ratios were obtained from the regression models to compare differences across groups, and the Wald 95% confidence intervals were utilized to determine precision (Poole, 2001). Pearson chi-square statistics were considered as the indicators of the predictive ability of the models (Stokes, Davis, & Koch, 2000).

Results

Overall, there were 7,697 perpetrators of substantiated spouse abuse during 2000-2004, including 7,315 males (95%) and 382 females (5%). These perpetrators committed 8,872 incidents of spouse abuse (some incidents involved multiple types of abuse). Males committed 8,439 (95.1%) of the unique incidents of abuse and females committed 433 (4.9%) incidents of abuse.

Sociodemographic Characteristics of Offenders

Male and female spouse abuse offenders differed significantly in terms of sociodemographic characteristics. The average age of females (25.26 years, SD 5.66) was approximately 1.5 years less than the average age for males (26.75, SD 5.94) ($p<.000$). A larger percentage of females than males were 25 years old or less (64.1% versus 52.1%) (Table 5.1). Females were also significantly more likely than males to be in the lower pay grades (36.4% versus 24.8%). No significant differences were found between the sexes in their enlisted versus officer status.

Male and female spouse abuse offenders differed in terms of their racial/ethnic distributions. Males were more likely than females to be white (43.6% males, 22.8% females) or Hispanic (12.5% males, 8.1% females). The majority of the female perpetrators were Black (65.2%), compared to 41.2% of males. Similar proportions of males and females

were Asian/Pacific Islander (2.0% males, 3.1% females) and American Indian (.7% males, .8% females).

Rates of Spouse Abuse Perpetration by Sex and Race/Ethnicity

The rates of spouse abuse perpetration per 1,000 active duty married Army personnel were calculated by sex for each year from 2000 through 2004 (see Table 5.2). The rate for males was significantly higher than that for females for every year ($p<.000$). An interesting note is that the rate for males significantly decreased from 2002 to 2003 (Pearson chi-square, 1 df= 52.25, $p<.0001$), while the rate for females increased over this time period, though this increase was not significant (Pearson chi-square, 1 df = .12, $p=.729$).

Males had higher rates than females within each racial/ethnic group ($p<.000$) (see Table 5.3). Among males, Blacks had the highest five year rate of all the racial/ethnic categories (12.24 per 1,000), and whites had the lowest five year rate (4.97 per 1,000). Similarly, among females, Black females had the highest five year rate (4.02 per 1,000), while whites had the lowest (1.29 per 1,000). The rates for Hispanics fell between Blacks and whites for both males and females (9.63 per 1,000 for males, and 2.25 per 1,000 for females). Rates for Asian/Pacific Islanders and American Indians were not calculated, as there were too few female perpetrators in these groups for sufficient rate stability.

Sex of Offender and Mutual Abuse Occurrence

The relationship between sex of the offender and the offender's experience of also being a victim of spouse abuse at the initial incident was explored. A little over half (52.4%) of the female offenders were found to also be victims, approximately double the percentage of male offenders ($p<.0001$) (Table 5.4).

Types and Severity of Spouse Abuse by Sex of Offender

The 7,697 initial incidents of spouse abuse were examined by type of abuse (Table 5.5). Emotional abuse was involved in 1203 (15.6%) of the initial incidents, physical abuse was involved in 6900 (89.6%) of the initial incidents, and sexual abuse was involved in 51 cases (.01%), all of which were perpetrated by males. No incidents involved neglect during the study period. Only 5.8% of incidents involved more than one type of violence.

Male offenders perpetrated the vast majority of all types of abuse, which is not surprising given that the Army is approximately 86% male and 14% female ("Active duty service personnel," 2007). However, the distribution of types of abuse was different for female offenders versus male offenders.

Male offenders perpetrated 1169 (97.2%) cases of emotional abuse, while female offenders perpetrated 34 (2.8%) cases (Table 5.5). A smaller proportion of female perpetrators (8.9%) committed any emotional abuse than male perpetrators (16.0%) ($p<.001$). A significant relationship between sex of the offender and emotional abuse severity was found ($p<.001$). Similar proportions of male and female offenders committed mild (5.6% males, 4.7% females) abuse, while a higher proportion of males committed moderate abuse (8.2% males, 3.4% females), and slightly more males than females committed severe emotional abuse (2.2% males, .8% females).

While males perpetrated the vast majority of the physical abuse incidents (6537 cases or 94.7%), and females perpetrated only 363 (5.3%) cases ($p<.001$) (not in tabular form), a higher proportion of female offenders (95.0%) committed physical violence than male offenders (89.4%) ($p<.001$) (Table 5.5). A significant relationship between sex of the

offender and physical abuse severity was also found (p<.001). A higher percentage of female offenders than males committed mild (45% females, 38.3% males) and moderate (44.8% females, 14.5% males) physical abuse, though males were more likely to commit severe physical abuse (9.6% males, 5.2% females).

Predictors of Emotional and Physical Violence Severity

Ordinal logistic regression models were run to test whether the relationship between sex of the perpetrator and the severity of emotional and physical abuse would remain when controlling for other sociodemographic variables and characteristics of the initial spouse abuse incident (see Tables 5.6 and 5.7). Chunk tests for all models were insignificant indicating that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

The ordinal model of emotional abuse severity was significant at p<.001 (chi-square = 221.400, 12 df) (Table 5.6). Sex of the offender was a significant predictor; male offenders had 1.45 times the odds of female offenders of perpetrating higher severity levels of emotional abuse, as opposed to lower severity levels (95% CI = 1.002, 2.085, p = .049). Other sociodemographic variables were found to significantly decrease the odds of perpetrating higher levels of emotional abuse, including: being in the younger age group (≤ 25 years) as opposed to being over 25 (OR = .719, 95% CI = .627, .824); being in the lower pay grades (E1-E3), as compared to being in pay grade E4 or higher (OR = .812, 95% CI = .668, .958); being enlisted, rather than being an officer (OR = .598, 95% CI = .432, .828), and being Black (OR = .528, 95% CI = .458, .607) or Hispanic (OR = .792, 95% CI = .652, .963), as compared to being white.

Characteristics of the initial spouse abuse incident also were found to be significant predictors in the ordinal regression model of emotional abuse severity. Those offenders whose victims used substances had lower odds of perpetrating higher levels of emotional abuse than offenders whose victims did not use substances (OR = .600, 95% CI = .470, .767). Additionally, the initial spouse abuse incident occurring off installation (as opposed to on installation) increased the odds of perpetrating higher severity levels of emotional abuse (OR = 1.235, 95% CI = 1.009, 1.400). Finally, the occurrence of mutual abuse, as compared to the perpetrator not being a victim, decreased the odds of perpetrating higher levels of emotional abuse (OR = .717, 95% CI = .614, .837).

Another logistic regression model was run to test sex of the offender would be a significant predictor of physical abuse severity when controlling for other sociodemographic variables and characteristics of the initial spouse abuse incident (Table 5.7). The model was significant at $p<.001$ (chi-square = 129.044, 12 df). Sex of the offender was not a statistically significant predictor of physical abuse severity (OR = 1.121, 95% CI = .933, 1.362, p=.254) (reference category is female). Other sociodemographic variables were found to significantly increase the odds of perpetrating higher severity levels of physical abuse, including: being in the younger age group (≤ 25 years) as opposed to being over 25 (OR = 1.209, 95% CI = 1.104, 1.324), and being Black (OR = 1.407, 95% CI = 1.283, 1.542) or Asian (OR = 1.461, 95% CI = 1.083, 1.971), as compared to being white.

Characteristics of the initial spouse abuse incident also were found to be significant predictors of physical abuse severity in the ordinal regression model. Those offenders who used substances during the initial abuse incident had 1.23 times the odds of those who didn't use substances of perpetrating higher levels of physical abuse severity (p=.001). Offenders

whose victims used substances had 1.30 times the odds of perpetrating higher severity levels of physical abuse as compared to offenders who victims did not use substances ($p<.001$).

Discussion

This study examined the differences between male and female soldier spouse abuse offenders in the Army on sociodemographic characteristics, rates of violence by race/ethnicity, the occurrence of mutual abuse, and the relationship between sex and the types and severity of violence perpetrated. Significant differences were found by sex in all analyses.

Annual rates of spouse abuse were examined. The decrease in spouse abuse rates by males after 2002 is likely due to heavy deployments to Iraq and Afghanistan which began in 2003. As a result of deployments, fewer soldiers would be at home with their spouses, therefore decreasing the opportunity to perpetrate spouse abuse. However, the rate of female spouse abuse increased from 2002 to 2003, though this increase was not significant. It may be that sex interacts with deployment in predicting spouse abuse perpetration. Future examination of spouse abuse rates during war time should examine the effect of deployment on rates by sex.

As mentioned, no previous study has examined the rates in the Army by Hispanic soldiers. Hispanic females were found to have a higher rate of spouse abuse perpetration than whites and a lower rate of spouse abuse perpetration than Blacks. Males followed the same pattern. The rates of Asian and American Indians were not calculated because of the small number of female perpetrators in these groups, so it is unclear how these groups compare. Further research with larger subgroup sample sizes (i.e., including more years of data) would clarify this issue.

This study found male offenders perpetrated the majority of all types of violence, as was expected given approximately 86% of soldiers are male ("Active duty service personnel by branch of service, officer/enlisted status & sex as of 30 September 2006," 2007). However, differences exist by sex in the distribution of types of violence perpetrated. To be recorded as a spouse abuse offender in the Army Central Registry, one must commit some type of violence, and the vast majority of offenses in this data set involved physical and/or emotional abuse. Therefore, because female offenders commit low levels of emotional abuse, they are more likely to commit physical abuse. Thus, male offenders were significantly more likely to perpetrate emotional abuse than female offenders, while female offenders were more likely to perpetrate physical abuse than male offenders.

Given the higher percentage of female offenders who are spouse abuse victims, the distributions of violence type by sex are not entirely surprising. It is likely that a large proportion of the violence perpetrated in a mutually abusive incident is in self defense. If females are perpetrating spouse abuse in self defense, physical violence would likely be more effective than emotional abuse for protection. Additionally, the feminist perspective of domestic violence considers emotional abuse, like all types of IPV, to be a tactic employed to maintain power and control in an intimate relationship (Yllo, 1993). Victims of spouse abuse may not have the power in the marital relationship necessary to perpetrate emotional abuse (i.e., they have no power or control in the relationship to maintain and only perpetrate physical violence in self defense). Further research exploring the relationship between sex of offender, victimization by spouse abuse, and types of spouse abuse perpetrated would help clarify these issues.

Consistent with previous research utilizing ACR data, the majority of spouse abuse perpetrated was mild or moderate in severity (McCarroll, et al., 1999). Interestingly, sex was a significant predictor of the severity level of emotional violence perpetrated, with males having greater odds than females of committing higher severity levels, while sex was not a significant predictor of severity level of physical violence. However, it is impossible to compare these findings to other studies of IPV in the military or in civilian populations that utilize the CTS2 or the MCTS to classify the severity of violence due to differences in the categorization of certain acts. As mentioned, the classification system employed by the FAP and recorded in the ACR includes a third severity level, moderate, that is not included in the CTS2 or the MCTS. Some acts that are considered minor in the CTS2 and MCTS are considered moderate in the FAP system (e.g., throwing something at your partner, pushing or shoving, slapping) and some acts that are considered moderate in the FAP system are considered severe in the CTS2 and MCTS (e.g., kicking, hitting) (M.A. Straus, Hamby, Boney-McCoy, & Sugarman, 1995; U.S. Army, n.d.). The Army should consider modifying its abuse classification system so that better comparisons across civilian and military populations can be made.

Study Limitations

This study has several limitations. As in all studies of spouse abuse, it is likely that many cases are unreported. This can be due to many reasons including fear of the perpetrator and failure to identify behaviors as abusive. Under reporting may be a particular concern in a military sample where substantiated cases of spouse abuse perpetration go in a soldier's record and may negatively affect one's career. Spouse victims therefore may have a disincentive to report abuse. Additionally, to be in this sample, cases must also be

substantiated via an investigation and review by a committee of Army personnel; this process may also discourage reporting by those victims who prefer privacy and anonymity.

Other potential limitations of the data utilized exist. This study utilizes data from the Army Central Registry, a large administrative database. This database may contain errors. Finally, large scale deployments of Army soldiers began in 2003 which falls within this study period. Deployments may affect patterns of spouse abuse perpetration in unique ways by sex that we currently do not understand.

Conclusion

This study makes important contributions in describing how sex affects spouse abuse perpetration among soldier offenders in Army families, an area largely unexplored. Male and female offenders differ significantly in important ways, including sociodemographics, rates of perpetration, and the types and severity of violence perpetrated. This study provides valuable data to inform sex appropriate prevention and treatment services for spouse abuse in the Army.

Future research should continue to explore differences between male and female perpetrators of spouse abuse. Exploration of how males and females soldiers differ in terms of common problems that tend to co-occur with spouse abuse, such as child abuse, would provide additional valuable insight. Additionally, examining changes in rates of spouse abuse perpetration by sex due to deployments would be of particular current interest. Finally, how the Army responds to male and female perpetrators and their victims should be examined, as well as subsequent reoffense.

Table 5.1. Sociodemographic Characteristics of Married Soldier Spouse Abuse Offenders

	Males (n=7315)	Females (n=382)	*p*-value	Total
	n (%)	n (%)		n (%)
Race/Ethnicity			<.001*	
White	3190 (43.6)	87 (22.8)		3277 (42.6)
Black	3016 (41.2)	249 (65.2)		3265 (42.4)
Hispanic	911 (12.5)	31 (8.1)		942 (12.2)
Asian/Pacific Islander	145 (2.0)	12 (3.1)		157 (2.0)
American Indian	53 (.7)	3 (.8)		56 (.7)
Age Group			<.001*	
≤ 25	3812 (52.1)	245 (64.1)		4057 (52.7)
>25	3503 (47.9)	137 (35.9)		3640 (47.3)
Army Status			.608+	
Officer	181 (2.5)	7 (1.8)		188 (2.4)
Enlisted	7134 (97.5)	375 (98.2)		7509 (97.6)
Pay Grade			<.001*	
Lower (E1-E3)	1814 (24.8)	139 (36.4)		1953 (25.4)
Higher (E4+)	5501 (75.2)	243 (63.6)		5744 (74.6)

*Pearson Chi-Square (2-sided)
+Fisher's Exact Test (2-sided)

Table 5.2. Rates of Spouse Abuse Perpetration by Sex among Active Duty Married Army Personnel, 2000 – 2004

	Males	Females	*p*-value
Year	Rate per 1000 (95% CI)	Rate per 1000 (95% CI)	
2000	8.16 (7.63, 8.38)	2.58 (2.08, 3.22)	<.0001
2001	7.82 (7.45, 8.20)	2.94 (2.40, 3.61)	<.0001
2002	8.38 (8.01, 8.78)	2.64 (2.13, 3.27)	<.0001
2003	6.49 (6.16, 6.84)	2.78 (2.26, 3.43)	<.0001
2004	5.58 (5.28, 5.91)	1.96 (1.52, 2.52)	<.0001
2000 - 2004	7.28 (7.12, 7.44)	2.59 (2.35, 2.85)	<.0001

Table 5.3. Five Year Rates of Spouse Abuse Perpetration by Sex and Race/Ethnicity among Active Duty Married Army Personnel, 2000 – 2004

	Males	Females	
Race/Ethnicity	Rate per 1000 (95% CI)	Rate per 1000 (95% CI)	*p*-value
White	4.97 (4.80, 5.14)	1.29 (1.05, 1.59)	<.0001
Black	12.24 (11.83, 12.66)	4.02 (3.57, 4.54)	<.0001
Hispanic	9.63 (9.04, 10.25)	2.25 (1.60, 3.16)	<.0001

Table 5.4. Perpetrator also Victim of Spouse Abuse at Initial Incident

	Male Offenders (n=7315)	Female Offenders (n=382)	*p*-value	Total
	n (%)	n (%)		n (%)
Victim	1850 (25.3)	200 (52.4)	<.0001	2050 (26.6)
Not Victim	5465 (74.7)	182 (47.6)		5647 (73.4)

Table 5.5. Violence Type and Severity Perpetrated at Initial Offense

		Male Offenders (n=7315)	**Female Offenders (n=382)**	***p*-value**	**Total (n=7697)**
Violence Type	**Violence Severity**	**n (%)**	**n (%)**		**n (%)**
Emotional				<.001	
	None	6146 (84.0)	348 (91.1)		6494 (84.4)
	Mild	410 (5.6)	18 (4.7)		428 (5.6)
	Moderate	597 (8.2)	13 (3.4)		610 (7.9)
	Severe	162 (2.2)	3 (.8)		165 (2.1)
Any Emotional		1169 (16.0)	34 (8.9)	<.001	1203 (15.6)
Physical				<.001	
	None	778 (10.6)	19 (5.0)		797 (10.4)
	Mild	2799 (38.3)	172 (45.0)		2971 (38.6)
	Moderate	3083 (14.5)	171 (44.8)		3209 (41.7)
	Severe	700 (9.6)	20 (5.2)		720 (9.4)
Any Physical		6537 (89.4)	363 (95.0)	<.001	6900 (89.6)
Sexual					
	None	7264 (99.3)	382 (100.0)	--	7646 (99.3)
	Mild	6 (.1)	0 (0.0)		6 (<.1)
	Moderate	17 (.2)	0 (0.0)		17 (<.1)
	Severe	28 (.4)	0 (0.0)		28 (<.1)
Any Sexual		51 (.7)	0 (0.0)	--	51 (.7)
Neglect		0 (0.0)	0 (0.0)	--	--
>1 Type		433 (5.9)	15 (3.9)	.105	448 (5.8)

Table 5.6. Predictors of Emotional Abuse Severity

	N	OR (95% CI)[1]	p value
Offender Characteristics			
Sex			
Male	7315	1.445 (1.002, 2.085)	.049
Female (Referent)	382	1.0	
Age			
≤ 25	4057	.719 (.627, .824)	<.001
> 25 (Referent)	3640	1.0	
Pay grade			
Lower (E1-E3)	1953	.812 (.668, .958)	.013
Higher (E4+) (Referent)	5744	1.0	
Army Status			
Enlisted	7509	.598 (.432, .828)	.002
Officer (Referent)	188	1.0	
Race/Ethnicity			
Black	3265	.528 (.458, .607)	<.001
Hispanic	942	.792 (.652, .963)	.019
Asian	157	.853 (.561, 1.297)	.457
Native American	56	.621 (.268, 1.441)	.267
White (Referent)	3277	1.0	
Incident Characteristics			
Substance Use			
Substance use by offender	1833	.894 (.752, 1.063)	.254
No substance use by offender (Referent)	5864	1.0	
Substance use by victim	976	.600 (.470, .767)	<.001
No substance use by victim (Referent)	6721	1.0	
Location of Initial Spouse Abuse Incident			
Off installation	3576	1.235 (1.0090, 1.400)	.001
On installation (Referent)	4121	1.0	
Mutual Abuse			
Yes	2050	.717 (.614, .837)	<.001
No (Referent)	5647	1.0	

[1]OR=Odds ratio; 95% CI=Ninety five percent confidence intervals.

Table 5.7. Predictors of Physical Abuse Severity

	N	OR (95% CI)[1]	p value
Offender Characteristics			
Sex			
Male	7315	1.121 (.922, 1.362)	.254
Female (Referent)	382	1.0	
Age			
≤ 25	4057	1.209 (1.104, 1.324)	<.001
> 25 (Referent)	3640	1.0	
Pay grade			
Lower (E1-E3)	1953	1.072 (.967, 1.189)	.188
Higher (E4+) (Referent)	5744	1.0	
Army Status			
Enlisted	7509	1.261 (.960, 1.658)	.096
Officer (Referent)	188	1.0	
Race/Ethnicity			
Black	3265	1.407 (1.283, 1.542)	<.001
Hispanic	942	1.023 (.894, 1.171)	.739
Asian	157	1.461 (1.083, 1.971)	.013
Native American	56	1.453 (.885, 2.383)	.139
White (Referent)	3277	1.0	
Incident Characteristics			
Substance Use			
Substance use by offender	1833	1.226 (1.092, 1.376)	.001
No substance use by offender (Referent)	5864	1.0	
Substance use by victim	976	1.302 (1.123, 1.510)	<.001
No substance use by victim (Referent)	6721	1.0	
Location of Initial Spouse Abuse Incident			
Off installation	3576	1.070 (.984, 1.164)	.115
On installation (Referent)	4121	1.0	
Mutual Abuse			
Yes	2050	.988 (.897, 1.087)	.797
No (Referent)	5647	1.0	

[1]OR=Odds ratio; 95% CI=Ninety five percent confidence intervals.

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CHAPTER 6: SEX DIFFERENCES IN THE ARMY'S RESPONSE TO SPOUSE ABUSE PERPETRATORS AND VICTIMS

Abstract

Differences in the Army's response to spouse abuse perpetrated by male and female active duty Army soldiers were examined using five years of data (2000-2004) from the U.S. Army Central Registry, an electronic data system that contains information on family violence cases. There were 7,646 soldier spouse abuse perpetrators identified: 7,264 male and 382 female. Civilian law enforcement was more likely to collaborate on the investigation with the Army's Family Advocacy Program when the offender was male (adjusted OR=1.38, p=.039), as were child protective services (adjusted OR=1.71, p=.032), controlling for other offender and incident characteristics. Male offenders were twice as likely as female offenders to be removed from the home (p<.0001), and the wives of male offenders were approximately half as likely as the husbands of female offenders to be sheltered (p=.004). No statistically significant differences were found by sex of the offender in the initial allegation referral source, or the provision of clinical interventions to offenders and victims.

Introduction

Intimate partner violence (IPV), or domestic violence, poses a significant threat to public health in both civilian and military families. Studies that compare military and civilian families have shown military families to be at greater risk for experiencing IPV

(Cronin, 1995; Griffin & Morgan, 1988; Heyman & Neidig, 1999; Rentz, et al., 2006). The Department of Defense has made stopping IPV a priority, allocating $900 million in the fiscal year 2008-2009 budget for that purpose (Thompson, 2008). However, little is known about how the military currently responds to male and female domestic violence perpetrators, specifically, referral and investigation, and services provided to offenders and victims.

Sex differences in the perpetration of domestic violence have been the focus of much research in recent years (see: Archer, 2000; Tjaden & Thoennes, 2000; Bachman & Saltzman, 1995; Langhrinchsen-Rohling, 1995; McCarroll et al, 2004a; Rosen, Parmley, Knudons & Fancher, 2002). While the actual amount of domestic violence perpetrated by females remains controversial, domestic violence service systems that were initially developed to respond to male perpetrators and female victims are increasingly also responding to a minority of female offenders and male victims (Miller, 2001). Research has found male and female domestic violence perpetrators differ on important variables including: the experience of also being a victim of domestic violence; history of perpetrating violence; sociodemographic variables; mental illness; and treatment needs, necessitating a gendered approach to the response to domestic violence (Muftić, 2007). Despite these identified needs, little is known about whether and/or how the patterns of services provided to domestic violence offenders and victims vary by sex of the offender.

In the civilian environment, domestic violence cases may be handled by numerous agencies and organizations. While the majority of those arrested for domestic violence are males, the number of women arrested for domestic violence increased rapidly with the implementation of pro arrest and mandatory arrest policies (Martin, 1997; Saunders, 1995). Such policies led to an increase in dual arrest, arrest of both parties, and a resulting increase

in the number of women arrested. There is concern that in cases of dual arrest, the primary aggressor in the couple is not being identified, and the victim, using violence in self defense, is being held equally culpable. In response to this concern, some jurisdictions modified their policies to encourage arresting officers to better evaluate each party's role in the violence by directing them to identify and arrest only the primary aggressor (Finn & Bettis, 2006; Martin, 1997). The effects of these modifications on women's arrest rates remain unclear; some studies have documented decreased rates of women's arrest following implementation in some areas, while other studies find women's arrest rates continuing to increase (Bohmer, Brandt, Bronson, & Hartnett, 2002; Chesney-Lind, 2002; Finn & Bettis, 2006; McMahon & Pence, 2003).

Little research has compared the rates of arrest of suspected male and female domestic violence perpetrators, though one study with a small sample size found similar rates of arrest for male and female perpetrators of domestic violence in areas with mandatory arrest policies (Buzawa & Austin, 1997). However, numerous studies suggest that, in general, there may be differences by sex in how police and judicial systems respond to women and men (Daly & Bordt, 1995).

Some studies have found that women are less likely than men to face arrest for equivalent crimes, and may receive more lenient sentences (Daly & Bordt, 1995). Numerous theories have been cited to explain this unequal treatment of men and women in the civilian police and judicial systems. Some suggest that the differential treatment of offenders by sex in these systems is a result of the influence of traditional gender roles (Bowker, 1978; Crew, 1991), and/or ideals of chivalry and paternalism (Crew, 1991; Krohn, Curry, & Nelson-Kilger, 1983; Moulds, 1978; Nagel & Hagan, 1982).

In the civilian environment, systems to respond to male victims of domestic violence are largely lacking. Domestic violence shelters often cannot accommodate male victims. Moreover, while health care systems are increasingly implementing policies to screen female patients for domestic violence, the potential for male victims is largely ignored by these policies (Mills, Avegno, & Haydel, 2006). However, differential treatment by sex of offenders and victims of domestic violence may be warranted. Many researchers propose that the majority of women who are charged with or admit to perpetrating acts characterized as domestic violence are actually defending themselves from an abusive partner (see: Dobash, et al., 1992; K. Hamberger & Potente, 1994; Saunders, 1995). They believe many of these women would not be identified as perpetrators if the context and extent of the violence were understood. If this is the case, procedures to better identify true perpetrators and victims are needed, and in the meantime, differential treatment of male and female "perpetrators" and "victims" is warranted.

Women in the Army

While women play a greater role in the U.S. Army than ever before, they remain far outnumbered by men within the organization, and still constitute only 14% of active duty personnel ("Active duty service personnel," 2007). Women's career options remain restricted in the Army, due to their exclusion from units and jobs whose primary mission is direct ground combat (Yeager, 2007). The commonly articulated beliefs underlying bans on women in combat are that they are constitutionally unsuited for fighting and would create dangerous distractions to their male counterparts on the battlefield (Kovitz, 2003).

While the Army is a bureaucracy, policies and procedures are not carried out in a vacuum; they are interpreted by individuals functioning within an organizational

environment. Feminists argue that all organizations, civilian or military, are gendered, meaning that gender is, "(P)resent in its processes, practices, images and ideologies, and distributions of power" (Acker, 1992, p. 567). Britton, 2000, further explains the implications of an organization's genderedness:

> To say that organizations are inherently gendered implies that they have been defined, conceptualized, and structured in terms of a distinction between masculinity and femininity, and presume and will thus inevitably reproduce gendered differences. (Britton, 2000)

Researchers assess the genderedness of an organization by considering multiple aspects through which gender is reflected, including structural divisions, such as division of labor and representation in positions of power, overall numeric representation, and the construction of gender in the organization's culture (e.g., Carreiras, 2006; Britton, 2000). Based on these criteria, Carreiras (2006) calls the military an "extreme case of gendered organization" (p. 40).

Certainly, the Army remains, at its core, a masculine organization (Carreiras, 2006). This may influence the way in which male and female personnel are regarded and processed within the organization's systems, thus reproducing gendered differences. Although Army policy for the treatment of spouse abusers and victims does not suggest differential treatment by sex ("Directive Number 6400.1," 2004), given the societal and organizational milieu, and/or actual differences in the violence perpetrated by males and females, it is possible that differential treatment by gender exists.

The Army's Response to Spouse Abuse

The U.S. military has created an organization that is responsible for handling cases of family violence, including spouse abuse, among military families. This organization, the Family Advocacy Program, has been mandated by the Department of Defense to be in place in all military services (Directive Number 6400.1, 2004). The Family Advocacy Program handles family violence identification, investigation, and treatment (*Army Regulation 608-18: The Army Family Advocacy Program*, 2006), and is staffed by clinical social workers, psychologists, and other professionals. In addition to the response by the Family Advocacy Program, additional administrative sanctions or disciplinary actions under the Uniform Code of Military Justice may be taken at the discretion of the Commander (D.O.D., 2004).

While all soldiers are encouraged to report cases of spouse abuse, in contrast to the civilian environment, many Army professionals are required to report spouse abuse, including: law enforcement; health care professionals, social workers; school personnel; Family Advocacy Program personnel; and unit commanders (Army Regulation 608-18, 2006). The Family Advocacy Program leads an investigation into the incident, and may also collaborate with other military or civilian organizations, including military and/or civilian law enforcement, and SWS (for soldiers overseas). Additionally, because both spouse abuse and child abuse can co-occur during an incident, child protective services may be involved in an investigation. The case is then either substantiated or unsubstantiated by a Case Review Committee. If substantiated, the soldier receives a clinical assessment conducted by an assigned Family Advocacy Program case worker. Based upon this assessment, the case

worker determines the appropriate treatment for the perpetrator and victim, including protective action (U.S. Army, n.d.).

Spouse Abuse Referrals and Investigations

Only one published study has examined the sources of referral of spouse abuse cases in the Army to the Family Advocacy Program. This study examined Army Central Registry data from 1989-1997, and found law enforcement, medical and dental professionals, and commanders to be the primary sources of referral of spouse abuse offenders to the Family Advocacy Program (McCarroll, et al., 1999). If the source of referral differs by sex of the perpetrator is not known. No studies have examined the agencies involved in spouse abuse investigations.

Clinical Interventions and Protective Actions

The Family Advocacy Program is responsible for determining what, if any, clinical interventions to provide to spouse abuse perpetrators and victims as well as any victim protective action that is taken. McCarroll, et al. (1999), analyzed Army Central Registry data from 1989-1997. Over 90% of victims received social services including counseling, about one fourth received outpatient medical services, and less than 2% received inpatient medical services. No studies have examined if/how these services vary by victim gender, nor have they explored victim protective action taken by the Family Advocacy Program (e.g., spouse sheltered, offender removed from home, removing the offender from his/her normal duty station, etc.), or services provided to perpetrators.

This study will address these gaps in our knowledge by examining sex differences in Army and civilian agencies involved in referral of spouse abuse cases perpetrated by soldiers,

investigations, clinical interventions provided to offenders and victims, and victim protective actions taken by the Army.

Methods

Data and Study Design

The primary data source for this study is the Army Central Registry. The Army Central Registry is an automated incident-based reporting system (*Manual for child maltreatment and domestic abuse*, 2005); Family Advocacy Program personnel enter information into the registry for each reported case of family violence. This file contains information about the offender, victim and abusive incident. While the Army Central Registry currently collects information on all cases of domestic violence involving soldiers (including unmarried couples), at the time the data to be used for this study were collected, only domestic violence involving married soldiers was recorded. To be included in the study sample, an Army family including an active duty soldier must have at least one substantiated case of spouse abuse perpetrated by the soldier, as recorded in the Army Central Registry, between January 1, 2000 and December 31, 2004. Offenses were classified as "initial spouse abuse offenses" if the incident type is recorded as initial, as opposed to "subsequent incident" or "reopen".

Initial analyses revealed that only males committed sexual abuse against their spouse. Because the purpose of the analysis is to compare the effect of gender on the Army's response to perpetrators and victims, all other characteristics held constant, initial cases involving sexual abuse (n=51) were excluded from the sample.

Operational Definitions

Perpetrator individual level factors from the Army Central Registry are considered, including race/ethnicity, sex, age, pay grade, and Army status (enlisted or officer). Race/ethnicity is recorded as one of the following options: white, not Hispanic; Black, not Hispanic; Hispanic; Asian/Pacific Islander; American Indian. Sex of the offender is also recorded. Age was calculated using the date of birth and the incident date as recorded in the Army Central Registry. Pay grade is operationalized into two groups by the Army's code for soldiers' pay grade; specifically, E1-E3 I (Private through Private First Class) is considered the "lower" pay grade group, while E4 (Specialist or Corporal) and higher are considered the "higher" pay grade group. Army status was determined from a "pay plan" variable in the ACR; perpetrators coded as "commissioned officer" or "warrant officer" were classified as officer; those coded as "enlisted" remained as such.

Characteristics of the spouse abuse incident were also considered. The location of the incident is recorded in the Army Central Registry as either on installation or off installation. Additionally, drug and alcohol use by the offender and victim during the incident are each recorded with three response options – yes, no, or unknown. Substance use variables were created for offenders and victims that indicate if any substance use (either alcohol or drug use) occurred during the incident. The occurrence of mutual abuse (i.e., the offender was also a victim of spouse abuse) during the incident is recorded (Y/N). Finally, a variable denoting the highest severity level of violence perpetrated during the initial incident was also utilized (e.g., if emotional abuse of a mild level and physical violence of a moderate level were both perpetrated by the offender during the incident, that incident would be classified as moderate).

The referral source of a potential spouse abuse incident to the Family Advocacy Program can be military or civilian. This analysis examined the two most common referral sources for soldiers, military law enforcement and military medical/dental, and a category including all other potential referral sources, specifically: military commander (i.e. the chief commissioned officer of a military unit); military child care/school personnel; military chaplain; family center professionals (Army family centers, located on most installations, provide support services, information, life-skills education, etc); other military; civilian social services; civilian law enforcement; civilian child care/school personnel; civilian medical/dental professionals; other civilian sources; the victim; the offender; a friend, relative, or neighbor, or other source. Each incident only has one referral source.

Possible collaborators with the Family Advocacy Program on the investigation are: military law enforcement; civilian law enforcement; SWS (for soldiers overseas), and child protective services (for incidents also involving child abuse). More than one agency can collaborate on the investigation. It is important to note that the Army Central Registry does not indicate which spouse abuse offenders have children, and therefore, who has the opportunity to commit child abuse.

The provision of clinical interventions to offenders and victims is operationalized via a dichotomous variable (Y/N) denoting if any clinical treatment services were provided. Clinical intervention may be provided by one or more of the following: Family Advocacy Program personnel; another Department of Defense (DOD) program, or a non-DOD program (e.g., civilian therapist).

The final aspect of the organizational response to spouse abuse offenses considered is victim protective action taken by the Family Advocacy Program. Protective action may or

may not be taken in any given case. If it is taken, protective actions include sheltering the spouse, removing the offender from the home, removing the offender from his/her normal duty station, removing a child for substitute care, or some other protective action. Multiple types of protective action may be taken in any case.

Analyses

All data analyses were conducted using SPSS 16.0 for Windows. An alpha level of .05 was used to determine statistical significance in all analyses. Prior to running any regression models, separate correlation matrices for each analysis were created including the independent and dependent variables in order to examine the bivariate relationships and potential multicollinearity among the independent variables and between each independent variable and its respective dependent variable. All of the variables included in the regression models had correlations less than .8.

Chunk tests were also performed for all regression models to test if any of the independent variables were moderators of the effect of sex (D. G. Kleinbaum, 1994). Models were run including all the independent variables identified above as well as their interaction terms with sex; the -2 log likelihoods were compared with models containing only the main effects and no interaction terms. If no significant differences are found between the models, this implies that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

Multinomial logistic regression models were run to examine the relationship between sex and those values of the initial referral source with sufficient sample size in both sex

groups. One model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model was run including sex and the following control variables to obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

Similarly, two binary logistic regression models were run on each value of the following dependent variables with sufficient sample size in both sex groups: agencies involved in the investigations, the provision of clinical interventions for offenders and victims, and victim protective actions taken by the Family Advocacy Program. For each dependent variable value, one model was run with sex as the only independent variable to obtain an unadjusted odds ratio, and another model was run including sex and the following control variables to obtain an adjusted odds ratio: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3).

Chi-square analyses were run separately for cases involving male and female offenders to further explore the relationship between two types of victim protective action: removing the offender from the home and sheltering the spouse.

Results

Initial Allegation Referral Source

The source of the initial spouse abuse referral to the Family Advocacy Program was examined by sex (Table 6.1). The majority of referrals for both male and female offenders came from military law enforcement (45.9% and 50.8%, respectively). The "other" category was the next most common, responsible for the referral of 38.2% of male offenders and 42.2% of female offenders. Military medical/dental sources accounted for 11.9% of the referrals involving male offenders and 11.0% of the referrals involving female offenders.

Multinomial logistic regression models were run to test the relationship of sex and the source of the initial referral (Table 6.2). None of the unadjusted or adjusted odds ratios for sex were statistically significant at an α level of .05. While the effect of sex on the likelihood of military law enforcement being the referral source rather than military medical/dental or other was nearly statistically significant (unadjusted OR = .821, p=.060), this relationship did not remain when other characteristics of the offender and incident were included in the model.

Agencies Involved in the Investigation

Agencies involved in the spouse abuse investigation were examined by sex (Table 6.3). As previously stated, the Family Advocacy Program, which is always involved in investigations, may or may not collaborate with additional agencies. Military law enforcement was the most common collaborator on cases involving both male (50.4%) and female (55.8%) offenders. The next most common collaborators on investigations were civilian law enforcement, SWS (for soldiers overseas), and child protective services,

respectively. The Family Advocacy Program conducted the investigation alone for 18.7% of the cases involving males and 19.6% involving females.

Logistic regression models were run to test the relationship between sex and which agencies were involved in the investigation (Table 6.4). Military law enforcement involvement was found to be less likely with male offenders as compared to females in the model when sex was the only independent variable (OR=.807, *p*=.043); however, this relationship did not remain statistically significant when characteristics of the offender and incident were included in the model (OR = .897, *p*=.396). Civilian law enforcement was more likely to collaborate on the investigation when the offender was male (unadjusted OR= 1.40, *p*=.012; adjusted OR=1.38, *p*=.039), as were child protective services (unadjusted OR= 1.62, *p*=.048; adjusted OR=1.713, *p*=.032).

Provision of Clinical Intervention to Offenders and Victims

Variation by sex in the provision of clinical interventions to spouse abuse offenders and victims was examined. The vast majority of all offenders and victims received clinical services. Both male and female offenders received clinical services in 98.3% of cases. Victims received clinical services in 97.2% of the cases involving male offenders, and in 96.8% of cases involving female perpetrators. Binary logistic regression models were run to test the relationship between sex and the provision of clinical interventions to offenders (unadjusted OR = .958, p = .958, adjusted OR = 1.113, p = .804) and victims (unadjusted OR = 1.119, p = .709, adjusted OR = 1.159, p = .634); no significant effects of sex were found (not in tabular form).

Victim Protective Action Taken

Differences in victim protective actions taken by sex of the offender were assessed (Table 6.5). Among both males and female offenders, the most common type of action taken to protect their spouse abuse victims was that classified as "other" (42.4% of wives and 52.6% of husbands). For male offenders, the next most common protective action was for the offender to be removed from the home (39.0%), followed by no victim protective action taken (20.5%), and for the spouse of the offender to be sheltered (2.5%). For female offenders, the second most common victim intervention was no protective action (22.0%), followed by removing the offender from the home (21.5%), and sheltering the spouse of the offender (4.5%).

Binary logistic regression models were run to test the relationship between sex of the offender and those victim protective actions taken by the Family Advocacy Program for which there was sufficient sample size (Table 6.6). Male offenders were twice as likely as female offenders to be removed from the home (unadjusted OR= 2.34, $p<.0001$; adjusted OR=2.00, $p<.0001$). The wives of male offenders were approximately half as likely as the husbands of female offenders to be sheltered (unadjusted OR= .56, $p=.023$; adjusted OR=.46, $p=.004$). The wives of male offenders were also less likely than the husbands of female offenders to receive other types of protective actions (unadjusted OR= .66, $p<.0001$; adjusted OR=.76, $p=.011$). No significant differences were found by sex for no victim protective actions being taken ($p>.45$).

The relationship between removal of the offender from the home and sheltering the spouse was examined separately by sex of the offender (Table 6.7). For cases involving male perpetrators, a significantly smaller proportion of spouses are sheltered when offenders are

removed from the home (1.6%) then when they are not removed (3.1%) (p <.001). The same pattern is seen in cases involving female perpetrators, with a significantly smaller proportion of spouses sheltered when offenders are removed from the home (1.2%) then when they are not removed (5.3%), though this relationship was not statistically significant (p = .137).

Discussion

The referral sources for male and female offenders were highly comparable. No significant differences were found by sex for referral sources, indicating no differential treatment by sex in this stage of the process. It is particularly interesting that no difference by sex was found in referrals from military medical and dental sources. In the civilian environment, health care protocols emphasize screening of women, not men (Mills, et al., 2006). Why equivalent percentages of male and females would be identified in military healthcare settings is unclear. Further examination into the referrals by military medical and dental sources is warranted to better illuminate the role of offender sex in these processes.

Civilian law enforcement and child protective services were found to be significantly more likely to be involved in an investigation of a substantiated spouse abuse incident with a male offender with other variables held constant. The greater chance of involvement of child protective services in cases involving male perpetrators may simply be because males who commit spouse abuse are more likely to concurrently commit child abuse than female spouse abuse offenders, thereby necessitating the participation of child protective services in the investigation. Concerning the greater likelihood of involvement of civilian law enforcement in cases involving male perpetrators, civilian law enforcement may be more likely to initially respond to cases involving male offenders, and therefore logically take part in the

investigation. These findings suggest no differential treatment of spouse abuse offenders by sex by the Army in the investigation of cases that are ultimately substantiated.

Consistent with previous research, nearly all victims received clinical services (McCarroll, et al, 1999), as did offenders. No differences were found by sex in the likelihood to receive clinical services or the provider of clinical services for victims or offenders, indicating no differential treatment of spouse abuse offenders by sex by the Army in this stage of the processing of spouse abuse offenders and victims.

Significant differences by sex of the offender when controlling for other individual and incident characteristics (including violence types and severity) in the types of victim protective actions taken by the Family Advocacy Program were found. Male offenders were twice as likely as female offenders to be removed from the home. This may be due to the presumed greater availability of housing options for males than females on Army installations. Another possibility is that removing the offender from the home is the fastest and most effective way of ensuring the safety of the victim, while minimizing victim inconvenience (as can happen when the victim is taken to a shelter), so that this response is utilized more often in cases that are perceived as imminently dangerous. This interpretation infers that the Family Advocacy Program considers spouse abuse perpetrated by males to be more dangerous to the victim than that perpetrated by females.

While less than 5% of the victims of either males or females were sheltered, the wives of male offenders were half as likely as the husbands of female offenders to be sheltered. It was also found that when male offenders are removed from the home, their spouses are less likely to be sheltered, as would be expected. Given the larger proportion of male offenders

that are removed from the home (39%) than females (21.5%), it is not surprising that the victims of female offenders had higher odds of being sheltered. Additionally, housing options for males and females on the installation may again play a role in determining who is removed from the home; it is likely easier to find appropriate shelter for the victims of females (husbands) than males (wives).

These analyses found no indications of differential treatment of spouse abuse offenders by sex in the source of the initial referral or the provision of clinical services to offenders and victims, while differential treatment is found in the agencies involved in the investigations and victim protective actions taken when controlling for other individual and incident characteristics. However, the basis for the differences that do exist remains unknown.

Study Limitations

This study has several limitations. It is probable that many cases of spouse abuse are unreported due to reasons including fear of the perpetrator and the failure to identify behaviors as abusive. It is also possible that the data source, the Army Central Registry, contains errors. Finally, large scale deployments of Army soldiers began in 2003 which falls within this study period. Deployments may affect patterns of the response to spouse abuse that we currently do not understand.

Additionally, the measures of the Army's response to spouse abuse perpetrators utilized in this analysis represent only part of the picture. Referral sources, agencies involved in the investigation, the provision of clinical services to victims and offenders, and victim protective action taken are only some sources of potential differential response. Other aspects of the response to offenders remain unexamined for sex differences including the

type (e.g., individual versus group) and length of clinical treatment provided, the percentage of referrals that are substantiated through the investigation, and administrative sanctions and disciplinary actions taken at the discretion of the Commander.

Conclusion

This study is one of the first examining how sex of the offender affects the response to domestic violence. While the Army's response to substantiated cases of spouse abuse was found to be largely similar for males and females, differences by sex were found in the agencies involved in the investigation and victim protective action taken. The Army is encouraged to consider the appropriateness of these disparities.

Future research should continue to explore differences in the response to male and female domestic violence offenders and victims within the Army context. Further research should examine other aspects of the Army's response to offenders including the type and length of clinical treatment provided, the percentage of referrals that are substantiated through the investigation, and administrative sanctions and disciplinary actions initiated by commanders for male and female spouse abuse perpetrators. Additionally, qualitative interviews with Family Advocacy Program providers could provide valuable insight into the factors considered when collaborating with other agencies in investigations and determining victim protective actions. Interviews with potential referral sources (e.g., military medical/dental providers, military law enforcement) could also illuminate how cases are identified and the decision to refer to the Family Advocacy Program made.

Similar research should also be conducted in the civilian context. It is important to understand if the differential treatment by sex found in the response to other types of crime is

also present in the response to domestic violence in the larger society. If so, these differences need to be brought to light so that it can be determined if these differential responses are warranted given the types of violence committed by sex and the context in which they are committed, or if differences in response are due to traditional gender beliefs, in which case the offenders and victims may not be receiving appropriate services.

Table 6.1. Initial Allegation Referral Source

	Male Offenders (n=7263)*	Female Offenders (n=382)	Total (n=7645)
	n (%)	n (%)	n (%)
Military Law Enforcement	3331 (45.9)	194 (50.8)	3525 (46.1)
Military Medical/Dental	865 (11.9)	42 (11.0)	907 (11.9)
Other Referral Source	3067 (42.2)	146 (38.2)	3213 (42.0)

* Data missing on 1 case

Table 6.2. Effect of Sex on Initial Allegation Referral Source+

	Unadjusted OR (reference category is female) (95% CI)	**Adjusted OR *** (reference category is female) (95% CI)
Military Law Enforcement	.821 (.668, 1.009) *p* = .060	.970 (.760, 1.237) *p = .804*
Military Medical/Dental	1.094 (.788, 1.520) *p* = .590	1.024 (.731, 1.435) *p* = .891
Other Total	1.182 (.956, 1.460) *p* = .122	1.021 (.803, 1.298) *p* = .864

+ N=7645, 1 case missing

* Controlling for age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, Black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3)

Table 6.3. Agencies Involved in Investigation

	Males (n=7234)	Females (n=382)	Total (n=7646)
	n (%)	n (%)	n (%)
Collaboration with Family Advocacy Program			
Military Law Enforcement	3663 (50.4%)	213 (55.8%)	3876 (50.7%)
Civilian Law Enforcement	1825 (25.1%)	74 (19.4%)	1899 (24.8%)
Child Protective Services	540 (7.4%)	18 (4.7%)	558 (7.3%)
SWS (Overseas)	1118 (15.4%)	66 (17.3%)	1184 (15.5%)
Only Family Advocacy Program	1362 (18.8%)	75 (19.6%)	1437 (18.8%)

Table 6.4. Effect of Sex on Agencies Involved in Investigation

	Unadjusted OR for Sex (reference category is female) (95% CI)	**Adjusted OR for Sex*** (reference category is female) (95% CI)
Collaboration with Family Advocacy Program		
Military Law Enforcement	.807 (.656, .993) p = .043	.897 (.697, 1.153) p = .396
Civilian Law Enforcement	1.397 (1.078, 1.810) p = .012	1.380 (1.017, 1.872) p = .039
Child Protective Services	1.624 (1.004, 2.628) p = .048	1.713 (1.047, 2.802) p = .032
SWS (Overseas)	.871 (.663, 1.144) p = .321	.777 (.583, 1.035) p = .084
Only Family Advocacy Program	.945 (.729, 1.224) p = .667	.874 (.666, 1.147) p = .331

* Controlling for age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, Black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3)

Table 6.5. Victim Protective Action

	Cases Involving Male Offenders (n=7264)	Cases Involving Female Offenders (n=382)	Total (n=7646)
	n (%)	n (%)	n (%)
Spouse sheltered	183 (2.5)	17 (4.5)	200 (2.6)
Offender removed from home	2832 (39.0)	82 (21.5)	2912 (38.1)
Offender removed from activity	154 (2.1)	8 (2.1)	167 (2.2)
Child removed from home	7 (.1)	0	7 (.1)
Other protective actions	3081 (42.4)	201 (52.6)	3282 (42.9)
No protective actions	1488 (20.5)	84 (22.0)	1572 (20.6)

Table 6.6. Effect of Sex on Victim Protective Action

	Unadjusted OR for Sex of Offender (reference category is female offenders) (95% CI)	**Adjusted OR for Sex of Offender*** (reference category is female offenders) (95% CI)
Spouse sheltered	.555 (.334, .922) $p = .023$	.463 (.273, .785) $p = .004$
Offender removed from home	2.338 (1.823, 2.998) $p < .0001$	1.996 (1.548, 2.574) $p < .0001$
Other protective actions	.663 (.540, .815) $p < .0001$	.758 (.613, .937) $p = .011$
No protective actions	.914 (.713, 1.172) $p = .478$	.907 (.703, 1.170) $p = .451$

* Controlling for age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, Black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), severity of physical violence (0-3), and severity of emotional violence (0-3)

Table 6.7. Offender Removed from the Home and Spouse Sheltered

Spouse Sheltered	**Offender Removed from Home** Yes n (%)	No n (%)	*p* value
Male Offenders			<.001*
Yes	46 (1.6)	140 (3.1)	
No	2814 (98.4)	4315 (96.9)	
Total	2860 (100)	4455 (100)	
Female Offenders			.137+
Yes	1 (1.2)	16 (5.3)	
No	81 (98.8)	284 (94.7)	
Total	82 (100)	300 (100)	

* Pearson Chi-Square + Fisher's Exact Test

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CHAPTER 7: SPOUSE ABUSE RECIDIVISM BY MALE AND FEMALE ARMY SOLDIERS

Abstract

Spouse abuse recidivism by male and female Army soldiers was examined using five years of data (2000-2004) from the U.S. Army Central Registry, an electronic data system that contains information on family violence cases. There were 960 recidivists (920 males, 40 females) from the 7,646 initial offenders (7,264 males and 382 females) during this five year period. The five year recidivist rates were not significantly different between males and females (males = 12.68 per 100 initial offenders, 95% CI = 11.93, 13.47; females = 10.47 per 100 initial offenders, 95% CI = 7.77, 13.96). Compared to male single time offenders offenders, male recidivists were more likely to be Black (40.2% versus 48.9%, p<.001), younger (48.4% versus 55.9%, p=.015), and in the lower pay grades (24.1% versus 30.7%, p<.001). Female recidivists were more likely than female single time offenders to be Black (72.5% versus 64.3%) and younger (72.5% versus 63.2%), though these differences were not statistically significant. There were no significant differences between the sexes in the severity of each type of violence perpetrated at the reoffense. Compared to all initial incidents perpetrated by males, males' reoffenses included higher proportions of moderate (48.3% versus 41.6%) and severe physical violence (15.3% versus 9.5%) (p=.002). Females' reoffenses were more likely than female initial offenses to involve emotional violence (22.5% versus 8.9%, p=.007), with higher proportions of both mild (7.5% versus 4.7%) and moderate (15.0% versus 3.4%) emotional violence. A Cox proportional hazard model found males had 35% greater risk than females (95% CI = .974, 1.866, p = .072) of reoffending

during the study period, controlling for characteristics of the offender and the initial incident, though this difference was not statistically significant.

Introduction

Domestic violence is a significant public health problem in U.S. families, including those with a member in the military (Bohannon, et al., 1995; Heyman & Neidig, 1999; Marshall, et al., 2005; McCarroll, et al., 1999; H. S. Pan, et al., 1994; Rentz, et al., 2006; Rosen, Parmley, et al., 2002a, 2002b). Even when domestic violence offenders receive treatment, reoffending may occur (Babcock, Green, & Robie, 2004). Sex differences in partner aggression and domestic violence perpetration have been the focus of much research in recent years (e.g., Archer, 2000; R. Bachman & Saltzman, 1995; Langhinrichsen-Rohling, et al., 1995; Tjaden & Thoennes, 2000), including changes in aggression and violence over time (e.g., Fritz & O'Leary, 2004; Lawrence & Bradbury, 2007; O'Leary, et al., 1989; Vikerman & Margolin, 2008). However, it remains unclear if sex of the offender predicts recidivism when controlling for other characteristics of the initial incident and the offender. Further insight into this issue will enhance our understanding of how gender affects domestic violence recidivism and will inform prevention and treatment programs.

Studies examining longitudinal patterns of couple violence have identified factors that increase the risk for continued violence. Male and female perpetrators who commit domestic violence of greater severity have been shown to have increased risk of recidivism as compared to those whose violence is less severe (Woodin & O'Leary, 2006). Additionally, some research suggests male domestic violence offenders are at higher risk of reoffending than female domestic violence offenders (McCarroll, Thayer, et al., 2000; O'Leary, et al., 1989). However, some studies also have found that males commit more severe domestic

violence than females in general (McCarroll, et al., 2004a; Tjaden & Thoennes, 2000). Therefore, it is unclear if sex would remain a predictor of recidivism after controlling for the severity of the initial spouse abuse offense.

Other individual level characteristics of the offender and the initial domestic violence incident have been found to be associated with reoffending. Blacks and Hispanics have been found to have a higher probability of reoffense than other racial groups in some studies (Field & Caetano, 2003; McCarroll, Thayer, et al., 2000). Other offender sociodemographic characteristics associated with higher risk of recidivism include: younger age (Klein, 1996); low socioeconomic status (Aldarondo & Sugarman, 1996), and substance use/abuse (e.g., Fals-Stewart, 2003; Hamberger & Hastings, 1990; Jones & Gondolf, 2001; Klein, 1996). Additionally, psychological/emotional aggression has been shown to predict later physical aggression in some samples (Bennett, Goodman, & Dutton, 2000; Jacobson, Gottman, Gortner, Berns, & Shortt, 1996; Murphy & O'Leary, 1989; Woodin & O'Leary, 2006).

Spouse Abuse Recidivism in the Army

Though more than 90% of spouse abuse offenders in the Army receive treatment, a significant number of spouse abuse offenders reoffend. McCarroll, et al. (2000) examined recidivism rates of spouse abusers in Army families between 1989 through 1997. The analysis included substantiated spouse abuse cases perpetrated by active-duty and civilian offenders (married to active-duty soldiers) between fiscal years 1989 and 1997. There were 34,690 active-duty spouse abusers and 13,640 civilian spouse abusers who had their first substantiated incident during this eight year period and had complete data files. Males were 55% more likely to reoffend than females, and civilians were 12% more likely to reoffend than active-duty offenders after controlling for the number of dependents, age, education,

race, and alcohol and/or drug involvement. At the end of the 5 year study period, the probabilities for a spouse abuse reoffense by group were: 30% of male civilian offenders; 27% male active duty offenders; 21% of female civilian offenders; and 19% of female active-duty offenders (McCarroll, Ursano, et al., 2000). Characteristics of the offender and the initial incident associated with higher risk of recidivism were identified. Age had a positive association with reoffense of spouse abuse. Race was examined using two dichotomous variables – white/non-white and black/non-black – with other races/ethnicities functioning as the reference group. Blacks were more likely than other racial groups (besides whites) to reoffend, and white were less likely than other racial groups (besides blacks) to have a spouse abuse reoffense. Those with substance use during the initial incident were more likely to have a spouse abuse reoffenses than those without substance use (McCarroll, Ursano, et al., 2000). These analyses did not control for the type and severity of violence perpetrated at the initial offense. Additionally, the types and severity of violence perpetrated by male and female soldiers at reoffense is not known.

This study will address the following research questions: 1) What are the rates of recidivism for males and females? 2) How do sociodemographic characteristics vary between male and female recidivists, between female single offenders and female recidivists, and between male single offenders and male recidivists? 3) How do the violence types and severity perpetrated vary between male and female recidivists, between females at the initial offense and females at the reoffense, and between males at the initial offense and males at the reoffense? 4) How is the relationship between sex and reoffense affected by large scale deployments, and 5) Does the sex of the offender predict spouse abuse reoffense when controlling for other characteristics of the offender and the initial incident?

Data and Study Design

The data source for this study is the Army Central Registry, an automated incident-based reporting system (*Manual for child maltreatment and domestic abuse*, 2005). Family Advocacy Program personnel enter information into the registry for each reported case of family violence. The registry collects information about the offender, victim and abusive incident. Demographic data on the victim and offender are provided, including the soldier's race/ethnicity, and pay grade. The type and severity of the abusive incident, and whether alcohol or drugs were involved are also recorded. While the Army Central Registry currently collects information on all cases of domestic violence involving soldiers (including unmarried couples), at the time the study data were collected, only domestic violence involving married soldiers was recorded. All cases are investigated and reviewed by a multidisciplinary committee that determines if substantiation of the case is warranted. Additionally, data on the annual number and length of annual troop deployments by sex was provided by the Defense Manpower Data Center (DMDC).

To be included in the study sample, an Army family including an active duty soldier must have at least one substantiated case of spouse abuse perpetrated by the soldier, as recorded in the Army Central Registry, between January 1, 2000 and December 31, 2004. Prior analyses revealed that only males committed sexual violence during the initial spouse abuse offense. Because the purpose of the analysis is to compare the effect of gender on reoffense, all other characteristics held constant, initial cases involving sexual abuse (n=51) were excluded from the sample.

Operational Definitions

Perpetrator individual level variables from the Army Central Registry include race/ethnicity, sex, age, pay grade, and Army status (enlisted or officer). Race/ethnicity is categorized as one of the following options: white, not Hispanic; Black, not Hispanic; Hispanic; and other (includes Asian/Pacific Islander and American Indian). Sex of the offender is also recorded. Age was calculated using the date of birth and the incident date as recorded in the Army Central Registry. Pay grade is operationalized into two groups by the Army's code for soldiers' pay grade; specifically, E1-E3 is considered the "lower" pay grade group (Private through Private First Class), while E4 (Specialist or Corporal) and higher are considered the "higher" pay grade group. Army status was determined from a "pay plan" variable in the ACR; perpetrators coded as "commissioned officer" or "warrant officer" were classified as officer; those coded as "enlisted" remained as such.

Incident characteristics are also considered. The location of the incident is recorded in the Army Central Registry as either on installation or off installation. Additionally, drug and alcohol use by the offender and victim during the incident are each recorded with three response options – yes, no, or unknown. Substance use variables were created for offenders and victims that indicate if any substance use (either alcohol or drug use) occurred during the incident. The occurrence of mutual abuse (i.e., the offender was also a victim of spouse abuse) during the incident is recorded (Y/N).

Offenses were classified as "initial spouse abuse offenses" if they were recorded in the Army Central Registry as initial, as opposed to "subsequent incident" or "reopen." An incident is identified as a reoffense if it is recorded as "subsequent incident" or "reopen," as opposed to initial, for a particular soldier in the Army Central Registry, between January 1,

2000 and December 31, 2004. Only the first reoffense is considered in these analyses. The time to reoffense is calculated using the dates of the initial and reoffense incidents. Soldiers are considered "one time offenders" if they have an initial offense and no reoffense.

Two aspects of the spouse abuse offenses were considered, specifically, the type and severity of the violence. The types and severity of spouse abuse are operationalized by the Army Central Registry (ACR) categories, and include physical, sexual, emotional, and neglect. The severity of each type of violence is recorded as mild (1), moderate (2), or severe (3). Incidents wherein a certain type of violence did not occur were coded as zero for severity.

Statistical Analysis

All data analyses were conducted using SPSS 16.0 for Windows. An alpha level of .05 was considered statistically significant in all analyses.

The five-year rates of spouse abuse recidivism for married soldiers by sex were calculated. The number of male and female soldiers who committed an initial spouse abuse offense were used as the rate denominators. Ninety-five percent confidence intervals were then calculated for males and females.

Descriptive analyses were conducted on sociodemographic variables to describe and compare characteristics of male and female spouse abuse recidivists as well as to conduct within sex comparisons between initial offenders and recidivists. Chi-square tests were performed to determine if the sociodemographic variables differed between groups.

The characteristics of the first spouse abuse reoffense were examined by sex of the perpetrator. Chi-square tests were run to test the relationship between sex and violence type and severity. Ordinal regression models were run to determine if sex is a significant predictor of the level of physical and emotional abuse perpetrated at the reoffense alone and while controlling for characteristics of the offender at the time of the initial incident and the initial incident itself including: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, Black, Hispanic, other), substance use by offender (Y/N) and victim (Y/N), location of the incident (on/off installation), and mutual abuse occurrence (Y/N). Log likelihood chunk tests were performed for all regression models to test if any of the independent variables were moderators of the effect of sex (D. G. Kleinbaum, 1994). Models were run, including all the independent variables identified above as well as their interaction terms with sex, the -2 log likelihoods were compared with models containing only the main effects and no interaction terms. If no significant differences are found between the models, this implies that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

Additionally, the type and severity of violence perpetrated by female initial offenders and female recidivists was compared as was that of male initial offenders and recidivists. Chi-square tests were run to determine if the distributions of violence types and severity were equivalent for initial and reoffense incidents.

Soldiers enter and leave the Army on a continuous basis. The data being examined do not follow soldiers indefinitely, but rather cover a five year period. Therefore, soldier spouse abuse offenders will have varying opportunity to reoffend during the study period, or

"exposure period", depending on their entry and exit dates from the Army. In order to account for these varying exposure periods and assess the time to reoffense, a survival analysis approach (Allison, 1995; D. Kleinbaum & Klein, 2005) was utilized. This approach has been employed in numerous studies examining domestic violence reoffenses (eg., Cissner & Puffett, 2006; Gondolf, 2007; McCarroll, Thayer, et al., 2000; Mears, Carlson, Holden, & Harris, 2001). Another factor that affects soldiers' opportunity to commit a spouse abuse reoffense is their marital status. Because the Army Central Registry does not include marriage beginning or end dates, marital status is not accounted for in this analysis.

The data cover a five year period, 2000-2004. Significant deployment of troops began in 2003 and continues through the present. The data were assessed to determine if one sex were more likely than the other to be deployed, thereby affecting their opportunity to reoffend and potentially confound the analyses. Data were provided from DMDC for 2003 and 2004 of the total number of enlisted soldiers and officers by sex, the total number and percentage deployed by year, as well as the average number of annual deployments and the average length of deployments. Small differences between the sexes exist in the percentage deployed in both years (see Table 7.5).

Cox proportional hazard models were run to determine if offender sex significantly predicts the risk of spouse abuse reoffense, taking into account the difference in the length of time perpetrators had in which to reoffend. The date an offender left the Army (if it was during the study period) or the last day of the study period (if the offender did not leave the Army before the end of the study period) was used as the censorship date. Only cases with sufficient and plausible date information (e.g., the date for the reoffense was after the date for the initial offense) were included in analyses. Three Cox proportional hazard models were

run to assess if deployment affected the relationship between the sex of the offender and the occurrence of a reoffense: one including all initial offenses and reoffenses occurring between 2000-2002 (before large scale deployments began); the second including all initial offenses and reoffenses occurring between 2000-2003 (including the first year of heavy deployments); and a third including all five years of data. Adjusted Cox proportional hazard models assessed the effect of sex, controlling for the following characteristics of the offender at the initial incident and characteristics of the initial incident: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), emotional violence perpetrated (0-3), and physical violence perpetrated (0-3). Additionally, log likelihood chunk tests were performed for all Cox proportion hazard models to test if any of the independent variables were moderators of the effect of sex (D. G. Kleinbaum, 1994). Hazard functions were determined. The hazard ratios, which describe the relationship between sex and survival time and estimate relative risk, are considered (Allison, 1995; D. Kleinbaum & Klein, 2005).

The hazard ratios for sex and their 95% confidence intervals were compared between the three data periods (2000-2002; 2000-2003; 2000-2004). This allowed us to determine the appropriateness of using the full data set (2000-2004). If large variation exists between the effect of sex in the models, data from the years following large scale deployments (2003 and on) should not be used, as such variation would be indicative of deployment affecting spouse abuse reoffense differently in males and females. However, if the hazard ratios are similar, the full data set may be utilized, as this would indicate deployment having comparable effects on both sexes.

Results

Recidivism Rates

The five year recidivist rates were not significantly different between males and females (males = 12.68 per 100 initial offenders, 95% CI = 11.93, 13.47; females = 10.47 per 100 initial offenders, 95% CI = 7.77, 13.96) (not in tabular form).

Sociodemographic Characteristics

The vast majority of recidivists were males (n=920, 95.83%); there were only 40 female recidivists (4.17%) during this five year period. However, given that the Army is approximately 86% male and 14% female ("Active duty service personnel by branch of service, officer/enlisted status & sex as of 30 September 2006," 2007), a preponderance of males is to be expected.

Significant sociodemographic differences were found between male and female recidivists (Table 7.1). Male and female recidivists differed by race/ethnicity (p=.026). A significantly larger percentage of males than females were white (36.4% versus 17.5%, respectively), and a larger percentage of females than males were Black (72.5% versus 48.9%, respectively) (chi-square = 7.58, 1 df, p=.006). Additionally, a larger percentage of female recidivists as compared to males were 25 years old or younger (72.5% versus 55.9%, p=.038).

One time offenders and recidivists were then compared within sex groups on their sociodemographics at the initial spouse abuse incident (Table 7.2). Male recidivists differed from initial offenders by race/ethnicity (p<.001). As compared to one time offenders, male recidivists were less likely to be white (44.7% versus 36.4%, respectively), and were more

likely to be Black (40.2% versus 48.9%, respectively, p<.001). Additionally, male recidivists were more likely to be 25 years of age and younger (48.4% versus 55.9%, respectively, p=.015), and to be in the lower pay grades (24.1% versus 30.7%, p<.001) than male one time offenders. Female recidivists were more likely to be Black (72.5% versus 64.3%, p=.304) and 25 years of age and younger (72.5% versus 63.2%, p=.244) as compared to one-time offenders, though these differences were not statistically significant.

Violence Types and Severity

The majority of all reoffenses included physical violence (89.5%), while 15.5% included emotional violence, and only .4% included sexual violence (incidents may include >1 type of violence) (Table 7.3). None of the reoffenses included neglect. There were no significant differences between the sexes in the severity level of each type of violence.

Ordinal regression models assessed the effect of sex alone and while controlling for other characteristics of the initial incident and offender on the severity of emotional and physical violence perpetrated at reoffense (not presented in tabular form). Neither the unadjusted (-2 log likelihood = 27.246, chi-quare=.320, 1 df, p = .572) nor adjusted models (-2 log likelihood = 488.082, chi-square=7.611, 10 df, p = .667) of emotional violence severity were significant. The adjusted model of physical violence severity was significant (-2 log likelihood = 1109.653, chi-square=72.188, 10 df, p <.001). Additionally, the test of parallel lines confirmed the assumption that the slope coefficients are the same across response categories (p = .423). Sex was a significant predictor in the model (p = .027); females have .668 (95% CI = .467, .956) times the odds of males of perpetrating higher severity levels of physical violence as compared to lower severity levels, given all of the other variables in the model are held constant. The ordinal regression model of physical violence severity with sex

as the only predictor variable was not significant (-2 log likelihood=36.887, chi-square = 1.622, 1 df, *p*=.203). Log likelihood chunk tests for all models were insignificant indicating that none of the interaction terms significantly improved the predictive ability of the models, and therefore that none of the independent variables moderate the effect of sex in the models.

As compared to all initial incidents perpetrated by males, male recidivists' incidents included higher proportions of moderate (48.3% versus 41.6%) and severe physical violence (15.3% versus 9.5%) (p=.002) (Table 7.4). Females' recidivist incidents were more likely to involve emotional violence than initial incidents perpetrated by females (22.5% versus 8.9%, p=.007), with higher proportions of both mild (7.5% versus 4.7%) and moderate (15.0% versus 3.4%) emotional violence.

Deployment and Recidivism by Sex

Cox proportional hazard models were run on the three data time periods. The chunk tests for all models were insignificant which indicates that none of the independent variables moderate the effect of sex in the models. The adjusted and unadjusted hazard ratios for sex are very similar across models, with their 95% confidence intervals overlapping (Table 7.6). Therefore, the largest data set (2000-2004) will be utilized to explore predictors of recidivism.

Predictors of Recidivism

Sex was not a significant predictor of recidivism in the unadjusted model (hazard ratio = 1.183, *p* = .327). In the adjusted model, males had 35% greater risk than females (95% CI = .974, 1.866 *p* = .072) of reoffending during the study period, controlling for characteristics of the offender and the initial incident, though this difference was not

statistically significant at alpha=.05 (Table 7.7). Additionally, being in the lower pay grades, as opposed to the higher pay grades, increased the risk of recidivism by 51% (p<.001). Being 25 years old or younger also increased the risk of recidivism (hazard ratio = 1.156, 95% CI=1.298, 1.762, p<.001). Black offenders had 43% greater risk of recidivism than white offenders (p<.001). Substance use and the severity of emotional and physical violence perpetrated at the initial incident were not significant predictors of recidivism.

Discussion

The sociodemographics of initial spouse abuse offenders and one time offenders were compared, and the findings support those from previous research of some of the risk factors for domestic violence recidivism for males, specifically, being Black, young (25 years old or less), and being in the lower pay grade group, which may be considered a proxy for SES. However, while differences were seen in the racial/ethnic makeup and age distribution of female recidivists compared to one time offenders (also more likely to be Black and younger), these differences were not statistically significant. The lack of statistical significance is likely due to the low power of the analyses because of the small number of female recidivists (n=40). Nonetheless, these findings suggest sociodemographics factors may be helpful in identifying perpetrators at risk for recidivism.

No differences were found by sex in the type and severity of violence perpetrated at the reoffense incidents. Previous analyses found that while males committed the vast majority of all types of violence at the initial spouse abuse incidents, a significantly larger percentage of male offenders than female offenders committed emotional abuse (p <.001), and a significantly greater percentage of female offenders committed physical violence than male offenders (p <.001)(Sullivan, Bowling, Martin, Gibbs, & Moracco, 2008). Further

research should explore possible reasons for the disappearance of sex differences in the types of violence perpetrated at reoffense.

Previous analyses of these data demonstrated that males had significantly higher rates of perpetrating initial spouse abuse incidents than females ($p<.001$) (Sullivan, et al., 2008). This study found the five-year rates of recidivism of male and female soldiers, calculated as a proportion of initial spouse abuse offenders over the study period, were equivalent. Therefore, though female soldiers are initially less likely to perpetrate spouse abuse than male soldiers, once they do so, they reoffend at rates equal to males.

It is unclear how the large scale deployments from 2003 onward affect the rates of recidivism. Some research suggests domestic violence increases in the year following deployments (McCarroll, Ursano, et al., 2000), while other studies have not found such effects (McCarroll, et al., 2003; Newby, et al., 2005). Because soldiers are at home with their spouses less frequently, their opportunity to reoffend is limited. However, the stress of being in a combat zone may increase the risk of perpetration when they return home. Therefore, these five year rates of recidivism, calculated across peacetime and wartime, should be interpreted with caution.

While the rates of recidivism of male and female soldiers were equivalent, consistent with previous research on Army soldiers (McCarroll, Thayer, et al., 2000), males were found to have a higher relative risk of recidivism which was nearly statistically significant ($p=.072$) when controlling for other factors in the survival analysis. Additionally, being Black, as compared to being white, being in the younger age group, and being in the lower pay grade group were significant predictors of recidivism. None of the characteristics of the initial

spouse abuse incident, including the severity of physical and emotional violence perpetrated, were significant predictors of recidivism in the model. This suggests that sociodemographic characteristics including sex, rather than characteristics of the initial incident, are better predictors of recidivism among Army soldiers.

The influence of sex on spouse abuse recidivism remained relatively constant when the three study data periods were compared. This implies that heavy deployments during wartime do not result in a large change in the risk of reoffense of one sex in comparison to the other, at least in the short term. However, as discussed, the absolute change in reoffense rates with large scale deployments remains unclear.

Study Limitations

This study has several limitations. There are potential problems with the data. As in all studies of domestic violence, it is likely that cases are unreported for numerous reasons which may include fear of the perpetrator and the failure to identify behaviors as abusive. Moreover, because the Army investigates and reviews all reported cases, and substantiation of spouse abuse perpetration may harm a soldier's career, victims may be further reluctant to report. The primary data source for this study, the Army Central Registry, may also contain unidentified errors. Additionally, there is a limitation in the way that initial offenses and subsequent offenses have been defined in this study. Offenses were considered initial if they were recorded as such in the Army Central Registry, between January 1, 2000 and December 31, 2004. However, this does not mean that this was necessarily the first case of spouse abuse to occur for a couple. Spouse abuse may have occurred before the soldier enlisted, or prior incidents may have gone unreported. Therefore, some of the incidents considered

initial in this analysis are likely actually reoffense incidents. This potential misclassification may affect the results.

Conclusion

This study makes important contributions to understanding the importance of sex in spouse abuse recidivism, and in describing the recidivists and the reoffense incidents. Sex was found to be a nearly significant predictor of reoffense when controlling for other characteristics of the offender and the initial incident. This research suggests sociodemographic characteristics may be useful in predicting recidivism, while characteristics of the initial spouse abuse incident are not. The Army is encouraged to consider these findings when evaluating the future risk posed by initial spouse abuse perpetrators. Additionally, better understanding of recidivism risk factors can inform treatment and tertiary prevention efforts.

Future research should further explore sex differences in spouse abuse recidivism. More research on the effect of deployment on spouse abuse recidivism is needed, and rates of recidivism by soldier sex should be calculated over other time periods to determine the effect of peace and wartime. Finally, further research should explore reasons for the disappearance of sex differences in the types of violence perpetrated at reoffense as compared to initial offenses.

Table 7.1. Sociodemographic Characteristics of Married Soldier Spouse Abuse Recidivists

	Recidivists		
	Males (n=921)	Females (n=40)	*p*-value
	n (%)	n (%)	
Race/Ethnicity			..026
White	335 (36.4)	7 (17.5)	
Black	450 (48.9)	29 (72.5)	
Hispanic	112 (12.2)	4 (10.0)	
Other	24 (2.6)	0 (0.0)	
Age Group			
≤ 25	515 (55.9)	29 (72.5)	.038
>25	406 (44.1)	11 (27.5)	
Army Status			.185+
Officer	17 (1.8)	2 (5.0)	
Enlisted	904 (98.2)	37 (95.0)	
Pay Grade			
Lower (E1-E3)	283 (30.7)	16 (40.0)	.215
Higher (E4+)	638 (69.3)	24 (60.0)	

+ Fisher's Exact Test

Table 7.2. Within Sex Comparison of Sociodemographics between One Time Offenders and Recidivists

	Male One Time Offenders (n=6343)	Male Recidivists (n=921)	*p*-value	Female One Time Offenders (n=342)	Female Recidivists (n=40)	*p*-value
	n (%)	n (%)		n (%)	n (%)	
Race/Ethnicity			<.001			.413
White	2835 (44.7)	335 (36.4)		80 (23.4)	7 (17.5)	
Black	2548 (40.2)	450 (48.9)		220 (64.3)	29 (72.5)	
Hispanic	789 (12.4)	112 (12.2)		27 (7.9)	4 (10.0)	
Other	171 (2.7)	24 (2.6)		15 (4.4)	0 (0.0)	
Age Group			.015			.244
≤ 25	3274 (48.4)	515 (55.9)		216 (63.2)	29 (72.5)	
>25	3069 (48.4)	406 (44.1)		126 (36.8)	11 (27.5)	
Army Status			.204			.160[+]
Officer	161 (2.5)	17 (1.8)		5 (1.5)	2 (5.0)	
Enlisted	6182 (97.5)	904 (98.2)		337 (98.5)	37 (95.0)	
Pay Grade			<.001			.616
Lower (E1-E3)	1526 (24.1)	283 (30.7)		123 (36.0)	16 (40.0)	
Higher (E4+)	4817 (75.9)	638 (69.3)		219 (64.0)	24 (60.0)	

+ Fisher's Exact Test

Table 7.3. Violence Type and Severity Perpetrated at Reoffense by Sex

		Males (n=921)	Females (n=40)	Total	
Violence Type	**Violence Severity**	**n (%)**	**n (%)**	**n (%)**	***p*-value**
Emotional					.188+
	None	783 (84.8)	31 (77.5)	812 (84.5)	
	Mild	47 (5.1)	3 (7.5)	50 (5.2)	
	Moderate	67 (7.3)	6 (15.0)	73 (7.6)	
	Severe	26 (2.8)	0 (0.0)	26 (2.7)	
Any Emotional		140 (15.2)	9 (22.5)	149 (15.5)	.212*
Physical					.434+
	None	97 (10.5)	4 (4.0)	101 (10.5)	
	Mild	238 (25.8)	14 (35.0)	252 (26.2)	
	Moderate	445 (48.3)	19 (47.5)	464 (48.3)	
	Severe	141 (15.3)	3 (7.5)	144 (15.0)	
Any Physical		824 (89.5)	36 (90)	860 (89.5)	1.000+
Sexual					1.000+
	None	917 (99.6)	40 (100)	957 (99.6)	
	Mild	0	0 (0.0)	0 (0.0)	
	Moderate	2 (.2)	0 (0.0)	2 (.2)	
	Severe	2 (.2)	0 (0.0)	2 (.2)	
Any Sexual		4 (.4)	0 (0.0)	4 (.4)	1.000+
Neglect		0	0	--	--
>1 Type		47 (5.1)	5 (12.5)	52 (5.4)	.059+

+ Fisher's exact test * Pearson Chi-Square

Table 7.4. Within Sex Comparison of Violence Type and Severity between Initial Offenders and Recidivists

		Male Initial Offenders (n=7264)	**Male Recidivists (n=921)**	***p* value**	**Female Initial Offenders (n=382)**	**Female Recidivists (n=40)**	***p* value**
Violence Type	**Violence Severity**	**n (%)**	**n (%)**		**n (%)**	**n (%)**	
Emotional				.397			.006
	None	6109 (84.1)	781 (84.8)		348 (91.1)	31 (77.5)	
	Mild	409 (5.6)	47 (5.1)		18 (4.7)	3 (7.5)	
	Moderate	591 (8.1)	67 (7.3)		13 (3.4)	6 (15.0)	
	Severe	155 (2.1)	26 (2.8)		3 (.8)	0 (0.0)	
Any Emotional		1155 (15.9)	140 (15.2)	.584	34 (8.9)	9 (22.5)	.007
Physical				<.001			.407
	None	755 (10.4)	97 (10.5)		19 (5.0)	4 (4.0)	
	Mild	2794 (38.5)	238 (25.8)		172 (45.0)	14 (35.0)	
	Moderate	3024 (41.6)	445 (48.3)		171 (44.8)	19 (47.5)	
	Severe	691 (9.5)	141 (15.3)		20 (5.2)	3 (7.5)	
Any Physical		6509 (89.6)	824 (89.5)	.897	363 (95.0)	36 (90.0)	.183
>1 Type		400 (5.5)	47 (5.1)	.612	15 (3.9)	5 (12.5)	.015

Table 7.5. Soldier Deployments by Sex

Year	Sex	Active Troops	Total Number of Deployments	% Deployed	Average Number of Deployments	Average Length of Deployment
2003	Female	74,907	19,605	26.173%	1.119	232.298
	Male	418,656	124,712	29.789%	1.164	243.188
2004	Female	71,037	17,794	25.049%	1.251	272.380
	Male	417,106	134,830	32.325%	1.275	277.680

Table 7.6. Spouse Abuse Recidivism

	Hazard Ratio for Sex (reference category is female) (95% CI)	**Adjusted Hazard Ratio for Sex*** (reference category is female) (95% CI)
2000-2004[1]	1.183 (.858, 1.630) *p* = .327	1.348 (.974, 1.866) *p* = .072
2000-2003[2]	1.151 (.808, 1.640) *p* = .437	1.309 (.914, 1.874) *p* = .142
2000-2002[3]	1.339 (.857, 2.093) *p* = .199	1.547 (.985, 2.430) *p* = .058

* Controlling for the following characteristics of the offender at the initial incident and characteristics of the initial incident: age (≤25, >25), pay grade (E1-E3, E4+), Army status (enlisted, officer), race/ethnicity (white, black, Hispanic, other), substance use by offender (Y/N), location of the incident (on/off installation), mutual abuse occurrence (Y/N), physical violence (0-4), and emotional violence (0-4)

[1]n=7497 (7121 males, 376 females)

[2]n=6413 (6090 males, 323 females)

[3]n=5066 (4822 males, 244 females)

Table 7.7. Predictors of Spouse Abuse Recidivism, 2000 - 2004

	N	HR (95% CI)[1]	p value
Sex			
Male	7121	1.348 (.974, 1.866)	.072
Female (Referent)	376	1.0	
Age			
≤ 25	3974	1.156 (1.000, 1.337)	.050
> 25 (Referent)	3523	1.0	
Pay grade			
Lower (E1-E3)	1936	1.512 (1.298, 1.762)	<.001
Higher (E4+) Referent)	5561	1.0	
Army Status			
Enlisted	7326	1.010 (.629, 1.622)	.967
Officer (Referent)	171	1.0	
Race/Ethnicity			
Black	3175	1.432 (1.239, 1.656)	<.001
Hispanic	922	1.189 (.960, 1.473)	.112
Other	208	1.081 (.708, 1.651)	.717
White (Referent)	3192	1.0	
Substance Use	1780		
Substance use by offender		.923 (.786, 1.083)	.326
No substance use by offender (Referent)	5717	1.0	
Location of Initial Spouse Abuse Incident			
Off installation	3489	.924 (.810, 1.054)	.239
On installation (Referent)	4008	1.0	
Violence Perpetrated			
Emotional (0-4)	7497	1.031 (.930, 1.144)	.556
Physical (0-4)	7497	.969 (.886, 1.059)	.490
Mutual Abuse			
Yes	2005	.904 (.778, 1.049)	.183
No	5492	1.0	

[1]HR=Hazard ratio; 95% CI=Ninety five percent confidence intervals.

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Chapter 8: Discussion

Overview

The purpose of this research was to explore sex differences in spouse abuse perpetrated by U.S. Army soldiers. The primary data source for this study is the Army Central Registry, an incident-based reporting system of family violence incidents (*Manual for child maltreatment and domestic abuse incident reporting system*, 2005). The findings are described in three manuscripts. The first describes how male and female soldiers who perpetrate spouse abuse differ in terms of sociodemographics, rates of violence, and the types and severity of violence perpetrated. The second examines by sex differences in the Army's response to spouse abuse perpetrators and victims, specifically, the agencies involved in referral and investigation of spouse abuse cases perpetrated by soldiers, clinical interventions provided to offenders and victims, and victim protective actions taken by the Army. The third manuscript describes how recidivism varies for male and female perpetrators and the role of offender sex in predicting spouse abuse recidivism. This final chapter summarizes the findings and discusses implications for theory, practice, and research.

Summary of Findings

Aim one*:* To describe differences by sex in spouse abuse perpetration in the U.S. Army.

The first manuscript explored differences by sex in the perpetration of initial spouse abuse incidents by Army soldiers. Ninety five percent of the offenders were male (n=7315), and 5% were females (n=382). Sociodemographic differences were found by sex of

offender. Females were more likely to be younger, Black, and in lower pay grades than male offenders, while males were more likely to be white or Hispanic. Perpetration rates of whites, Blacks, and Hispanics were compared between the sexes; males had significantly higher rates than females in all groups. Blacks had the highest five year rates for both males and females, followed by Hispanics, then whites. Among offenders, females were more likely than male offenders to commit physical abuse, and were less likely to commit emotional abuse. Slightly more than half of females (52.5%) were also victims of abuse during the incident, more than double the percentage of males. Males were found to commit more severe emotional violence controlling for other variables. Sex was not a significant predictor of physical violence severity.

Aim two: To explore how the organizational response to spouse abuse varies by sex of the perpetrator.

The second manuscript examined differences in the Army's response to spouse abuse perpetrated by male and female active duty Army soldiers, specifically, agencies involved in the referral and investigation of spouse abuse cases, clinical interventions provided to offenders and victims, and victim protective actions taken by the Army. No statistically significant differences were found by sex of the offender in the initial allegation referral source. Differences were found in the civilian agencies involved in investigations. Civilian law enforcement was more likely to collaborate on the investigation with the Army's Family Advocacy Program when the offender was male (adjusted OR=1.38, p=.039), as were child protective services (adjusted OR=1.71, p=.032), controlling for other offender and incident characteristics. Differences also were found by sex in victim protective actions taken. Males were twice as likely as females to be removed from the home (p<.001). Additionally, the

spouses of male offenders were approximately half as likely as the spouses of females to be sheltered (p=.004). The vast majority of both male and female offenders and their victims received clinical intervention (>96%).

Aim three: To examine the influence of the sex of the perpetrator on spouse abuse reoffense.

The third manuscript examined spouse abuse recidivism during the five year study period. Males and females had equivalent five year recidivist rates (males = 12.68 per 100 initial offenders, 95% CI = 11.97, 13.47; females = 10.47 per 100 initial offenders, 95% CI = 7.77, 13.96). Significant differences were found between the sociodemographic characteristics of recidivists and single offenders. Male recidivists were more likely to be Black (p<.001), to be younger (p=.015), and to be in the lower pay grades (p=<.001) than single offenders. Female recidivists were more likely to be Black (72.5% versus 64.3%) and younger (72.5% versus 63.2%) than single offenders, though these differences were not statistically significant. Males and female recidivists had no significant differences in the severity level of each type of violence perpetrated at the reoffense. Males' reoffenses included higher proportions of moderate and severe physical violence compared to all initial incidents perpetrated by males (p=.002). A larger proportion of female reoffenses (22.5%) involved emotional violence than initial offenses (8.9%) (p=.007). Cox proportional hazard models were run to examine the risk of recidivism by sex, taking into account the difference in the length of time perpetrators had in which to reoffend. Males had 35% greater risk than females (95% CI = .974, 1.866, p = .072) of reoffending during the study period, controlling for characteristics of the offender and the initial incident, though this difference was not statistically significant.

Theoretical Implications

For this research, I drew upon organizational and sociological frameworks, and empirical evidence discussed in Chapter 2, including the influence of organizational culture and the functioning of a gendered organization. These theoretical groundings shaped the analyses described in the second manuscript which examined the Army's response to spouse abuse perpetrators and victims by sex, whereas the first and third manuscript primarily described the effects of sex on violence. The findings supported some of the relationships proposed in the conceptual framework (see chapter 3).

In the conceptual model, sex was proposed to have a direct effect on both the initial spouse abuse incident and the spouse abuse reoffense. These relationships were partially confirmed. Males were found to have significantly higher rates of perpetration of initial spouse abuse incidents, and to commit more severe emotional violence at the initial incident. While the reoffense rates for males and females were not significantly different, males were found to have higher odds of reoffending than females that were nearly statistically significant when controlling for other individual level characteristics, though the types and severity of violence did not differ for males and females.

Sex was also found to have a direct effect on some aspects of the response to the victim and perpetrator as proposed in the conceptual model. The involvement of civilian agencies, specifically child protective services and civilian law enforcement, in the investigation of substantiated cases of spouse abuse varied by sex of the perpetrator. Victim protective action varied by sex in that male perpetrators were significantly more likely to be removed from the home and the husbands of female perpetrators are more likely than the wives of male perpetrators to be sheltered, after controlling for characteristics of the

perpetrator and the violence incident. However, as discussed, sex had no effect on the referral source or the provision of clinical services to the perpetrators and victims.

While some of the Army's responses to spouse abuse did vary by the sex, it is unclear what caused this variation. Without further information, we cannot conclude that these variations in response are due to the construction of gender in the Army. While that may be the case, it is also possible, as I discussed in chapter six, that these variations are due to the greater availability of housing options for males than females on Army installations, making males easier to remove from the home whether they are the spouse abuse offender or victim. Alternatively, the case managers may be considering aspects of the incident not recorded in the database that suggest differing protective actions are indicated. These may include verbal threats made by the perpetrator, and/or the injury and fear levels of the victim. These differences in response by sex may well be appropriate and reflect good practice. Overall, the effect of sex on the Army's response was relatively minor; male and female perpetrators and victims of spouse abuse are treated similarly.

Implications for Practice

This study is the first examining how sex of the offender affects the response to spouse abuse in the Army. While the overall affect of sex overall is minor, some significant differences were found. The Army is encouraged to consider if any differences in their response by sex are appropriate.

Males were found to have higher rates of initial spouse abuse offenses for all racial/ethnic groups ($p<.001$). However, males and females were found to have statistically equivalent rates of recidivism. This suggests that males should be the primary focus of spouse abuse primary prevention efforts, though once abuse has been perpetrated, female

perpetrators need intervention/prevention efforts as much as males. Sociodemographic characteristics of perpetrators may help identify who is at particular risk for recidivism.

Implications for Research

Measurement and Methods

As discussed in chapter two, much debate has occurred over the true extent of intimate partner violence perpetrated by women. Some studies that utilize act-based scales have found similar rates of violence perpetrated by women (e.g., Archer, 2000), while others that focus on IPV in the context of criminal behavior, find men perpetrate the majority of violence (e.g., McCarroll, et al., 2004a; Tjaden & Thoennes, 2000). The Army Central Registry is certainly more similar to data collected in a criminal context than an act based scale. In the Army, cases are reported to a central agency (the Family Advocacy Program), who then conducts an investigation that may involve law enforcement agencies. The case worker then determines a treatment plan with which the perpetrator is compelled to comply. Given the nature of the data set, it is not surprising that males were found to commit higher rates of violence than females. While the centralized, longitudinal nature of the Army Central Registry offers an exceptional opportunity to explore patterns in, risk factors for, and organizational responses to spouse abuse, we must bear in mind its limitations when considering the findings.

Future Research

Future research should continue to explore differences in the Army's response to domestic violence offenders and victims by sex. Other aspects of the Army's response to offenders should be examined, including the percentage of referrals that are substantiated

through the investigation, as well as the type, length, and content of clinical treatment provided. Analyses could also then evaluate the effectiveness of different lengths and approaches to treatment in preventing recidivism by sex. Additionally, administrative sanctions and disciplinary actions against soldier spouse abusers should be examined by sex, as well as their effect on recidivism.

These analyses focused on the effect of sex on the Army's response to spouse abuse. However, the response by the Army may be more strongly influenced by other sociodemographic factors other than sex, such as race/ethnicity, that were controlled for but not fully explored in these analyses. Future research should work to develop models predictive of the Army's response. Additionally, a deeper understanding of the processes involved in the Army's response could be realized through qualitative studies. Interviews with Family Advocacy Program case managers and others involved in the referral and investigative process could seek to illuminate factors that influence the organization's response to spouse abuse. Further, interviews with victims could be used for program evaluation purposes to determine if they feel their needs are being met through the Army's response.

Other potential areas for future research into sex difference in spouse abuse in Army families include an exploration of how males and females soldiers differ in terms of common problems that tend to co-occur with spouse abuse, such as substance abuse and child abuse. Additionally, examining changes in rates of spouse abuse initial perpetration and recidivism by sex due to deployments would be of particular current interest.

Examining administrative records of substantiated abusive incidents to understand sex differences in intimate partner violence should only be a first step. Certainly, exploring

the effects of the abuse on the victim is of primary importance. Surveys of victims' level of fear of their abusive spouse and injuries resulting from violence could illuminate the true effects of violence by sex of the perpetrator on Army families.

Spouse abuse recidivism by sex in the context of the Army should also be further explored. As discussed, data sets with larger samples of female perpetrators should be utilized to determine if different predictors of recidivism by sex emerge in sex stratified survival analysis models. Additionally, rates of recidivism by soldier sex should be calculated over other time periods to further explore the effects of peace and wartime.

Research on sex differences in spouse abuse should also be continued in the civilian context. The response to male and female perpetrators and victims should be compared. Further research is needed to determine what gender appropriate responses to perpetrating spouse abuse are and if these are in fact being implemented.

Limitations

This study utilized a large administrative database that allowed us to examine multiple aspects of spouse abuse by sex, specifically, differences in initial perpetration, the Army's response, and subsequent recidivism. However, this research has several potential limitations. As in all studies of spouse abuse, it is likely that many cases are unreported due to factors including fear of the perpetrator and the failure of victims or bystanders to identify behaviors as abusive. Additionally, in the Army, substantiated cases of spouse abuse perpetration go in a soldier's record and may negatively affect one's career. Spouse victims in the military may therefore have a heightened disincentive to report abuse.

As discussed, the operationalization of the Army's response to spouse abuse perpetrators utilized in this analysis is incomplete; we therefore cannot definitively conclude if significant variation by sex does or does not exist, as the "response" was not fully operationalized. Other aspects of the response to offenders remain unexamined for sex differences including the type (e.g., individual versus group) and length of clinical treatment provided, the percentage of referrals that are substantiated through the investigation, administrative sanctions, and disciplinary actions.

Conclusion

This study explores an area largely unexamined, namely, sex differences in the perpetration of spouse abuse in the U.S. Army and the organization's response. Male and female perpetrators inflict violence at the initial offense that differs by rates (males significantly higher than females), type, and severity. However, the differences largely disappear in the first reoffense incident. This has implications for prevention efforts utilizing a population perspective; males should be the main target for primary prevention efforts, while both sexes need equivalent attention once the initial incident has occurred.

The Army's response to spouse abuse perpetrators and victims appears to be largely ungendered. Further research should explore the effects of the Army's intervention efforts on male and female recidivism to determine if sex specific approaches would be beneficial.

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