Intentional Injury in the Workplace: Identification and Prevention of Physical and Non-Physical Workplace Violence

Sarah L. Veele–Brice

A dissertation submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

2010

Program Authorized to Offer Degree:
School of Public Health and Community Medicine - Department of Health Services

University of Washington
Graduate School

This is to certify that I have examined this copy of a doctoral dissertation by

Sarah L. Veele-Brice

and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by the final
examining committee have been made.

Chair of the Supervisory Committee:

Thomas M. Wickizer

Reading Committee:

Thomas M. Wickizer

Diane P. Martin

Clarence Spigner

Date: 6-4-2010

In presenting this dissertation in partial fulfillment of the requirements for the doctoral degree at the University of Washington, I agree that the Library shall make its copies freely available for inspection. I further agree that extensive copying of the dissertation is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for copying or reproduction of this dissertation may be referred to ProQuest Information and Learning, 300 North Zeeb Road, Ann Arbor MI 48106-1346, 1-800-521-0600, to whom the author has granted "the right to reproduce and sell (a) copies of the manuscript in microform and/or (b) printed copies of the manuscript made from microform."

Signature Sarah Vell-B

Date 6/7/2010

University of Washington

Abstract

Intentional Injury in the Workplace: Identification and Prevention of Physical and Non-Physical Workplace Violence

Sarah L. Veele-Brice

Chair of the Supervisory Committee:
Professor Thomas Wickizer
Department of Health Services

Little is known about characteristics of non-fatal workplace violence. In the general population younger age, being a Person of Color, and being male are associated with an individual's higher risk of victimization and their lower likelihood to report victimization to the police. Yet limited research has been done to evaluate if this is the case for incidents occurring in the workplace. While research addressing workplace violence is being conducted, national data is limited and much of the research is over a decade old (Duhart, 2001). Additionally, there is great variability by occupation in the amount of workplace violence research being done. Because of their high risk for victimization, health care workers, particularly nurses, have been the focus of many academic studies. This growing body of research has evaluated nurses' experiences of physical violence in the workplace, but correctional nurses are often excluded. Because of the perception that correctional health care is a risky profession it's surprising that little research has focused on correctional nurses experiences.

Using two data sources 1) national and 2) state level data on correctional nurses, rates of workplace violence, descriptions of incidents of workplace violence, and an exploration of

factors that prevent workplace violence were conducted. The first study utilized secondary data from the 2000-2005 National Crime Victimization Study. Results indicate that workplace violence trends have remained fairly steady from 2000-2005 with police officers having the highest risk for victimization. The second study used data collected from 172 correctional nurses via a self-administered questionnaire. Analysis of this data showed that, among correctional nurses, the risk of workplace physical violence is comparable to nurses in other high risk fields and their risk for non-physical workplace violence is substantially higher. Both studies indicate that workers commonly under-report workplace violent victimization to authority figures. Results of this dissertation have implications for identifying workers at an increased risk for victimization in the workplace, thus allowing for targeted implementation of effective workplace violence prevention interventions.

Table of Contents

List of Figures

List of Tables

Acknowledgements

I am grateful for the guidance, insight, and support that I have received from my dissertation committee members, Tom Wickizer, Clarence Spigner, Diane Martin, and Maggie Baker.

I would like to thank Barbara Curtis, Lorna Ovena, and Catherine Knox with the Washington State Department of Corrections. Their invaluable expertise, assistance in research design and interpretation of results, and their continuous support throughout this process are truly appreciated.

I am grateful to all the nurses working for the Washington State Department of Corrections. Without the time you dedicated to complete a survey from a stranger, much of my work would never have been completed. Thank you for your participation!

To my doctoral cohort Anne Kirchoff, Dolly John, Beth Devine, and Caleb Banta-Green for their commodore and support throughout the doctoral program. I couldn't have asked for a better group of classmates to learn and grow with. And to all my fellow students, particularly Courtney Rees, who challenged and supported me throughout my program. Thank you all!

This research was financially supported by the NIOSH ERC Occupational Health Services Research Training Program (#T42 CCT010418) and by the Harry Bridges Center for Labor Studies.

Dedication

This work is dedicated to my husband, Darryl Brice, who sacrificed so much to support me through this process. While I might not always acknowledge it, I truly appreciate all you've given up to allow me complete this degree.

To my family and friends who have encouraged me throughout the years and who spent countless hours entertaining my children when I wasn't able to.

And to my children, Nia and Michael, who have, until now, shared their mother with her computer and her "work" for their entire lives. Thank you for your love and understanding! I owe you both a trip to the playground!

This work is also dedicated to the many workers who, in an effort to support themselves and their families, place themselves at risk for violence and injury every time they go to work. Here is hope that one day all employers will put people before profits and make every possible effort to protect their employees from occupational hazards, including violence, in the workplace.

Introduction

While violence prevention has historically been a concern of all civilizations, it has only been within the last two decades that the health sciences disciplines have begun to look at violence, its outcomes, and prevention as a public health issue. In 1996 the World Health Organization (WHO) adopted a resolution (WHA49.25) stating that violence is a major, global, public health problem that continues to grow. Until the time of this resolution violence research was left primarily to the fields of criminology, corrections, sociology, and psychology, each of which had their own definition and approach on how to best deal with violence. With the addition of the field of public health to violence prevention research a new definition of violence, and a new framework for addressing it, was introduced. The World Health Organization defines violence as the "intentional use of physical force or power, threatened or actual, against oneself, another person, or a group or community, that either results in, or has a high likelihood of resulting in, injury, death, psychological harm, maldevelopment, or deprivation (WHO, 1996)." While many researchers focus on physical forms of violence, it is important to emphasize the WHO definition also includes non-physical violence such as threats, verbal abuse, and sexual harassment.

There are many recognized forms of violence including child abuse, violence by intimate partners, sexual violence, and self-directed violence. While occupational violence (also known as workplace violence) is a serious threat to employee safety, in the fields of public health and violence research occupational violence is often under-recognized. It is estimated that about 15% of the acts of violence experienced by U.S. residents aged 12 or older occur in the workplace (Bachman, 1994). According to the Bureau of Labor Statistics Census of Fatal Occupational Injuries (CFOI), in 2004 approximately 10% of fatal work

injuries (551 of a total of 5,703) were workplace homicides (OSHA, 2006). According to the Bureau of Justice Statistics (BJS) and the National Institute of Occupational Safety and Health (NIOSH), between 1993 and 1999 an average of 1.7 million people were victims of violent crime while working or on duty in the United States. An estimated 1.3 million (75%) of these incidents were simple assaults while an additional 19% were aggravated assaults (CDC, 2006).

As with all forms of violence, there is a range in outcomes of occupational violence varying from mental distress to mortality. These health concerns pose their own problems, treatments, and prevention issues. Homicide is the second leading cause of occupational injury death in the United States, exceeded only by motor-vehicle-related deaths (Jenkins, 1996). While important, a disproportionate amount of research has focused on workplace homicide simply because of ease in reporting. Although workplace homicide is often focused on, violent assaults and psychological abuse are far more common in the workplace. In addition to the physical and psychological consequences associated with non-fatal workplace violence (Wieclaw, Agerbo, Mortensen, Burr, Tüchsen, & Bonde, 2006) these events can also result in lost wages, reduced employee productivity, and reduced employee morale (Rogers, 1999; LeBlanc 2002; Hoel, 2003).

There are three major causes for workplace violence; a work related incident caused by employee frustration (employee-on-employee violence), an incident external to the worksite where the perpetrator addresses it at the individuals place of employment (for example, intimate partner violence), or a work related incident where a customer or an individual external to the work-site attacks an employee for monetary means or because the employee is an available target for aggression. The first example, employee-on-employee

violence, is what the media most commonly portrays as workplace violence. In the past year University of Alabama Biology professor Amy Bishops murder of her colleagues during a faculty meeting and lab worker Raymond Clark, III murder of fellow Yale lab worker have garnered heavy media coverage. While these are the types of dramatic events that the media fixates on, they are very rare in comparison to all other incidents of workplace violence. In 1999, the last year of available data, of all workplace murders only five percent involved co-workers (Bureau of Justice Statistics, 1999). Similarly, workplace violent assaults by co-workers are rare. According to the National Violence Against Women Survey only 1.7 percent of respondents reported experiencing violence from a co-worker in their lifetime (Eller, 2006).

Occupational violence resulting from conflict external to the workplace occurs more frequently and is an issue that is particularly difficult for employers to address. Because most employers and employee's believe that there should be a separation of work and home life, employers are often unaware of their employees circumstances outside of work that put them at a higher risk of victimization. As a result, employers have a difficult time preparing to prevent such incidents (Katula, 2006a; Katula, 2006b; Swanberg, 2006; Swanberg, 2005).

The most common perpetrators of workplace violence are individuals external to the work-site who act out violently in order to acquire monetary means or because the employee is an available target for aggression. Robberies are the leading cause of workplace violence, with violence being secondary to the perpetrators primary goal of monetary gain. This puts workers who deal with money and valuable merchandise at an increased risk for victimization (OSHA, 2006). Because of the nature of their work employees in "helping" professions such as medical professionals, social workers, police officers, and correctional officers are also at

an increased risk of workplace violence. Their risk is not due to their access of cash but to their increased odds of coming in contact with mentally unstable and volatile individuals who may attack employees because they are viewed as convenient targets (Boz, 2006; Merecz, 2006).

Risk factors for Victimization

The leading factors identified to be associated with an employee's increased risk of being victimized are

1) Contact with the public;
2) Exchange of money;
3) Delivery of passengers, goods, or services;
4) Having a mobile workplace such as a taxicab or police cruiser;
5) Working with unstable or volatile persons in health care, social service, or criminal justice settings;
6) Working alone or in small numbers;
7) Working late at night or during early morning hours;
8) Working in high-crime areas; and
9) Guarding valuable property or possessions (US HHS, 2006).

Based on these factors, it is not surprising that police officers, correctional officers, and taxi drivers are victimized at the highest rates. These groups also have a higher risk for fatal assaults, with taxicab drivers having a homicide rate of 22.7 per 100,000 taxi drivers per year, 30 times higher than the homicide rate for all workers (CDC, 2002). The Bureau of Labor Statistics estimates that eighty-five percent of nonfatal assaults in the workplace occur in service and retail trade industries (BLS, 1992). In an occupation with little other cause for mortality (compared to higher risk industries such as construction) homicide remains the leading cause of death in retail trade and service industries, finance, insurance, and real estate (BLS, 1992).

While there is some debate, it has historically been believed that the risk of workplace victimization is related more to the task being performed, as previously outlined, than to

demographic characteristics of the individual performing the job (Lynch, 1987; Collins & Cox, 1987). That said, there are certain demographic variables associated with the performance of various jobs that make the association between workplace victimization and various demographic characteristics, though potentially spurious, still worth noting. In particular, risky jobs are more likely to be held by men (Gerberich et al., 2005; Carmel & Hunter, 1989; Hanson & Balk, 1992; Liss & McCaskell, 1994; Peek-Asa, Howard, Vargas, & Kraus, 1997), people of color (Frumkin, Walker, & Friedman-Jimenez, 1999; Toscano & Weber, 1995), and people with limited education and work qualifications (Mayhew & Quinlan, 1999). With the exception of men, these subpopulations are often identified as "disenfranchised populations." They are more likely than their counterparts to be of a lower socioeconomic status and to hold high risk jobs that are generally low wage. Many of these jobs have high turnover rates due to employee dissatisfaction and to poor job security. This makes it extremely difficult to organize employees to require corporate change and allows employers to ignore best practices in employee injury prevention.

Prevention Strategies

Using the framework of the "Three E's" of injury prevention (Engineering/ Environmental Modification, Enforcement of Legislation, and Education) various strategies to prevent occupational violence have been explored (Christoffel & Gallagher, 2005). Engineering prevention strategies have been targeted in some high risk occupations. Because of their consistent exposure to violent individuals, police and correctional officers are provided personal protective devices such as Kevlar vests and helmets when they are in situations that are thought to be potentially volatile. Such protection, though relatively effective, would be extreme for other industries. In convenience stores and gas stations

bulletproof glass barriers between employees and customers have been introduced and front seat/back seat bullet-resistant partitions between taxi cab drivers and passengers are becoming more common. Because of their shown ability to reduce assaults while being cost-effective these engineering strategies have been shown to effectively reduce employee victimization (Stone, 2000; Luo, 2004).

In general, there is very little legislation to protect individuals from workplace violence. The Occupational Safety and Health Administration's (OSHA) has no set workplace violence prevention standards though they do provide recommendations. In the mid-1990's OSHA attempted to issue voluntary guidelines for industries that conduct businesses during nighttime hours because of these employees high risk of victimization. These guidelines were opposed by industry groups such as the National Restaurant Association and attempts were made to eliminate them so that they could not be used by plaintiffs in lawsuits against their employer. While there currently is no federal enforcement of legislation besides OSHA's due diligence clause to protect employees from workplace violence, some local governments have instituted policies to protect against workplace violence. Examples include New York City's requirement for taxicabs to have either a video surveillance system or a divider between the driver and passengers. The State of Washington has implemented a Late Night Retail Worker Crime Protection Regulation which requires high risk workers to complete workplace violence prevention training.

Educational programs to reduce employees risk for victimization have been developed for various high-risk industries but have yet to be implemented on a large scale. Because of their increased risk of working with volatile individuals, police, medical workers, and mental health workers are advised (and in come cases required) to attend trainings on how to deal

with such individuals. Training programs that teach cab drivers how to avoid and respond when confronted with a hazardous situation have been implemented in several cities. In addition, workplace violence researchers have strongly recommended training and supervision of teenage employees who are at high risk because of the jobs they hold and because of their reduced perception of risk (Runyan et al., 2005).

While universal workplace violence prevention trainings have been advocated by some (Nigro & Waugh, 1996), there is no consensus on their effectiveness in preventing all forms of physical violence or non-physical violence. While their effectiveness in preventing non-physical violence prevention is uncertain, trainings have been shown effective in improving workers confidence to respond to violent events, their self-assessed competence, and their self-respect (Beech & Leather, 2006; Ilkiw-Lavalle, et al., 2002). Little work has been done on the application of these behaviors in real world events or to identify who acts, what actions they take, and how effective they perceive their action to be.

Overview of dissertation

This dissertation is comprised of two distinct studies. The first is a study of the magnitude of occupational violence in the United States (chapter 2). The second focuses on a subpopulation of workers, correctional (i.e. prison) nurses and explores experiences of physical and non-physical violence in the workplace (chapter 3 & 4). These three chapters (2, 3, & 4) were formatted for submission for publication in peer reviewed academic journals. Tom Wickizer, Clarence Spigner, and Diane Martin were coauthors on all three articles.

Study setting and Data Sources

Chapter 2 uses secondary data from the 2000-2005 iterations of the National Crime Victimization Study (NCVS). The NCVS is an ongoing stratified multistage cluster sample of

households, persons, and incidents conducted by the U.S. Census Bureau on behalf of the BJS. Households within the United States are randomly selected using a "rotating panel" sample design and all individuals 12 years of age or older residing in the household become part of the panel. Data were collected through telephone interviews, computer-aided telephone interviews, and face-to-face interviews. In each interview respondents reported details of any victimization events in the prior six months.

Chapters 3 and 4 use original data collected for the purpose of this dissertation. Based on the current workplace violence literature and key informant interviews an anonymous self-administered questionnaire of Washington State correctional nurses was designed, pre-tested, and implemented to examine exposure to workplace violence, protective factors, and reporting practices. This questionnaire was administered January 2009-March 2009 to all eligible nurses working in Washington State Department of Corrections (DOC) prison facilities (N=289). Further detail on questionnaire design and implementation as well as study subject inclusion criteria are described in detail in chapters 3 and 4.

All studies (chapters 2, 3, & 4) were approved by the University of Washington Institutional Review Board. In addition, the work comprising chapters 3 & 4 was approved by the Washington State Department of Corrections Research Review Committee. Funding for this work was provided by the NIOSH ERC Occupational Health Services Research Training Program. Additional financial support for chapters 3 &4 was provided by the Harry Bridges Center for Labor Studies.

Conceptual models

The conceptual framework for chapter 2 (Figure 1.1) demonstrates the major constructs identified in the literature to be associated with workplace victimization risk.

Characteristics of the employer and employee affect the riskiness of a position (i.e. some employers are more pro-active in preventing workplace violence and some people are more risk averse when seeking employment). Following from this, certain jobs (and workers) carry a higher risk for victimization which is affected by job specific characteristics (as previously outlined). Based on this framework, employee occupational and demographic characteristics affect the risk of workplace violence victimization. Additionally, the relationship between workplace victimization and reporting to the police might be moderated by the victims perception of the police and by the victim/offender relationship.

The conceptual model guiding chapters 3 and 4 (Figure 1.2) attempts to describe the factors that influence workplace physical and non-physical victimization among correctional nurses and, as secondary outcomes, their perceived risk of victimization and likelihood to report an incident to a supervisor. This conceptual model is based on one developed by the Minnesota Nurses Study (Gerberich, et al, 2005) though it has been modified to incorporate the latest research on occupational violence in institutional settings. Based on the literature, the model indicates that both individual and institutional characteristics directly impact the job that a person currently holds and, in turn, the riskiness of that job for workplace violence victimization. For example, workers with prior workplace victimization are more likely to currently be employed in a job with higher risks for workplace violence. The model also indicates that facilities that enforce workplace violence prevention policies will be less risky than those that don't. The influence of individual and institutional characteristics affect job related characteristics that impact the risk of workplace violence victimization. These include shift, job duties, and social support from colleagues. In turn these affect nurses' perceived risk of workplace violence and their actual risk of physical and non-physical (threat, sexual

harassment, and verbal abuse) violence. Individual characteristics are also directly associated with perceived risk of workplace violence victimization. Finally, among nurses who are victimized, all of the factors that impact victimization have the potential to affect their likelihood of reporting victimization to a supervisor.

Specific Aims

Broadly, each of the following chapters (Chapters 2, 3, and 4) addresses a unique aspect of workplace violence. The first uses a nationally representative study to determine rates of workplace violence and trends in reporting workplace violence to the police. Chapters 3 and 4 have a more specific focus, exploring the experiences of workplace violence in an often understudied subpopulation, correctional nurses. Chapter 3 examines correctional nurses experiences of physical workplace violence. Chapter 4 explores their experiences of non-physical workplace violence with an additional focus on how they act in response to non-physical workplace violence events. The specific aims addressed in each chapter are presented below.

Chapter 2: Occupational and demographic characteristics associated with workplace victimization and reporting practices

Aim 1. Describe overall, demographic-specific, and occupation-specific rates of workplace victimization over time.

Aim 2. Examine demographic and occupational variables associated with victimization.

Aim 3. Explain differences in victimization reporting to the police by demographic and occupational characteristics of the victim.

Chapter 3: Correctional nurses' risk of physical violence in the workplace

Aim 1. Estimate the annual incidence of physical violence against correctional nurses.

Aim 2. Examine the associations between employee characteristics and risk of workplace victimization.

Aim 3. Examine the associations between work characteristics and risk of workplace victimization.

Aim 4. Examine if known injury prevention techniques reduce correctional nurses' risk of workplace victimization.

Aim 5. Examine nurses' perceived risk of physical victimization in the workplace.

Chapter 4: Correctional nurses' experiences of non-physical workplace violence: Threats, verbal abuse, and sexual harassment as occupational hazards

Aim 1. Estimate the annual prevalence and incidence of non-physical violence (verbal abuse, threats, and sexual harassment) against correctional nurses.

Aim 2. Examine the associations between respondents demographic characteristics and risk of workplace non-physical victimization.

Aim 3. Examine the associations between work characteristics and risk of workplace victimization.

Aim 4. Identify characteristics of non-physical workplace violence events and perpetrators.

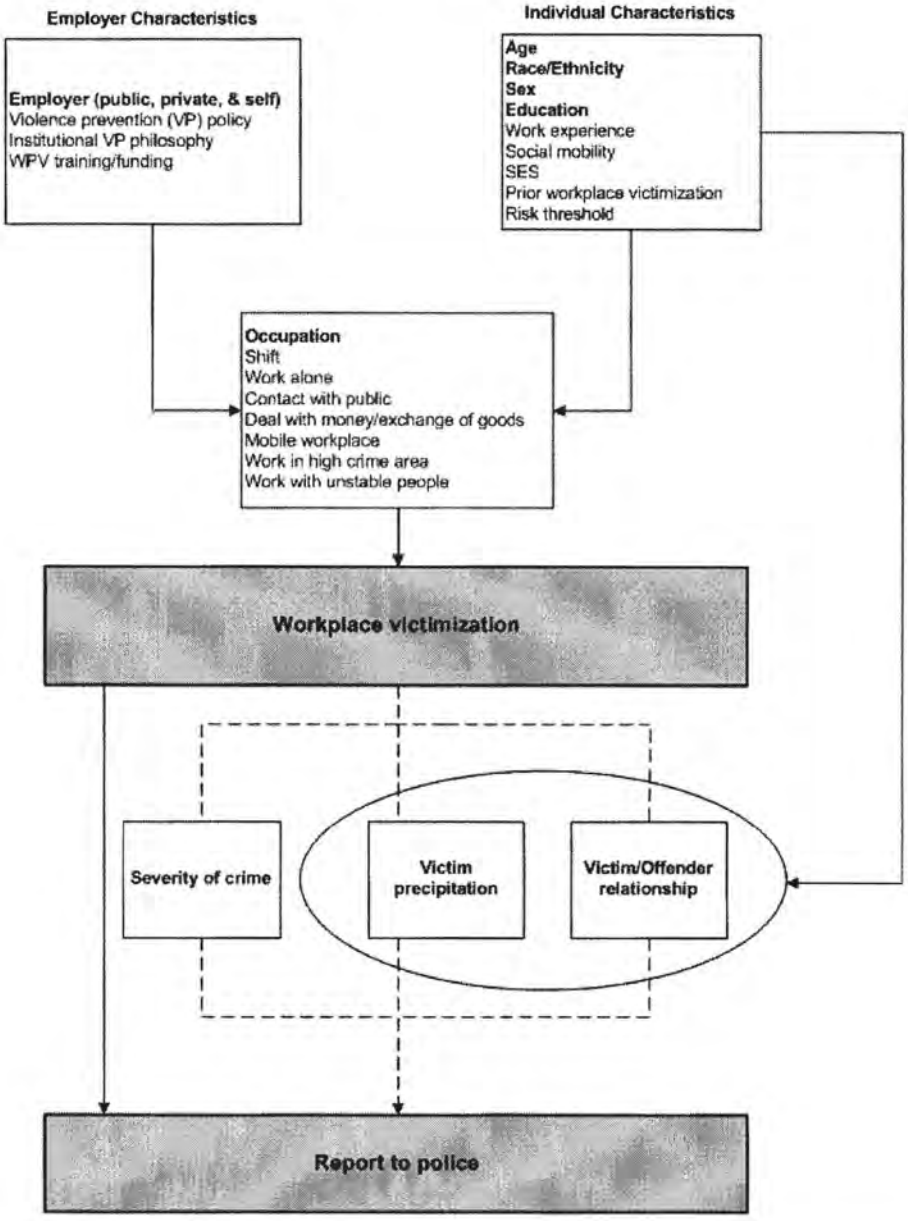
Aim 5. Identify factors that affect victims likelihood to report their victimization to a supervisor.

Aim 6. Examine nurses perceived risk of non-physical victimization in the workplace.

Aim 7. Explore characteristics and behaviors of nurses who take protective action during events of non-physical workplace violence.

Figure 1.1

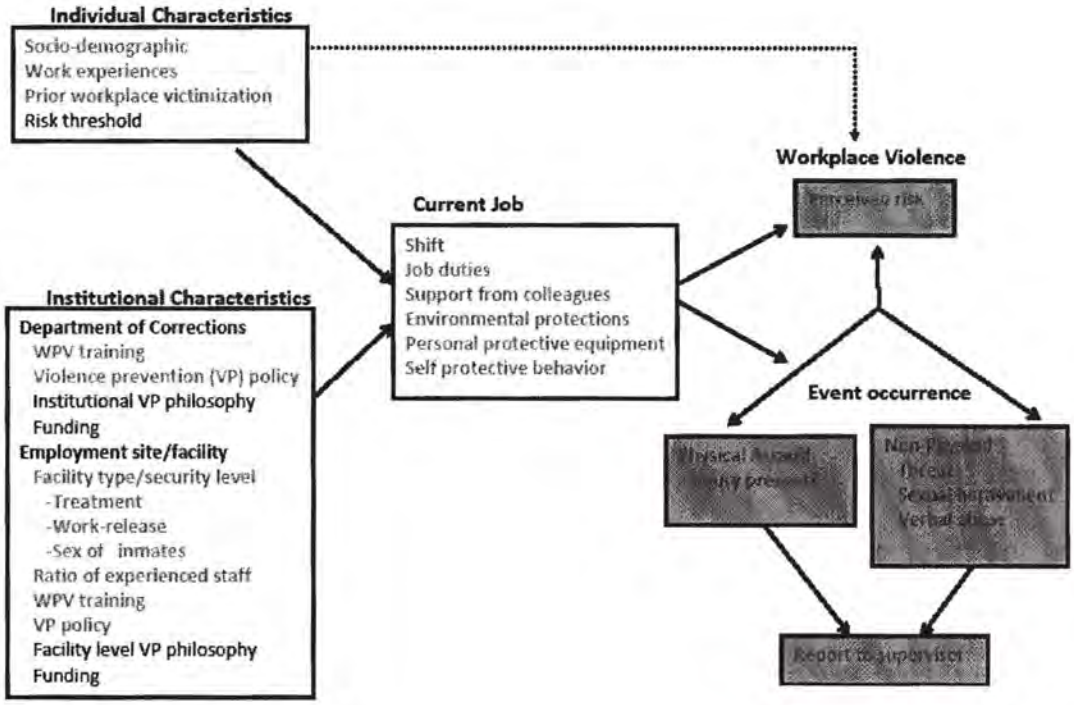
Figure 1
Conceptual Model-Predictors of Workplace Violence and Violence Reporting



Note.
Variables in bold font are measured in our analysis. Variables in shaded boxes are dependent variables.

Figure 1.2

Conceptual model: Correctional nurses' experiences of violence in the workplace



Chapter 1 Notes

Bachman, D. (1994). *Violence and theft in the workplace.* US Department of Justice.

Beech, B. & P. Leather. (2006). Workplace violence in the health care sector: A review of staff training and integration of training evaluation models. *Aggression and Violent Behavior, 11*, 27-43.

Bureau of Labor Statistics (BLS). (1992). *Work injuries and illnesses by selected characteristics, 1992*. Washington, DC: U.S. Department of Labor.

Carmel, H., & Hunter, M. (1989). Staff injuries from inpatient violence. *Hospital Community Psychiatry,* 40 , 41–45.

Center for Disease Control and Prevention (CDC). (2006). *Traumatic Occupational Injuries*. Retrieved November 14, 2006. http://www.cdc.gov/niosh/injury/traumaviolence.html

Christoffel, T., & Gallagher, S.S. (2005). *Injury Prevention and Public Health: Practical Knowledge, Skills, and Strategies* (2nd ed.). Gaithersburg, MD: Aspen Press.

Collins, J. & B. Cox B. (1987). Job activities and personal crime victimization: implications for theory. *Social Science Research, 16*, 345–360.

Eller, J. (2006). *Violence and culture: A cross-cultural and interdisciplinary approach.* Thompson Wadsworth, Belmont, CA.

Frumkin, H., Walker, E. D., & Friedman-Jiménez, G. (1999). Minority workers and communities. *Occupational Medicine,* 14(3), 495–517.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser M. S., Ryan, A. D., Mongin, S. J., Watt, G. D., & Jurek, A. (2005). Risk factors for work-related assaults on nurses. *Epidemiology*, *16*(5), 704-709.

Hanson, R. H., & Balk, J. A. (1992). A replication study of staff injuries in a state hospital. *Hospital and Community Psychiatry,* 43, 836–837.

Hoel, H., Einarsen, S., & Cooper, C. Organisational effects of bullying. (2003). In S. Einarsen, H. Hoel, D. Zapf & C. Cooper (Eds), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. London: Taylor & Francis.

Ilkiw-Lavalle, O., Grenyer, B. F. S., & Graham, L. (2002). Does prior training and staff occupation influence knowledge acquisition from an aggression management training program? *International Journal of Mental Health Nursing, 11*, 233–239.

Jenkins, E. (1996). Workplace homicide: industries and occupations at high risk. *Occupational Medicine, 11* (2), 219-25.

Katula, S. (2006a). Domestic violence in the workplace--part I: understanding how it affects victims. *American Association of Occupational Health Nurses Journal, 54* (5), 197-200.

Katula, S. (2006b). Domestic violence in the workplace--Part II: employers' response. *American Association of Occupational Health Nurses Journal, 54* (8), 341-4.

LeBlanc, M., & E. K. Kelloway. (2002). Predictors and outcomes of workplace violence and aggression. *Applied Psychology, 87* (3), 444-453.

Liss, G. M., & McCaskell, L. (1994). Injuries due to violence. *Journal of the American Association of Occupational Health Nurses, 42*, 384–390.

Luo, M. "Police Measures Avert Livery-Cab Killings." *The New York Times*, February 7, 2004.

Lynch, J. (1987). Routine activity and victimization at work. *Journal of Quantitative Criminology, 3*, 283–300.

Merecz, D., Rymaszewska, J., Moscicka, A., Kiejna, A., & J. Jarosz-Nowak. (2006). Violence at the workplace-a questionnaire survey of nurses. *European Psychiatry, 21*(7), 442-450.

Nigro, L. G. & Waugh, W. L. (1996). Violence in the American Workplace: Challenges to the Public Employer. *Public Administration Review, 56*(4), 326-333.

Occupational Safety and Health Association (OSHA). (2006). Safety and health topics: Workplace violence. Retrieved November 14, 2006. http://www.osha.gov/SLTC/workplaceviolence/

Peek-Asa, C., Howard, J., Vargas, L., & Kraus, J. F. (1997). Incidence of nonfatal workplace assault injuries determined from employer's reports in California. *Journal of Occupational and Environmental Medicine,* 39, 44–50.

Rogers, K. & E. Kelloway. (1997). Violence at work: personal and organizational outcomes. *Journal of Occupational Health Psychology, 2*(1), 63-71.

Runyan, C., Bowling, J., Schulman, M., & S. Gallagher. (2005). Potential for violence against teenage retail workers in the United States. *Journal of Adolescent Health, 36*(3), 267.e1-5.

Stone, J. & D. Stevens. (2000). Effectiveness of Taxi Partitions: Baltimore, Maryland, Case Study. *Transportation Research Record, 1731*, 71-78.

Swanberg, J., Macke, C., & T. Logan. (2006). Intimate partner violence, women, and work: coping on the job. *Violence and Victims, 21*(5), 561-78.

Swanberg, J., Logan, T., & C. Macke. (2005). Intimate partner violence, employment, and the workplace: consequences and future directions. *Trauma, Violence, and Abuse, 6*(4), 286-312.

Toscano, G., & Weber, W. (1995). *Violence in the Workplace.* Washington, DC: Bureau of Labor Statistics.

U.S. Department of Health and Human Services (US HHS). (1996). Current Intelligence Bulletin 57: Violence in the Workplace Risk Factors and Prevention Strategies. Retrieved November 18, 2006 at http://taxi-world.home.att.net/cib57.htm.

Wieclaw, J., Agerbo, E., Mortensen, P. B., Burr, H., Tüchsen, F., & Bonde, J. P. (2006). Work related violence and threats and the risk of depression and stress disorders. *Journal of Epidemiology and Community Health,* 60(9), 771-775.

World Health Organization (WHO). (1996). Global Consultation on Violence and Health. Violence: a public health priority. Geneva: WHO.

Chapter 2: Occupational and demographic characteristics associated with workplace victimization and reporting practices

Abstract

While a substantial amount of research focused on non-fatal workplace violence (WPV) was done in the 1990's, little has been done in the past decade to update these studies. Using secondary data from the 2000-2005 National Crime Victimization Study this study 1) describes WPV over time, 2) examines if the demographic characteristics associated with victimization in the general public hold in WPV events, and 3) explores if demographic differences exist in victims' rationales for reporting victimization to the police. Rates of workplace victimization remained relatively stable over the study period. The rate of workplace violent victimization in 2005 was 12.2 per 1,000 persons aged 15 and older and the rate of victimization resulting in an injury was 3.8 per 1,000. Only 48% of violent work place crimes were reported to the police and no significant demographic or employment differences existed between victims who did and did not report victimization. Our results are congruent with the prior research on WPV.

Introduction

Occupational violence is a threat to employee safety and job satisfaction with outcomes including mental distress and depression (Wieclaw, Agerbo, Mortensen, Burr, Tüchsen, & Bonde, 2006; Menckel & Viitasara, 2002; Findorff, McGovern, Wall, Gerberich, & Alexander, 2004; Flannery, 2001), reduced productivity (Hogh & Viitasara, 2005), and risk of mortality (Hendricks, Jenkins, & Anderson, 2007; Hartley, Biddle, & Jenkins, 2005). While workplace homicide is rare (OSHA, 2006), it is commonly covered by the media due to the sensational nature of events. Considerably less attention is given to victims of non-fatal workplace violence (Islam, Edla, Mujuru, Doyle, & Ducatman, 2003). Even the academic literature on workplace violence focuses primarily on homicide, principally because statistical information maintained on workplace homicide is more accurate and accessible than information on other types of workplace violence such as robbery, threats, and rape.

It is estimated that about 15% of violent acts experienced by U.S. residents aged 12 or older occur in the workplace (Bachman, 1994). According to the most recent figures from the Bureau of Justice Statistics (BJS) and the National Institute of Occupational Safety and Health (NIOSH), from 1993 to 1999 an estimated 1.3 million people annually were victims of simple assaults while working or on duty in the United States and 32,000 employees were victims of workplace aggravated assaults (Center for Disease Control, 2006). The magnitude of the problem led the U.S. Department of Health and Human Services to set a Healthy People 2010 goal of reducing the number of workplace assaults (U.S. Department of Health and Human Services, 2009).

Using data gathered through a national survey, we examined the characteristics associated with workplace violence and variations in victims reporting of workplace violent

victimization. As part of our study, we report updated figures representing rates of workplace violence for years 2000-2005.

Workplace Victimization

Definitions of workplace violence have varied over time and across disciplines. NIOSH defines workplace violence as "violent acts, including physical assaults and threats of assault, directed toward persons at work or on duty" (Jenkins, 1996). Our conceptual framework (Figure 2.1) demonstrates the major constructs identified in the literature as associated with victimization risk. Characteristics of the employer and employee affect the riskiness of a position (i.e. some employers are more pro-active in preventing workplace violence and some people are more risk averse when seeking employment). Following from this, certain jobs (and workers) carry a higher risk for victimization which is affected by job specific characteristics. Based on our framework, employee occupational and demographic characteristics including shift and age affect the risk of workplace victimization. Finally, victim-level occupational and demographic characteristics affect the likelihood of victims reporting incidents to the police and their rationale for this decision.

Current State of Workplace Violence Research

There was a period of substantial interest in workplace violence research in the United States in the late 1990's and early 2000's, as exemplified by the 1994 article published in *Public Personnel Management* titled "Workplace violence: an issue of the nineties" (Indvik, 1994). In the past decade much of the momentum has diminished and, with the exception of research on employees in healthcare fields, little has been published in recent years. The most recent national data published on workplace violence is the Bureau of Justice Statistics 2001 report, "Violence in the Workplace, 1993-1999" (Duhart, 2001). While extremely

informative, this data is over a decade old and more relevant data is necessary to understand the contemporary issues that surround workplace violence victimization.

Characteristics Associated with Victimization

Little research has addressed the role of demographic characteristics in non-fatal occupational violence risk and even less has been done to examine the effect of demographic characteristics on occupational violence injury. Job characteristics associated with increased risk include contact with the public, exchange of money, working with unstable persons and guarding valuable property (see Jenkins, 1996 for thorough discussion of risk factors). While workplace violence is often portrayed by the media as employee-on-employee, the majority of workplace physical violence is the result of robberies perpetrated by an individual external to the work-site (Duhart, 2001). Because violence is commonly not the intention of the attack but rather is secondary to the perpetrator's primary goal of monetary gain, employees with access to cash, such as retail workers, are at an increased risk of victimization (Campolieti, Goldenberg, & Hyatt, 2008; Chenier, 1998). Workers in "helping professions" such as health care, social work, and law enforcement are also at an elevatged risk of being the target of aggression because of their increased risk of interacting with mentally unstable and volatile individuals (Merecz, Rymaszewska, Moscicka, Kiejna, & Jarosz-Nowak, 2006).

While there is general agreement that the risk of workplace victimization is related more to the task being performed than to demographic characteristics of the individual performing the job (Lynch, 1987; Collins & Cox, 1987), certain demographic characteristics, including being male (Gerberich, et al., 2004; Carmel & Hunter, 1989; Hanson & Balk, 1992; Liss & McCaskell, 1994; Peek-Asa, Howard, Vargas, & Kraus, 1997), younger (Gerberich, et. al, 2004; Riopelle, Bourque, Robbins, Shoar, & Kraus, 2000), and a person of color (Frumkin,

Walker, & Friedman-Jimenez 1999; Toscano & Weber, 1995) are associated with the performance of jobs at a high risk for victimization. This relationship between demographic characteristics and holding a risky job has been explained as the result of sub-populations differential participation in the workforce (Castillo, Davis, & Wegman, 1999).

Research has shown that workers who are employed on a precarious basis (e.g. short-term contract, day hire, casual or subcontract basis) are at an increased risk for victimization (Mayhew & Quinlan, 1999). Both younger and older workers have been shown to have a higher likelihood of precarious employment and to be at an increased risk for workplace victimization, particularly homicide (Peek-Asa, Erickson, Kraus, Kisner, & Pratt, 1999). Precariously employed workers increased risk for workplace violence is explained, in part, by their increased likelihood to work at high-risk times (e.g. late night cab drivers and convenience store clerks) and for employers with diminished investment in violence prevention training and protections (Mayhew & Chappell, 2007). While demographic characteristics can be associated with workplace victimization, occupational characteristics are far more important both because of the strength of the relationships and the ability to modify them as a risk factor.

Characteristics Associated with Victimization Reporting

One of the primary reasons knowledge about the relationship of demographic characteristics to workplace victimization is underdeveloped is because of the inconsistent reporting of victimization. It has been estimated that only 10% of violent events at work are formally reported (Chappell & DiMartino, 2006; Mayhew & Chappell, 2003). While the likelihood of victimization reporting is highly correlated with the severity of the incident (i.e. more serious victimization is more likely to be reported), underreporting and disproportionate

reporting by victim characteristics remain major limitations in understanding, and preventing, workplace violence (Felson, Messner, Hoskin, & Deane, 2002).

In the general population socio-demographic characteristics of the victim have been shown to influence which incidents and offenders are reported as well as the victims perceived utility of contacting the police when incidents occur. For example, People of Color are disproportionately less likely to report their victimization to the police (Weitzer & Tuch, 2006; Rennison, 2007; Sigler & Johnson, 2002; Cheurprakobkit, 2000) which is likely the result of historical (and contemporary) injustices enacted by figures of authority, such as police, against People of Color. Similar power imbalances have resulted in younger victims being less likely to report victimization to the police (Finkelhor & Ormrod, 2001; Felson, et al., 2002; Hart & Rennison, 2003).

Conversely, membership in certain demographic groups may encourage victimization reporting. Women and older victims have been shown to have a higher likelihood of reporting victimization to the police than males and younger people (Bachman, 1998; Ruback, Outlaw, Menard, & Shaffer, 1999). One explanation is that social norms encourage these populations to seek help in situations of conflict while men and younger victims are more likely to attempt to resolve the issue without assistance (Felson, et al., 2002). Little work has been done to determine if demographic characteristics affect the reporting of workplace victimization, but we anticipate that the same relationships found in the general population will hold in the workplace.

Characteristics of the workplace and of the incident have been shown to impact reporting behavior. The quality of victimization data is often affected by workplace culture (Mayhew & Chappell, 2007). For example, in some workplaces even severe physical assaults

are trivialized or ignored. This occurs in workplaces where employees are from marginalized populations, such as migrant laborers and sex workers, and in many of the "helping professions" where workplace violence is viewed as a common, acceptable, hazard (Chappell & DiMartino, 2006). Victims who know their offenders and those who physically precipitate their attack are also less likely to report the incident (Felson et al., 2002).

Study Hypotheses

Based on the literature, we hypothesize that:

1) Men, people of color, and workers on the age extremes (young and old) will have an increased risk for workplace victimization compared to their counterparts,

2) Police and healthcare workers will be more likely to be victimized than workers in other fields, and

3) Younger workers, men, and people of color will be less likely than their counterparts to report their victimization to the police.

In order to test these hypotheses we calculated annual rates of workplace victimization, rates of victimization within subpopulations, and ran multivariate logistic regression models. Using data from the 2000-2005 National Crime Victimization Survey we 1) Describe overall, demographic-specific, and occupation-specific rates of workplace victimization over time. Limiting data to the 2005 National Crime Victimization Survey we, 2) Examine which demographic and occupational variables are associated with victimization, and 3) Explain differences in victimization reporting to the police by demographic and occupational characteristics of the victim.

Data and Methods

This paper uses secondary data from the National Crime Victimization Study (NCVS). The NCVS is an ongoing stratified multistage cluster sample of households, persons, and incidents conducted by the U.S. Census Bureau on behalf of the BJS. Households within the

United States are randomly selected using a "rotating panel" sample design and all individuals 12 years of age or older residing in the household become part of the panel. The panel includes approximately 50,000 housing units. Once in the sample, household members are interviewed every six months for a total of seven interviews (totaling three and a half years in the panel).

Data were collected through telephone interviews, computer-aided telephone interviews, and face-to-face interviews. In each interview respondents were asked to report details of any incidents within the prior six months where they were victimized. While the NCVS has been conducted since 1973, these analyses focus on data from 2000-2005. Detailed information regarding NCVS methodology is available elsewhere (Lynch & Addington, 2007). This study was approved by the University of Washington Institutional Review Board.

Dependent Variables

To test our hypotheses, our study analyzed four dependent variables: (1) being violently victimized at work (both overall/all types of violent victimization and three specific subcategories; rape/sexual harassment, battery, and theft), (2) any self-reported physical injury resulting from workplace victimization (injuries range from bruising to those requiring hospitalization), (3) if victimized, whether the victimization was reported to the police, and (4) the rationale for reporting or not reporting victimization to the police. For rate calculations and analyses identifying characteristics of workplace victims, the dependent variable was the binary yes/no response to the victimization reporting follow up question "Did this incident happen at your work site?" For analyses evaluating the decision to report victimization to the police and the rationale behind it, the study population was limited to respondents who had been victimized at their work site. Whether or not the incident was reported to the police was

coded as a binary yes/no response to the question, "Were the police informed or did they find out about this incident in any way?" Victims then identified the reasons that influenced their decision whether or not to report their victimization.

Independent Variables

All variables in this analysis were based on self-report. Victim demographic variables included in our analyses were race, ethnicity, sex, age, and educational attainment. While the NCVS attempts to determine racial categorization in greater detail than many other studies, because of the relatively small number of victims of workplace violence, these groups were collapsed for this analysis. Respondents were categorized as White, Black, or "additional races" which was comprised of Asian, Pacific Islander, American Indian, and Multi-racial respondents. All respondents were identified as Latino or non-Latino, regardless of race. Sex was a binary variable and age was modeled categorically (15-19, 20-34, 35-49, 50-64, 65 or older). Because of their low participation in the workforce, youth ages 12-14 were excluded from our analyses. Educational attainment was categorized as less than a high school degree, high school degree, some college/associate degree, bachelor's degree, and advanced degree.

Occupational characteristics included in this analysis were the victim's occupational field and type of employer. The NCVS focuses occupational data on high risk occupations while aggregating respondents in lower risk fields. This resulted in the development of 7 occupational field categories; law enforcement/security, medical, mental health services, teaching, retail, transportation, and "other." Employer was defined as public (federal, state, county or local government), private (business or individual), and self-employed.

Control Variables

Because of the size of the dataset and the diverse population surveyed, the most specific indicators of victims' geographic location available, region (Northeast, South, Midwest, and West) and urbanity (urban and rural), were included to control for variability by region and urbanity. Because region and urbanity were not hypothesized to be associated with workplace violence victimization they were only included in analyses as a control variable. No analyses were conducted with the specific purpose of evaluating their relationship to workplace violence risk.

Weights

Rates were calculated using NCVS derived data year weights (ICPSR, 2010). Data year weights were based on 18 months of interviews in order to include the six month retrospective reference period used in the NCVS design. The data year format allows victimization events to be counted in the year they occurred rather than the year in which they were reported (i.e. the collection year) and is generally considered to be more accurate than collection year weights (U.S. Department of Justice, 2008).

Analytic Strategy

Calculation of Victimization Rates

Annual victimization rates were calculated for the years 2000 – 2005. To be consistent with Bureau of Justice Statistics' publications, all rates were calculated per 1,000 persons age 15 and older. Victimization series (incidents that cannot be differentiated from one another) and events that were committed outside of the US were excluded. All rates were calculated for the total population as well as by sex, age, race, ethnicity, occupational field, and employer. The overall workplace victimization rates reflect the number of people who were violently victimized while at work or on duty. This rate was calculated as the number of

victimized cases (N=2,904 in 2005) divided by the number of people reporting being employed during the six months prior to data collection (N=237,790 in 2005). For subpopulation analyses the denominator was the number of people within that subcategory reporting being employed during the six months prior to data collection. Data on employment hours was unavailable making it impossible to calculate more specific rates that account for person time. Using the same populations, the workplace violent injury rates, rates of rape/sexual assault, battery rates, and rates of theft were calculated.

Statistical Techniques

The majority of respondents in the NCVS did not report victimization while at work (N = 231,982). Because of our large study population we chose to reduce our sample size, selecting three non-victims for every victim (N=8,712) following methods discussed by Taylor, West, and Aiken (2006). This resulted in a total study population of 11,616 respondents. Non-victims were randomly selected from members of the target population (non-workplace violence victims during the same 6-month period) and were demographically similar to the target population. We made the assumption that characteristics of the victim's household did not confound the relationship between demographic characteristics and workplace victimization and allowed more than one victim or non-victim to be selected from the same household. Because we wanted to model victim and incident characteristics as risk factors, matching was not used.

Binary logistic regression was conducted using 2005 data to evaluate the associations between demographic variables and workplace victimization, the decision to report victimization to the police, and the rationale for reporting victimization. Because workplace violence is a relatively rare event, odds ratios were an appropriate method for communicating

differences between populations (Breslow & Day, 1980). All analyses were conducted using unweighted data as advised by the NCVS and as commonly done by researchers (DOJ, 1999; Brecklin & Ullman, 2001; Hashima & Finkelhor, 1999). Logistic regression was used to determine (1) the odds of workplace victimization, (2) the odds of reporting victimization to the police, and (3) how the motives expressed for reporting or not reporting an incident to the police differ depending on demographic characteristics of the employee. Using dummy variables, the independent variables representing age, race, ethnicity, sex, and educational attainment, as well as the control variables "region" and "urban/rural" were regressed on the binary dependent variables. Retaining demographic characteristics in the model, additional analyses were run to test the significance of employer and occupation separately and simultaneously. Because our third research question was specific to the victimization reporting practices of workplace violence victims, analysis was limited to cases of workplace violence (N=2,904). All analyses were conducted using STATA version 10.0.

Due to the clustered sample design used by the NCVS, observations cannot be assumed to be independent. To account for this, all models were estimated using corrective weights to adjust for the NCVS sample design (U.S. Department of Justice, 2008). Regression analysis were conducted using the STATA SVYSET command and the ROBUST option.

Results

Victimization Rates

Annual rates of workplace victimization, workplace violent victimization, and victimization resulting in injury for 2000-2005 are presented in Figure 2.2. As the figure displays, workplace victimization rates remained fairly stable over the six years. In 2005, the

overall workplace violent victimization rate was 12.2 per 1,000 persons age 15 and older and the rate of victimization resulting in injury was 3.8 per 1,000.

To obtain a more detailed understanding of how these rates varied by demographic characteristics, we examined incidents rates for 2005 providing specific rates by demographic and occupational subcategories (Table 2.1). The rate of overall violent victimization was 25% higher for female workers than male workers and the rate of rape and sexual assault was two times as high for women relative to men (0.31 per 1,000 versus 0.15). Workers on the extremes of the age spectrum had lower rates of overall victimization than workers aged 20-64. While the youngest workers had the lowest rate of overall victimization (6.9 per 1,000 workers), they had the second highest rate of injury resulting from victimization (5.1 per 1,000 workers).

White respondents had the highest rate of overall victimization (12.8 per 1,000 employees) though Blacks had the highest rate of battery (5.0 per 1,000) and injury (5.0 per 1,000). Regarding ethnicity, non-Latinos were more likely than Latinos to be victimized in the workplace (12.4 per 1,000 versus 10.8). Employees working in law enforcement had the highest rate of workplace victimization (159.3 per 1,000) followed by those in mental health (78.4 per 1,000).

Description of Victims and Non-Victims

Limiting analysis to victims and a sub-sample of non-victims (N=11,616), Table 2.2 presents demographic and occupational characteristics reported in the NCVS interviews. These populations were fairly similar in terms of sex, racial, and ethnic composition as well as occupational field and employer. The majority of our study population was White (83%) and non-Latino (87%). There were differences in the age composition of the two groups. Workers

who were victimized tended to be in the middle age categories while workers who were not victimized tended to be more evenly distributed across age categories.

Predicting Workplace Victimization

Binary logistic regression results indicate that the only demographic characteristic significantly associated with workplace violent victimization was education (Table 2.3, Model 1). Workers with less than a high school degree are significantly more likely to be victimized than workers with a high school degree or more, relative to employees with an advanced degree workers without a high school degree were nearly twice as likely to be victimized (OR=0.41; p=0.02). This association remained significant with the addition of employer type to the model (Model 2). The addition of occupation to Model 3 led to the loss of significance in the association between educational attainment and workplace risk but did demonstrate significant differences between occupation groups. Workers in the law enforcement field were significantly more likely to be victimized than employees in any other field. When the same models were run with injury resulting from workplace victimization as the dependent variable, no covariates were statistically significantly associated with risk.

Reporting to Police

Within our study population of workplace victims, 51.0% of all events were reported to the police, 55.3% of incidents of battery, 59.1% of thefts, 55.3% of events resulting in injury, and 37.9% of rapes. In bivariate analyses, demographic characteristics of victims of workplace violence were not significantly associated with victimization reporting. No significant demographic or employment differences existed between victims who did and did not report victimization to the police (results available from author upon request).

Rationale for Reporting

The leading reason victims of violent workplace victimization did not report to the police (38.2%) was because they reported the incident to another official, such as a supervisor at work. Additional reasons for non-report were that the incident was a "personal matter" (16.3%) and that it was minor and unsuccessful (14.5%). Bivariate and regression analyses indicate that sex, age, race, ethnicity, and educational attainment were not associated with victimization non-reporting due to police distrust.

In our conceptual framework we hypothesized that the relationship between workplace victimization and reporting to the police might be moderated by the victim/offender relationship and victim precipitation (defined as hitting the offender first). While no demographic or occupational characteristics were associated with reporting victimization, we did find that after controlling for these variables, victims who knew their offenders were 72% less likely to report their victimization (OR=0.38, $p< 0.001$). There was only one case of victim precipitation among victimized workers so no analyses were conducted.

Discussion

Workers risk for workplace victimization varies by demographic and occupational characteristics. We found that less educated workers had significantly higher odds of victimization as did employees working in law enforcement fields.

Victimization

From 2000-2005 the overall workplace victimization rate trended similarly to the national victimization rate (Bureau of Justice Statistics, 2005). Rates of workplace victimization resulting in injury, rape/sexual assault, battery and theft remained fairly steady over the five- year study period as well. Differences in victimization rates varied by demographic characteristics. While both younger and older workers had lower rates of overall

victimization than other workers, younger workers had the highest rates of rape/sexual assault and the second highest rates of battery and injury. This finding indicates that it might be more effective to target teens with rape/sexual assault violence prevention training since they are at such an increased risk.

White and Non-Hispanic workers had higher rates of workplace victimization relative to their counterparts, a finding congruent with the 2001 BJS report (Detis, 2001). Results from multivariate analyses indicate that there is no difference in workplace victimization risk by race. Relating to occupational field, unsurprisingly law enforcement and mental health workers remain at the higher risk for victimization (Detis, 2001). It is important to note that employer and occupation were broadly defined in our data and are unlikely to adequately represent the specific job duties that increase workers risk for victimization. For example, in our data education may be a better proxy for this and may be why low education proves to be significant in so many of our analyses. Further analyses looking more specifically at employee risk will help to illuminate this relationship.

Reporting to Police and Rationale for Reporting

It was not surprising that the proportion of victims reporting to the police was highest among those who were injured. We had anticipated that the analyses of rationale for victimization reporting would provide rich findings, ideally opening the door for further research on the role that power imbalances by demographic characteristics have on reporting workplace victimization to the police. While our data showed no significant differences in reporting by victim demographic and occupational characteristics, this may be due to underlying power imbalances between employees and supervisors that we were unable to evaluate with the data available to us.

It is noteworthy that so many people did not report their victimization to the police because they dealt with it "in house" by reporting to a supervisor. This supports Mayhew and Chappell's finding that information on workplace victimization is often scattered between multiple unrelated agencies (2007) resulting in the omission of these events from official statistics, making them invisible to researchers and policy makers.

Conclusion

Employees risk for victimization in the workplace varies by demographic characteristics and occupation. While it is reassuring that most workplace violent incidents do not result in injury, there are still significant negative consequences associated with victimization. Exposure to violence has been shown to have long term detrimental effects on physical and mental health, even if no acute injury is experienced (Yehuda, 2002). Additionally, exposure to violence in the workplace has been shown to have a negative effect on employee morale and job satisfaction (LeBlanc & Kelloway, 2002; Hoel, Einarsen, & Cooper, 2003).

Our study has several limitations. The omission of worker hours made it impossible for us to calculate rates accounting for person time, decreasing the specificity of our results. Additionally, we limited workplace violence incidents to those occurring at the worksite to on duty employees, excluding events that happened at the worksite to off duty employees or events that took place in transit to or from work. Research in other countries more commonly include these as incidents of workplace violence (National Board of Oc Safety and Health, 1987).

In order to truly determine if victimization risk is the result of job characteristics, better measures are needed. While educational attainment, occupation, and employer type attempted

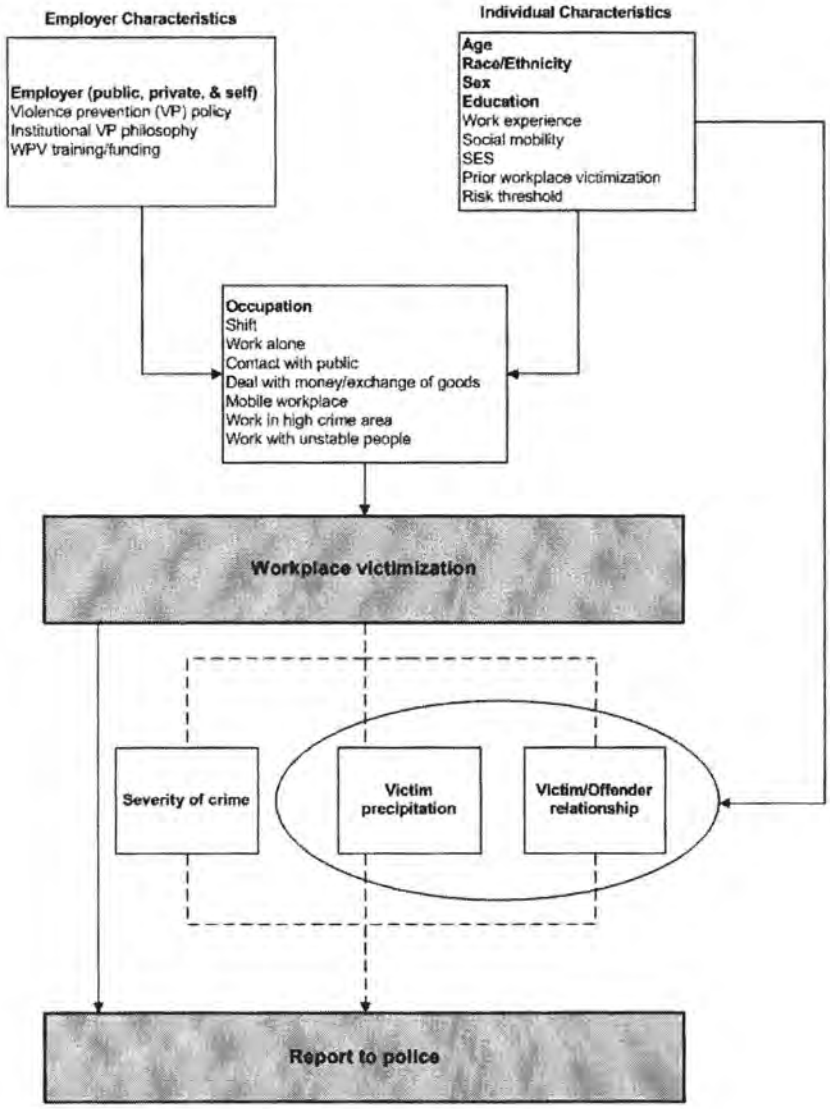
to address this, none fully accounted for the type and riskiness of the job an employee held. Better measures of occupation would help and the creation of accurate measures of job riskiness would be useful. The colinaerity we found between occupation and other independent variables is an additional limitation.

Even with these limitations, this work is a contribution to the field of workplace violence. The use of a large, nationally representative, dataset allows the results to be generalized nationally. This research updates the 1993-1999 BJS report (Duhart, 2001) and provides a better understanding of the risk that violence poses in the work setting. Understanding this and identifying sub-populations at an increased risk for victimization can have significant implications in targeting victimization prevention interventions to specific subgroups. Additionally, identifying the low rates of reporting workplace violence to police is informative as researchers, policy makers, and employers attempt to get a better grasp of the extent of the problem.

The work presented in this paper contributes to our understanding of demographic differences in workplace victimization and victimization reporting. This study provides the foundation for further research to explore the reasons for these relationships. Violence in the workplace is a public health concern with both acute and chronic repercussions. The more that is understood about the risk factors for victimization (as well as the risk factors for perpetration) the more can be done to prevent it.

Figure 2.1
Conceptual Model- Predictors of workplace violence and violence reporting

Figure 1
Conceptual Model-Predictors of Workplace Violence and Violence Reporting



Note.
Variables in bold font are measured in our analysis. Variables in shaded boxes are dependent variables.

Figure 2.2

National Rates of Workplace Victimization (NCVS), 2000-2005

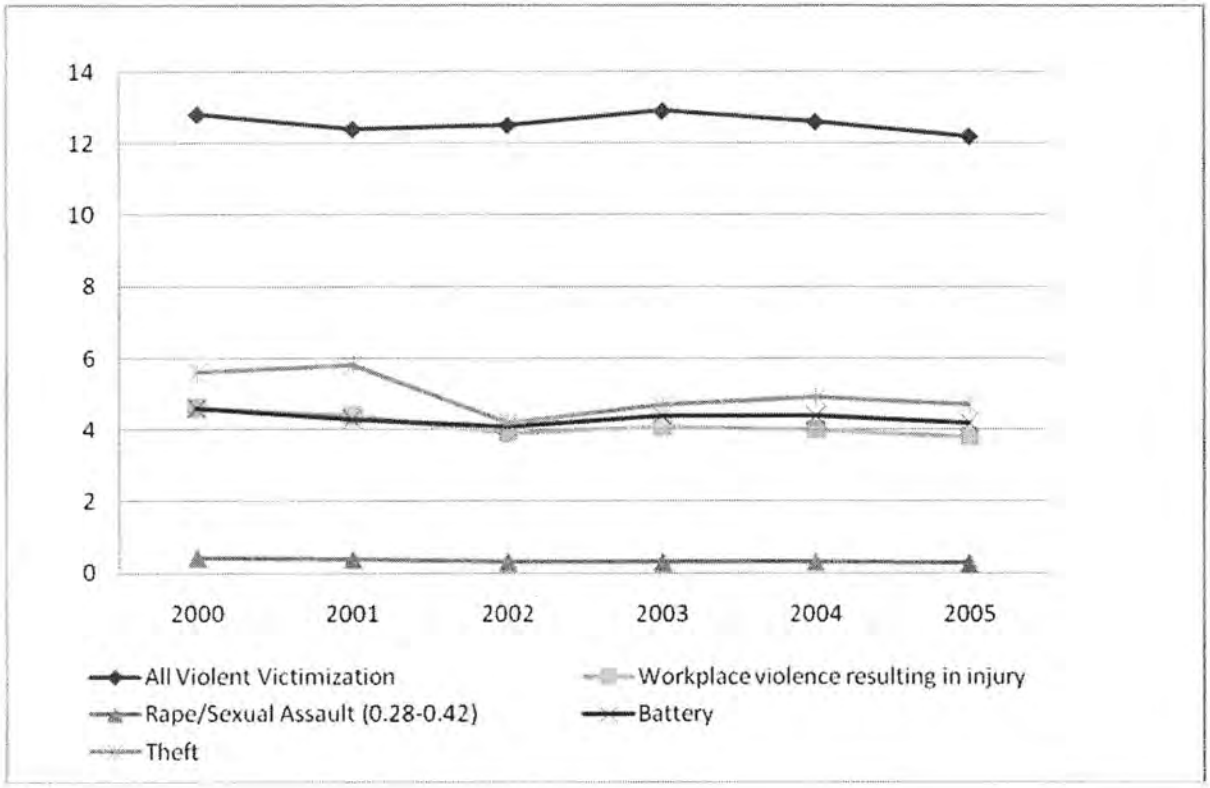


Table 2.1

Rates of Workplace Victimization by Demographic Characteristics per 1,000 Employed Workers Age 15 and Older[a], 2005

		Rate of workplace victimization	Rate of victimization resulting in injury	Rate of rape/sexual assault	Rate of battery	Rate of theft
Total		12.2	3.8	0.28	4.2	4.7
Sex	Male	10.7	3.8	0.15	3.8	4.4
	Female	13.6	3.7	0.31	3.7	4.6
Age[b]	15-19	6.9	5.1	0.41	5.1	3.1
	20-34	13.9	4.4	0.28	4.4	4.6
	35-49	15.5	5.6	0.29	5.6	5.5
	50-64	13.1	3.1	0.18	3.1	5.3
	65+	9.7	1.0	0.14	1.0	3.9
Race	Black	9.2	5.0	0.41	5.0	5.4
	White	12.8	3.6	0.20	3.6	4.5
	Additional races	9.7	3.4	0.33	3.4	3.5
Ethnicity[c]	Latino/ Hispanic	10.8	3.7	0.26	3.7	3.7
	Non-Latino	12.4	3.8	0.23	3.8	4.7
Occupation	Medical	19.7	6.5	0.30	6.5	5.0
	Mental Health	78.4	11.8	0.96	11.8	8.3
	Teaching	17.7	3.8	0.27	3.8	
	Retail	21.5	6.8	0.40	6.8	5.1
	Transportation	20.3	5.7	0.0	5.7	6.4
	Law enforcement	159.3	6.8	0.40	28.8	4.6
	Other, non-target	15.2	4.3	0.21	4.3	5.0
Employer	Private	15.9	4.9	0.27	4.9	5.1
	Government	16.5	4.8	0.20	4.8	5.0
	Self	18.9	3.8	0.38	3.8	5.6

[a] Workers employed in the six months prior to data collection.
[b] Data for workers under 15 years of age excluded from analysis
[c] Due to small numbers, racial groups besides Black and White were collapsed into one category, "additional races."

Table 2.2
Demographic and Job Characteristics of Victims and Non-Victims, 2005

		Not victimized in the workplace	Victimized in the workplace
		N= 8,712	N=2,904
		%	%
Sex	Male	47.8 %	41.8 %
Age	Age 15-19	13.7 %	4.7 %
	Age 20-34	22.3 %	25.4 %
	Age 35-49	27.4 %	34.8 %
	Age 50-64	21.5 %	23.0 %
	Age 65+	15.2 %	12.0 %
Race	White	82.4 %	86.4 %
	Black	11.3 %	8.5 %
	Other/Multi-racial	6.3 %	5.1 %
Ethnicity	Latino	12.9 %	11.4 %
Education [a]		N=8,694	N=2,867
	No degree	23.4	13.0
	High school degree	28.7	27.2
	Some college	23.6	31.8
	Bachelor's degree	15.9	18.1
	Advanced degree	8.4	9.9
Occupation [b]		N=2,178	N=678
	Medical	27.4 %	26.5 %
	Mental health services	3.9 %	3.1 %
	Teaching/education	30.5 %	29.4 %
	Retail	6.8 %	8.0 %
	Transportation	29.9 %	32.0 %
	Law enforcement	1.4 %	1.0 %
Employer		N=8,448	N=2,000
	Private	72.6 %	70.6 %
	Government	16.5 %	16.8 %
	Self-employed	10.9 %	12.7 %

[a] Data for workers under 15 years of age excluded from analysis
[b] Respondents in "other" occupational fields were excluded due to lack of specificity.

Table 2.3
Odds of Being Victimized in the Workplace, by Demographic Variables and Job Characteristics

		Model1: Demographic variables	Model 2: Model 1 + Employer	Model 3: Model 1 + Occupation
		N=10,881	N=10,881	N=10,019
Age	Age 15-19	1.0	1.0	1.0
	Age20-34	1.02	1.02	1.08
	Age 35-49	1.04	1.03	1.22
	Age 50-64	1.01	1.02	1.07
	Age 65+	1.01	1.01	1.45
Race	White	1.00	1.0	1.0
	Black	0.94	0.91	1.01
	Other/ Multiracial	0.88	0.87	0.78
Ethnicity	Non-Latino	1.0	1.0	1.0
	Latino	0.96	0.93	1.15
Sex	Male	1.0	1.0	1.0
	Female	1.06	1.03	0.94
Education	No degree	1.0	1.0	1.0
	High school degree	0.65*	0.71*	1.02
	Associates	0.60*	0.61*	1.06
	Some college	0.68*	0.71*	1.21
	Bachelor's	0.62*	0.58*	1.11
	Advanced degree	0.51*	0.39*	0.94
Employer	Public	--	1.0	--
	Private	--	0.94	--
	Self-employed	--	0.96	--
Occupation	Law enforcement	--	--	1.0
	Retail	--	--	0.51*
	Medical	--	--	0.48*
	Mental Health	--	--	0.73*
	Teaching	--	--	0.48*
	Transportation	--	--	0.56*
	Other, non-target	--	--	0.39*

* Statistically significant at $p \leq 0.05$

Chapter 2 Notes

Bachman, R. (1994). The double edged sword of violent victimization against the elderly: Patterns of family and stranger perpetration. *Journal of Elder Abuse and Neglect*, 5(4) 59-76.

Bachman, R. (1998). Factors Related to Rape Reporting Behavior and Arrest: New Evidence from the National Crime Victimization Survey. *Criminal Justice and Behavior*, 25(1), 8-29.

Breslow, N., & Day, N. (1980). *Statistical methods in cancer research: Vol. 1 - The analysis of case-control studies.* Lyon, France, IARC Scientific Publications.

Bureau of Justice Statistics. (2005). *Key crime and justice facts at a glance*. Retrieved March 17, 2009 from http://www.ojp.usdoj.gov/bjs/glance.htm#Crime.

Bureau of Justice Statistics. (1999). *National crime victimization survey, 1992-1997.* Ann Arbor, MI: Inter-University Consortium for Political and Social Research [Producer and Distributor].

Campolieti, M., Goldenberg, J., & Hyatt, D. (2008). Workplace violence and the duration of workers' compensation claims. *Industrial Relations*. Retrieved March 1, 2009, from http://www.allbusiness.com/labor-employment/workplace-health-safety-occupational/10200620-1.html.

Carmel, H., & Hunter, M. (1989). Staff injuries from inpatient violence. *Hospital Community Psychiatry,* 40 , 41–45.

Castillo, D. N., Davis, L., & Wegman, D. H. (1999). Young workers. *Occupational Medicine,* 14(3), 519–536.

Center for Disease Control (2006). *Workplace violence prevention strategies and research needs*. Retrieved May 19, 1008 from http://www.cdc.gov/niosh/docs/2006-144/#a1

Chappell, D., & DiMartino, V. (2006). Violence at work. *Child Maltreatment,* 6, 219-229.

Chenier, E. (1998). The workplace: A battleground for violence. *Public Personnel Management,* 27, 557-569.

Cheurprakobkit, S. (2000). Police-citizen contact and police performance: Attitudinal differences between Hispanics and non-Hispanics. *Journal of Criminal Justice*, 28, 325-336.

Collins, J. J., & Cox, B. G. (1987). Job activities and personal crime victimization: implications for theory. *Social Science Research,* 16, 345–360.

Duhart, D. (2001). *Violence in the workplace 1993-1999*. Washington D.C.: Bureau of Justice Statistics.

Felson, R. B., Messner, S. F., Hoskin, A., & Deane, G. (2002). Reasons for reporting and not reporting violence to the police. *Criminology,* 40, 617-648.

Findorff, M. J., McGovern, P. M., Wall, M., Gerberich, S. G., & Alexander, B. (2004). Risk factors for work related violence in a health care organization. *Injury Prevention,* 10, 296–302.

Finkelhor, D., & Ormrod, R. K. (2001). Factors in the underreporting of crimes against juveniles. *Child Maltreatment,* 6(3), 219-229.

Flannery, R. B., & Walker, A. P. (2004). Safety skills of mental health workers: Empirical evidence of a risk management strategy. *Psychiatric Quarterly,* 74(1), 1-10.

Flannery, R. B. (2001a). The employee victim of violence: Recognizing the impact of untreated psychological trauma. *American Journal of Alzheimer's Disease and Other Dementias,* 16, 230–233.

Flannery, R. B. (2001b). Characteristics of assaultive psychiatric inpatients: Updated review of findings, 1995–2000. *American Journal of Alzheimer's Disease and Other Dementias,*16, 153-156.

Frumkin, H., Walker, E. D., & Friedman-Jiménez, G. (1999). Minority workers and communities. *Occupational Medicine,* 14(3), 495–517.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser, M., et al. (2004). An epidemiological study of the magnitude and consequences of work-related violence: The Minnesota nurses' study. *Occupational and Environmental Medicine*, 61, 495-503.

Hanson, R. H., & Balk, J. A. (1992). A replication study of staff injuries in a state hospital. *Hospital and Community Psychiatry,* 43, 836–837.

Hart, T.C., & Rennison, C. (2003). *Reporting crime to the police, 1992–2000.* Bureau of Justice Statistics Special Report No. NCV–195710 Available at: www.ojp.usdoj.gov/bjs/pub/pdf/rcp00.pdf.

Hartley, D., Biddle, E. A., & Jenkins, E. L. (2005). Societal cost of workplace homicides in the United States, 1992-2001. *American Journal of Industrial Medicine,* 47(6), 518-527.

Hashima, P. & D. Finkelhor. (1999). Violent victimization of youth versus adults in the National Crime Victimization Survey. *Journal of Interpersonal Violence*, *14*(8), 799-820.

Hendricks, S. A., Jenkins, E. L., & Anderson, K. R. (2007). Trends in workplace homicides in the U.S., 1993-2002: A decade of decline. *American Journal of Industrial Medicine,* 50(4), 316-325.

Hoel, H., Einarsen, S., & Cooper, C. (2003). Organisational effects of bullying. In S. Einarsen, H. Hoel, D. Zapf & C. Cooper (Eds), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. London: Taylor & Francis.

Hogh, A., & Viitasara, E. (2005). A systematic review of longitudinal studies of nonfatal workplace violence. *European Journal of Work and Organizational Psychology*, 14(3), 291–313.

Indvik, J. (1994). Workplace violence: an issue of the nineties. *Public Personnel Management, 23*(4), 515-524.

Inter-University Consortium for Political and Social Research (ICPSR). (200). *Accuracy of NCVS estimates.* Retrieved June 12, 2008 from www.icpsr.umich.edu/NACJD/NCVS/accuracy.html

Islam, S. S., Edla, S. R., Mujuru, P, Doyle, E. J., & Ducatman, A. M. (2003). Risk factors for physical assault: State-managed workers' compensation experience. *American Journal of Preventive Medicine*, 25(1), 31-37.

Jenkins, L. (1996). *Violence in the workplace*. National Institute of Occupational Safety and Health. Retrieved from http://www.cdc.gov/niosh/violcont.html.

LeBlanc, M., & Kelloway, E. J. (2002). Predictors and outcomes of workplace violence and aggression. *Applied Psychology,* 87(3), 444-453.

Liss, G. M., & McCaskell, L. (1994). Injuries due to violence. *Journal of the American Association of Occupational Health Nurses*, 42, 384–90.

Lynch, J. P. (1987). Routine activity and victimization at work. *Journal of Quantitative Criminology*, 3, 283–300.

Lynch, J. P., & Addington, L. A. (2007). *Understanding crime statistics: Revisiting the divergence of the NCVS and UCR.* New York, NY: Cambridge University Press.

Mayhew, C., & Chappell, D. (2007).Workplace violence risk for health care workers. *The Journal of occupational health and safety, Australia and New Zealand, 23*, 23-29.

Mayhew, C., & Chappell, D. (2003). The occupational violence experiences of some Australian health workers: An exploratory study. *The journal of occupational health and safety, Australia and New Zealand,* 19(6), 3–43.

Mayhew, C. & Quinlan, M. (1999). The relationship between precarious employment and patterns of occupational violence: Survey evidence from thirteen occupations', in K. Isaksson, C. Hogstedt, C. Eriksson, & T. Theorell (eds.), *Health Effects of the New Labour Market,* Kluwer Academic/Plenum publishers, New York: 183-205.

McCall, B. P., & Horwitz, I. B. (2004). Workplace Violence in Oregon: An Analysis Using Workers' Compensation Claims from 1990-1997. *Journal of Occupational and Environmental Medicine, 46*(4), 357-366.

Menckel, E., & Viitasara, E. (2002). Threats and violence in Swedish care and welfare—Magnitude of the problem and impact on municipal personnel. *Scandinavian Journal of Caring Sciences*, 16, 376–385.

Merecz, D., Rymaszewska, J., Moscicka, A., Kiejna, A., & Jarosz-Nowak, J. (2006). Violence at the workplace – a questionnaire survey. *European Psychiatry,* 21(7), 442-450.

National Board of Occupational Safety and Health. (1987). *Occupational Injuries in Sweden 1983.* Stockholm: Swedish Work Environment Fund.

Peek-Asa, C., Erickson, R., Kraus, J. F., Kisner, S. M., & Pratt, S. G. (1999). Traumatic occupational fatalities in the retail industry, United States 1992-1996. *American Journal of Industrial Medicine*, 35(2), 186-191.

Peek-Asa, C., Howard, J., Vargas, L., & Kraus, J. F. (1997). Incidence of nonfatal workplace assault injuries determined from employer's reports in California. *Journal of Occupational and Environmental Medicine,* 39, 44–50.

Rennison, C. (2007). Reporting to the police by Hispanic victims of violence. *Violence and Victims,* 22, 754-772.

Riopelle, D. D., Bourque, L. B., Robbins, M., Shoar, K. I., & Kraus, J. (2000). Prevalence of assault in urban public service employment settings. *International Journal of Occupational and Environmental Health,* 6, 9–17.

Ross, C. E., & Mirowsky, J. (2001). Neighborhood disadvantage, disorder, and health. *Journal of Health and Social Behavior,* 42(3), 258-276.

Ruback, R. B., Outlaw, M. S., Menard ,K. S., & Shaffer, J. N.. (1999). Normative advice to campus crime victims: The effects of age, gender, and alcohol Use. *Violence & Victims*, 14(4), 381 – 396.

Sigler, R. T., & Johnson, M. I. (2002). Reporting violent acts to the police: A difference by race. *Policing: An International Journal of Police Strategies and Management,* 25(2), 274-293.

Simon, R., & Tardiff, K. (2008). *Textbook of Violence Assessment and Management.* Arlington, VA: American Psychiatric Publishing, Inc.

Taylor, A. B.,West, S. G., & Aiken, L. S. (2006). Loss of power in logistic, ordinal logistic, and probit regression when an outcome variable is coarsely categorized. *Educational and Psychological Measurement.* 66(2), 228–39.

Toscano, G., & Weber, W. (1995). *Violence in the Workplace*. Washington, DC: Bureau of Labor Statistics.

U.S. Department of Health and Human Services. (2009). *Healthy people 2010: Leading health indicators*. Retrieved November 18, 2008, from http://www.healthypeople.gov/lhi/.

U.S. Dept. of Justice, Bureau of Justice Statistics. (2008). *National crime victimization survey, 2005*. Conducted by U.S. Dept. of Commerce, Bureau of the Census. Ann Arbor, MI: Inter-university Consortium for Political and Social Research,

Weitzer, R., & Tuch, S. A. (2006). *Race and policing in America*. New York, NY: Cambridge University Press.

Wieclaw, J., Agerbo, E., Mortensen, P. B., Burr, H., Tüchsen, F., & Bonde, J. P. (2006). Work related violence and threats and the risk of depression and stress disorders. *Journal of Epidemiology and Community Health,* 60(9), 771-775.

Yehuda, R. (2002). Post-traumatic stress disorder. *New England Journal of Medicine,* 346(2), 108-114.

Chapter 3: Correctional nurses' risk of physical violence in the workplace

Abstract

While evaluations of nurses' workplace physical victimization have been done, correctional nurses are often excluded. This research estimates the incidence of workplace victimization among correctional nurses, identifies characteristics associated with victimization, examines if prevention techniques reduce risk, and examines nurses' perceived risk of victimization. Data from 172 correctional nurses were collected via a self-administered questionnaire. The annual incidence rate of workplace physical victimization was 10.4 per 100 person years, which is comparable to nurses in other fields and is higher than the rate for the overall workforce. Victimization rates varied by workers' age, sex, and race. Results indicate that violence prevention training should be targeted at higher risk groups; nurses in treatment units and those with patient/inmate contact.

The threat of physical violence against nurses has received attention in the academic literature and popular press. In 2000 the incidence rate of workplace violence injury for nursing and personal care facility workers was 25 per 10,000 full time workers compared to an overall private sector injury rate of 2 per 10,000 (OSHA, 2004). Rates may be even higher when only nurses are considered. In a national survey conducted by the American Nursing Association in 2001, 17% of the nurses reported being physically assaulted in the past year (ANA, 2002) while the European Nurses Early Exit Study (NEXT) found 22% of nurses reporting frequent violent workplace episodes (Estryn-Behar, et al., 2008). A study of 6,300 registered nurses practicing in the state of Minnesota estimated the incidence of physical assault to be 13.2 per 100 persons per year (Gerberich, et al., 2005).

Because of the tendency for prisons to deal with their problems internally, little is known about violence against correctional nurses or other employees. There are no statistics specific to correctional nurses available, and little is known about the demographic characteristics of this population (Muse, 2009). Data on assaults against correctional officers provides an indication of the risk that correctional nurses face. According to the Bureau of Justice Statistics (2001), following police officers, correctional officers have the second highest rate of workplace non-fatal incidents (156 per 1,000), over 12 times the rate for the overall workforce.

Even these high numbers may be underestimates. Crime under-reporting is a well-known phenomenon (Bouten, Goudriaan, & Nieuwbeerta, 2002) and under-reporting among nurses (Findorff, et al., 2004; Hesketh, et al., 2003; Morrison, 1999) and in institutional settings (Cheung, et al., 1997; Thackrey & Bobbitt, 1990) is prevalent, with estimates that

50% or more incidents go unreported. Underreporting is particularly a concern when estimates are based on official complaints, such as incident reports and workers compensation forms. It is estimated that more than 80 percent of all assaults on registered nurses go unreported (ANA, 2002) and Cooley (as cited in Wortley, 2002) estimates that the actual rate of victimization of prison employees is as much as five times that which is officially recorded. There are multiple reasons why nurses and correctional workers do not report victimization, including viewing violence as part of their job (McPhaul & Lipscomb, 2004; Rippon, 2000), believing that violence is an expected workplace hazard that does not require highlighting (Poster, 1996), and believing that nothing will change as a result of reporting the incident (Kozlowska, Nunn, & Cousens, 1997). Because of the tendency to underreport violent incidents, it has been difficult for researchers and practitioners to determine the prevalence of workplace violence being committed against correctional nurses.

There are many outcomes associated with victimization in the workplace including mortality, injury, stress, job dissatisfaction, an inability to perform job requirements, and job turn-over. Correctional nurses have the potential to be physically victimized in the workplace by multiple categories of offenders including prisoners (from here on referred to as clients), co-workers, supervisors, and non-medical prison staff. Of these populations, the literature indicates that nurses are most likely to be victimized by clients (Riopelle, et al., 2000).

Predictors of workplace victimization among nurses

Among nurses, various individual level demographic characteristics have been shown to be positively associated with an increased risk of workplace victimization. These include having less formal education (Flannery, Hanson, & Penk, 1994), being male (Flannery, Hanson, & Penk, 1994; Islam, et al., 2003; Rippon, 2000; Shields & Wilins, 2009), being a

licensed practical nurse compared to a registered nurse (Gerberich, et al., 2005), and having less job experience (Anderson, 2002; Davies & Burgess, 1988). Younger age has been associated with an increased risk of victimization (Gerberich, et al., 2004; Riopelle, et al., 2000) though some research has shown that the relationship disappears when experience is controlled (ISNA, 2002; Kratcoski, 1988).

Violence prevention training is often recommended as part of a comprehensive approach to work-related violence prevention, but there is little scientific evidence to support the effectiveness of such interventions in either the general working population (Anderson, 2002; Liss & McCaskell, 1994; Nachreiner, et al., 2005a; Simonowitz, Rigdon, & Mannings, 1997; Wilkinson, 2001) or specific to nurses (Nachreiner, et al., 2005a; Whittington, Shuttleworth, & Hill, 1996). Environmental controls, including personal protective equipment (Gerberich, et al., 2005) and the presence and enforcement of a workplace violence policy (Nachreiner, et al., 2005a) have been shown to have a protective effect among nurses.

Perceived risk of victimization

Anecdotally, correctional nursing has been viewed as riskier than other nursing disciplines though little research has been published to support this claim. Certain personal and environmental characteristics have been identified in the literature as affecting a person's perceived risk of victimization. Criminologists generally agree that older people, women, African-American/Blacks, people with low education, and people with low incomes are more fearful of crime (Box, Hale, & Andrews, 1988; Clemente & Kleiman, 1976; McConnell, 2003), though in some instances this elevated fear is not proportional to their risk. Fear of crime has been shown to be common among nurses and within correctional settings. A 2001 survey of registered nurses conducted by the American Nurses Association found that 25% of

the nurses surveyed reported a fear of sustaining work-related assault (ANA, 2001) and fear of workplace victimization has been shown to be prevalent among correctional officers (Mitchell, et al., 2000).

Nurses are generally the primary health care providers in prisons (Reimer, 2007). With a steadily increasing prison population, a growing number of health professionals are needed to care for inmates (Norman & Parrish, 2002). Because concerns over workplace safety have been shown to be a major contributor to nurses' desire to leave the profession or to practice in a different setting (ISNA, 2002), the growing demand for correctional nurses intensifies the existing need to better understand the risks of violence, real and perceived, that correctional nurses face. Having an understanding of correctional nurses' experiences with workplace violence is necessary in order to prevent injury, improve job satisfaction, and increase retention.

The goals of this research were to 1) estimate the annual incidence of physical violence against correctional nurses, 2) examine the associations between employee characteristics and risk of workplace victimization, 3) examine the associations between work characteristics and risk of workplace victimization, 4) examine if known injury prevention techniques reduce nurses' risk of workplace victimization, and 5) examine nurses perceived risk of physical victimization in the workplace. To address these goals, a survey of Washington State correctional nurses was conducted. Results are reported in this article.

Methods

Study setting and subjects

This study took place within the Washington State Department of Corrections (DOC) prison facilities. The DOC is comprised of 15 facilities with custody levels ranging from

minimum to maximum security. Many facilities house more than one custody level. Three facilities house women and the remainder house male clients. Thirteen facilities provide substance abuse and/or mental health treatment, though nurses in these units work with both treatment and non-treatment clients. The number of DOC nurses at a single facility ranges from 1 to 59. Facilities range in capacity from 80 residents to 2,446 and are all near or above capacity.

Subjects for this study were all nurses (full and part time) identified by the DOC human resources department as working with clients at any of the DOC facilities as of October 2008 and reporting to the DOC Department of Health Services (N=289). This population included nurses at all levels of management as well as specialized and "general practice" nurses. Subjects must have worked at the DOC for at least four weeks in the past twelve months. Because of anticipated differences, nurses who work at the DOC via agency contracts were excluded from this study. This study was approved by the University of Washington Institutional Review Board and the Washington State Department of Corrections Research Review Committee

Data collection

Beginning January 1, 2009 data were collected via a self-administered questionnaire designed by the research team. The questionnaire was based on key informant interviews and the workplace violence literature. Subjects had the option to anonymously complete the questionnaire either electronically or as a hardcopy. Lead nurses at each facility were engaged and, with material provided by the research team, presented the study to their fellow nurses. Lead nurses at each facility distributed hard copies of the questionnaire in a postage paid

return envelope to all eligible nurses during scheduled meeting times. Nurses had the option of completing the questionnaire then or during down time at work.

Using contact information provided by the DOC, the hardcopy was followed by an email invitation sent to their work email account that included a link to the questionnaire online. Online questionnaires were completed through a protected site using Zoomerang software and only the lead researcher had access to the data. Questions in the on-line questionnaire were identical to the hard copy. All questionnaires included a detachable/printable informed consent and a list of local and national victimization resources available to subjects. All subjects received two follow up emails regardless of the mode they used to complete the survey. The emails reminded them of the study and thanked them for their involvement. Lead nurses also communicated to the nurses the researcher's appreciation for their participation. Responses were coded and entered into STATA for data management. Coding was validated by a coder who compared a random 5% of all completed questionnaires. The kappa statistic for overall intercoder agreement was 0.98 which would indicate almost perfect agreement (Landis & Koch, 1977). All study results were presented to key stakeholders.

Questionnaire

Our questionnaire was based on the Minnesota Nurses Study (Gerberich, et al., 2004) in order to make direct comparisons. The Minnesota Nurses Study was the first study of its kind designed to identify rates of workplace violence among practicing RN and LPN's and to gain a comprehensive understanding of nurses' experiences of workplace violence. Gerberich et al. (2004) surveyed 6,300 practicing nurses in Minnesota to ascertain their 12 month exposure to physical and non-physical violence, risk factors for victimization, and

consequences of violent events. Portions of the Minnesota Nurses Study questionnaire have been validated (Nachreiner, et al., 2005b). Our questionnaire included additional questions we developed to reflect the needs of DOC administrators, workplace violence literature, and the literature on violence in correctional settings. Before implementation, the questionnaire was pretested on 10 correctional nurses outside of Washington State and on 7 Washington DOC nurses who were excluded from our sample because they did not have direct client contact. Participants were cognitively debriefed and minor revisions were made to the questionnaire.

The questionnaire consisted of 126 closed questions and was divided into five major themes: experiences of physical violence, characteristics of the victimization event, perceived risk of victimization, violence prevention, and respondent demographic and employment characteristics. Data on non-physical violence (threats, verbal abuse, and sexual harassment) were also collected and results are presented elsewhere (Veele-Brice, 2010).

Measures

The primary dependent variable, physical victimization status, was based on the question, "Were you the target of a work-related physical assault at any time during the last 12 months?" Nurses who answered yes were asked further questions to determine the frequency of victimization and to describe the incident. These included questions about the severity of the incident, location, perpetrator, and reporting practices. In order to determine career exposure, nurses were also asked if they were the target of a work-related physical assault at any time "before the last 12 months."

Other dependent variables focused on nurses' perceived risk of victimization, determined by their response to two questions, "How do you perceive your risk of being physically assaulted at your job compared to people in other professions?" and "...compared

to nurses in other fields?" Likert scale responses ranged from 0 ("No risk") to 4 ("Much higher"). Perceived risk was also measured by a participant's response on a four point Likert scale of "Strongly disagree" (0) to "strongly agree" (3) to the statement "I fear that in the next year I will be hit, kicked, grabbed, shoved or pushed at work."

Our survey also gathered information evaluating key independent variables including respondent demographic and work characteristics. Items pertaining to respondents' self-reported categorical age (<40, 40-49, 50-59, 60+), race/ethnicity (based on U.S. Census categorizations), and sex (binary male/female) were included in the survey. Characteristics of training and job experience were measured by number of years as a nurse, years in corrections, having a military background, and primary professional activity.

Other independent variables reflecting the **3 E's** of injury prevention were examined (Christoffel & Gallagher, 2005): the completion of violence prevention **education**, **enforcement** of workplace violence policy, and **environmental** violence deterrents. Educational training was measured with indicators of violence prevention training while employed at the DOC and of training within the past 12 months. Violence prevention policy and enforcement was measured by knowledge of a violence prevention policy, belief that peers were aware of the policy, perceived level of institution adherence to the policy, and perceived level of policy enforcement. Environmental protections included the use of personal protective equipment, accessible forms of communication among coworkers, and being under continuous observation.

Analytic strategy

To determine if questionnaire respondents are representative of the overall DOC nursing population, descriptive demographic information comparing the study population and

respondents is presented. Respondents' data is presented by physical victimization status. Data on the study population was provided by the DOC human resources department.

Prevalence and annual incidence rates were calculated to determine the frequency of physical violence against correctional nurses. These same measures were also calculated by the victim level demographic characteristics sex, race/ethnicity, and age. All measures were calculated for the twelve months prior to the questionnaire going into the field (January – December, 2008). Point prevalence was reported per 100 nurses and victimization rates were calculated per 100 person years. Person years were calculated by accounting for how many of the previous twelve months the respondent worked for the DOC and whether they worked full or part time. Full-time employees were assumed to work a 40-hour work week and part-time employees were assumed to work a 20-hour week. A person-year represents one full-time employee working for one full year. Of the completed questionnaires, 15% were missing information on the number of months worked in the past year and/or whether they worked full or part time. In order to retain these cases in our rate calculations we used an imputation by chained equations technique to predict the amount of time each of these cases contributed (Wood, White & Royston, 2008; Ambler, Omar, & Royston, 2007). Using the *ice* command in STATA, five replications of the data were generated using an imputation prediction model of respondents' sex, age, number of years in nursing, and facility where they work.

Descriptive and bivariate analyses were conducted to better understand the relationships between victimization status and the individual-level demographic characteristics age, race (due to limited variability, recoded as binary White and Person of Color), and sex. Tests were also run to identify relationships between victimization status and work characteristics, the three prevention categories (environment, education, and

enforcement), and perceived risk of workplace victimization. Logistic regression equations were modeled to further explore these relationships while controlling for demographic and work characteristics. Analyses were conducted in STATA version 9 (Stata Corporation, 2006) using the *svyset* command. To control for within institution correlation the *cluster* command was used.

Results

Of the total study population (N=289), 175 nurses responded to the questionnaire. Fifty eight percent were completed electronically, the remaining 42% in hard-copy. No statistically significant demographic differences existed between mode of response. One respondent was excluded for not meeting our inclusion criteria of working for the DOC for at least four weeks and two were excluded because of insufficient information (over 90% of data missing). This left a total of 172 usable questionnaires, a response rate of 59.5%. Not every respondent completed all questions resulting in some variability in the response rate by item. These differences are indicated in the text and tables. There were no statistically significant differences between the study population and questionnaire respondents on any demographic variables (Table 3.1) and all facilities were represented.

Among respondents, 11% reported at least one incident of physical victimization in the last year and 17% reported ever being a victim of physical workplace violence (3.2). When worker time was accounted for, the annual incidence rate of workplace physical victimization among correctional nurses was 10.4 per 100 person years. Of the 19 respondents reporting physical victimization in the previous year, an estimated 42 incidents occurred during that time. The number of events ranged from one to ten with the majority (10) of

respondents reporting only one incident. Of these incidents, 42% resulted in injuries, including cuts, burns, and exposure to bodily fluids.

Men, People of Color, and workers at the age extremes had higher rates of victimization relative to their counterparts (Table 3.2). These differences were not statistically significant, likely due to the limited variability within these populations. Only one measure of work experience and work characteristics was statistically significant (Table 3.3). Nurses who work in treatment units of a facility were significantly more likely to be physically victimized than nurses who work in non-treatment areas. Nurses who reported being a victim of physical workplace violence prior to working for the DOC were significantly more likely to be victimized in the previous twelve months than nurses who had not been victimized ($p< 0.05$). This relationship diminished, though remained significant, after the number of years as a nurse was controlled for ($p=0.05$) (results not presented in tabular form).

Characteristics of perpetrators and of the incident

In all cases of physical victimization there was only one perpetrator and the majority, 88%, were clients. Perpetrators were more likely to be male (79%), not surprising since 90% of respondents worked in male facilities. All of the nurses victimized by females worked in female facilities and in all cases, except for one, the violence was perpetrated by a client. The majority of perpetrators were identified by the victim as being impaired either by disease and illness (64%) or prescribed medication (20%). Of the incidents described in the questionnaire, 85% of victimization incidents were reported to a supervisor. Incidents were just as likely to be reported in writing (68%) as orally (64%) and 36% of respondents reported using both modes. Victims who perceived the offender to be impaired were significantly less likely to report the event ($\chi^2=13.5$, $p<0.001$).

Physical assaults were most likely to occur in clients' rooms and were almost always witnessed by a third party (89%). As expected, victimization was least likely to occur during the late night and early morning hours (1am-9am), there was no difference in the number of events occurring during the day versus evening shifts, and no difference existed between events occurring on weekdays compared to weekends.

Perceived risk of victimization

The vast majority of respondents perceived their risk of physical victimization in the workplace to be "much" (43%) or "somewhat" (40%) higher than "workers in other professions" and "much" (36%) or "somewhat" (39%) higher than "nurses in other fields." This heightened perception of risk is even stronger for respondents who have been victims of physical violence in the workplace. Although not shown in the tables, 96% of nurses with a history of physical victimization perceived their risk of victimization to be higher than other professions while 80% of non-victimized nurses felt this way (χ^2= 4.56, p=0.03). There was no significant difference between victims and non-victims regarding perceived risk relative to nurses in other fields (83% and 73%, respectively; χ^2= 2.65, p=0.44). Nurses who were victims of workplace violence were twice as likely as non-victims to agree that they were fearful of being physically assaulted at work in the next year (57% agree or strongly agree compared to 26%). This relationship remained significant in multivariate analyses when victim demographics were controlled (p<0.01). A little over 50% of respondents agreed that workplace violence was a problem in the facility where they worked and 65% believed that violence could be prevented.

Injury prevention

As an educational component of their continued education, correctional nurses in our study population are expected to complete annual workplace violence trainings: 84% of respondents reported having ever received educational training and 67% reported receiving training in the last year. New hires were less likely to report ever receiving training, but there was no difference between new and old hires or between facilities in receiving training in the last year. Respondents who were victims of physical violence were significantly less likely to report having received training in the past year compared to non-victims (40% and 72%, respectively; $\chi^2=6.8$, $p=0.03$).

Personal alarms, direct observation, and accessible forms of communication have all been shown to be effective environmental modifications that reduce workplace violence and minimize the severity of violent events. Use of personal alarms is not part of the DOC's violence prevention strategy and only 14% of respondents reported always carrying a personal alarm. The majority of respondents reported always or sometimes having an accessible form of communication and about 80% of respondents reported being directly observed. In regards to prevention through enforcement, the majority of respondents (73%) agreed that violence prevention policies were strongly enforced at their job and 79% of respondents reported that their coworkers adhere to the violence prevention policy. There were no statistically significant differences between victims and non-victims in the measures related to prevention. Besides the results from the perceived risk analysis, no statistically significant results were found in the multivariate analysis (results omitted). This is likely due to the infrequency of physical assault in our study population.

Discussion

This population-based study identified the magnitude of workplace physical violence among Washington State correctional nurses and identified factors related to potential risk and prevention. Correctional nurses' rates of physical victimization were much higher than the overall workforce but were comparable to nurses in other fields. This supports previous research indicating that workplace violence is a serious concern for nurses and further informs the discussion by showing that correctional nurses' risk for physical victimization in the workplace is no higher than nurses practicing in many other fields. Among nurses within the correctional setting, employees working in treatment units had a higher risk of victimization, but workplace violence training reduced their, and all workers, risk.

By replicating portions of the Minnesota Nurses questionnaire we are able to make direct comparisons between our findings and the Minnesota results (Gerberich, et al., 2004). Anecdotally nurses have expressed a belief that correctional nursing holds an increased risk for victimization, a belief expressed by the nurses we surveyed as well. Interestingly, while 78% of respondents agreed that correctional nurses are at a higher risk for work-related violence than nurses in other fields, we found no important difference in the rates of physical victimization in our population (10.4 per 100 person years) and the Minnesota nurses study (unadjusted rate 13.0) (Gerberich, et al., 2004). This indicates that something other than the actual degree of risk is influencing respondents' risk perception. As part of our study, we analyzed non-physical violence in the same study population. As discussed elsewhere, we found that among correctional nurses the rate of physical violence was nearly seven times lower than the rate of non-physical violence (Veele-Brice, 2010).

In the past year 30% of respondents had witnessed a coworker being physically victimized and 87% had been made aware of an event. This is less frequent than nurses in

other environments, as reported by the Minnesota Study. There 49% of nurses (from various fields) reported witnessing patients perpetrating physical assault in the previous month (Nachreiner, Gerberich, Ryan, & McGovern, 2007). While the rate of victimization and observation of victimization were lower for correctional nurses in our study, there nonetheless was a perception of higher risk. This perception may be due to a lack of awareness of other nurses' risk as well as the culturally engrained perception of prisons as dangerous places (McCausland & Parrish, 2002). Better understanding of correctional nurses' perceived and actual risk for victimization will be useful for managers attempting to recruit and retain nurses to work in correctional settings. An appreciation that correctional nurses perceive their risk to be higher than other nurses, regardless of the research that refutes this belief, is necessary for managers to better relate to employees and to address their concerns.

Although this study only included correctional nurses, these results can also be used for the recruitment of nurses to correctional health care. Correctional nursing generally provides higher salaries and more autonomy than other forms of nursing, yet recruitment to the field can be challenging due, in part, to perceptions that prisons are dangerous settings (McCausland & Parrish, 2002). By showing that these employment benefits are not at the cost of employee safety, our study may indirectly aid managers in their efforts to recruit correctional health care nurses.

Similar to the Minnesota Study and other studies we found that the majority of violence was perpetrated by clients (Gerberich, et al., 2004; Riopelle, et al., 2000), though more of our respondents reported non-client perpetrators than in the Minnesota study (12% vs 4%). Relative to the Minnesota study, perpetrators in our study were 3.5 times as likely to be identified as being impaired due to disease or illness and 2.4 times as likely to be impaired

due to prescribed medication (Gerberich, et al., 2004). While nurses in the Minnesota study worked in diverse locations including hospitals, nursing homes, and public health agencies, results from their study and ours indicate that the most common place for assaults to occur was in clients' rooms (63% vs 61%) and that perpetrators are primarily male (Eisele, Watkins, & Matthews, 1998; Gerberich, et al., 2004) though disproportionately so in our setting.

It is important to emphasize that correctional nurses' rates of workplace physical violence are less than or comparable to nurses in other high risk settings such as psychiatric, long-term, and emergency care (Gerberich, 2004), but these rates are still high and efforts should be taken to reduce victimization in the workplace. Within our population, receiving workplace violence training within the past year was associated with reduced odds of physical victimization. This is contrary to the literature that has shown workplace violence training has little or no protective effect (Nachreiner, et al., 2005a; Whittington, Shuttleworth, & Hill, 1996). This discrepancy between our results and other studies may be due to differences in the workplace violence training content, an area we did not explore in detail. Although we cannot draw any conclusions about causality, our findings suggest that workplace violence prevention programs may be effective, and we would recommend that workplace violence prevention training be provided to all correctional nurses, with a focus on the subpopulations that we've identified as being at high risk; that is, nurses working with clients and those working in treatment units of the prison. Further research should be done to identify effective workplace violence prevention trainings and their applicability across various job settings.

While many of our findings were comparable to similar studies of non-correctional nurses, we found some interesting differences as well. In contrast to the Minnesota study and other studies that have found age and experience to be associated with an increased risk for

victimization, we found no significant differences in victimization by age, number of years in nursing, length of time working in corrections, military experience, or primary professional activity. This may be because our study population was generally older than the overall nursing workforce (USDHHS, 2006) and because there was less of a range of professional activities among our study's nurses. Additionally, because so many of the DOC nurses have worked in other nursing fields before working for the DOC, age may not be a sensitive marker for experience and maturity. Unlike the overall workforce, time of day, shift, and day of the week were not associated with risk. Given the regimented nature of correctional settings this is not surprising.

Another important finding for correctional nursing managers and researchers is the low victimization reporting rate. The rate of physical violence reported to a supervisor was below what the DOC desired, though about 25% higher than nurses in the Minnesota study (69%). This finding suggests the need for caution in drawing conclusions about the prevalence of workplace violence against correctional nurses (and perhaps nurses in other settings) based on official reporting. Low reporting rates and respondents' disinclination to report perpetrators they perceived as being impaired implies that, under certain circumstance, violence is viewed as a "normal" part of the job and may be "excused." This warrants further study.

Although nearly twice as many nurses in our study (51%) compared to the Minnesota study (27%) reported that violence was a problem in their workplace, a larger percent of our population believed that workplace violence was preventable (65% vs 52%). Even though correctional nurses perceive their risk for victimization to be higher, respondents' agreement that workplace violence against correctional nurses can be prevented indicates that they view

violence in their workplace as modifiable. This is a positive sign for anyone attempting to implement a violence prevention program in such a setting.

Limitations

The cross-sectional nature of our study does not allow for any conclusions about causality to be made and prevents us from determining the exact timing of events. Because of this, telescoping (i.e. respondents reporting events outside of the determined time frame) may be a concern, leading our annual rates of victimization to be an overestimate. We attempted to minimize recall bias by limiting recall to events within the past 12 months. Additionally, because the data is self-reported it is possible that our finding may be the result of differential recall between victims and non-victims.

Because respondents were anonymous there was no way to determine if they submitted multiple questionnaires. Notices were given in both the online and hard copy cover letters to choose only one mode. Because completion of the questionnaire was somewhat time and labor intensive, we believe it is unlikely that participants completed it twice. Our inability to track former employees who met our eligibility criteria of working 4 or more weeks in the past year but who had left the DOC may have affected our results, particularly if they left due to a workplace violence event, though we believe this was a very small proportion of our population.

Finally, our small sample size and low incidence of physical violence prevented us from having adequate statistical power to make comparisons between our results and the Minnesota nurses study or to detect differences in multivariate analyses (for 80% power we would have needed 198 cases).

Given our inability to conduct multiple mailings or provide tangible incentives, our study response rate of 60% is high. We believe that this is indicative of the questionnaires' relevance to correctional nurses. Because of the unique characteristics of institutional settings it would be inappropriate to generalize our findings to nurses in other fields. Our results however are perhaps generalizeable to correctional nurses outside of our study population, though this must be done with caution since Washington State prisons have some unique features, such as the presence of treatment units, which prisons elsewhere may not have. Still, while treatment units do operate differently than the general prison population, the patients served in treatment units (diagnosed mentally ill, substance abusers, and sex offenders) are present in all prison populations even if they do not receive specialized care.

Conclusion

This paper contributes to a better understanding of correctional nurses' experiences of physical workplace violence. Results indicate that correctional nurses' rates of physical victimization are much higher than the overall workforce but are comparable to nurses in other fields. As a way to reduce injuries and improve employee morale and job satisfaction, attempts should be made to reduce physical violence in the workplace. Workplace violence training targeted at high risk populations, including nurses working with clients and in treatment units should be instituted. Correctional nurses' perception that their field is riskier than that of other nurses has clear implications for the recruitment and retention of correctional nurses, as communicating risk and prevention policies is necessary to change perceptions. Having reliable information on the incidence of workplace violence should aid in the development of appropriate prevention approaches.

While correctional settings are often perceived to be dangerous work environments, our findings indicate that, while more dangerous compared to the overall workforce, the risk is comparable to the high risk of nurses in other healthcare settings. Correctional settings are unique environments for practicing medicine, yet our findings indicate that correctional nurses' experiences of workplace violence are not that different from non-correctional nurses.

Table 3.1
Demographic Characteristics of Correctional Nurses in Washington State Compared to Survey Respondents Who Were and Were Not Physically Victimized in the Past Year

	Study population	Survey respondents with available demographic data (N=146)	
	All correctional nurses (N=289)	Nurses physically victimized (N=14)[a]	Nurses not physically victimized (N=132)
Female	81%	71%	80%
Age [b]			
<40	16%	29%	13%
40-49	24%	21%	25%
50-59	41%	21%	39%
60+	18%	29%	22%
Race/Ethnicity[c]			
White	88%	86%	89%
Black	1%	0%	1%
American Indian	<1%	0%	0%
Asian	4%	0%	3%
Pacific Islander	--	7%	1%
Hispanic /Latino	6%	0%	5%
Multi-racial	--	7%	2%

Note. DOC records did not include codes for Pacific Islander or Multi-racial.
No statistically significant differences ($p \leq 0.05$) found between study population and survey respondents.
[a] Demographic data missing for five victims (N=14).
[b] N=130 for nurses not physically victimized.
[c] N=131 for nurses not physically victimized.

Table 3.2

Annual Incidence, Annual Prevalence, and Career Prevalence Rates of Workplace Physical Violence Victimization by Demographic Characteristics of Correctional Nurses in Washington State, 2009

	Annual incidence rate per 100 person years	Annual prevalence per 100 correctional nurses	Career prevalence per 100 correctional nurses
Overall	10.4	11.0	17.0
Male	12.5	13.3	10.0
Female	7.5	8.6	17.2
Age <40	17.6	19.0	23.8
Age 40-49	7.7	8.3	8.3
Age 50-59	5.3	5.6	13.2
Age 60+	11.7	12.1	24.2
White	8.5	9.4	15.7
Person of Color	15.2	15.9	20.5

Table 3.3

Differences in Work Experience and Work Characteristics between Washington State Correctional Nurse Victims and Non-victims of Physical Workplace Violence

	Nurses physically victimized (N=14)	Nurses not physically victimized (N=131)
Experience (Mean SD)		
Years as a nurse	16.6 (9.9)	20.5 (11.1)
Years as correctional nurse	8.7 (7.7)	8.3 (7.2)
Military background (%)	21%	21%
Facility characteristics		
Treatment section of facility	86%*	50%*
Female facility	7%	13%
Primary professional activity[a]		
Patient care	86%	76%
Case management	7%	6%
Administration	0%	6%
Supervisor	14%	11%
Research	7%	< 1%
Teaching	28%	12%
Other	7%	14%
Work characteristics[b]		
Full time	73%	88%

[a] Results sum to over 100% because respondents could select all options that applied.

[b] N=15 physically victimized, N=133 not victimized.

* Statistically significant difference ($z=2.3$, $p<0.05$).

Chapter 3 Notes

Ambler, G., Omar, R.Z., & Royston, P. (2007). A comparison of imputation techniques for handling missing predictor values in a risk model with a binary outcome. *Statistical Methods in Medical Research, 16*(3), 277-298.

American Nurses Association (ANA). (2002). *Preventing workplace violence*. ANA. Washington, DC.

American Nurses Association. (2001). *Nursing world health and safety survey*. Warwick, RI: Cornerstone Communications Group.

Anderson, C. (2002). Workplace violence: are some nurses more vulnerable? *Issues in Mental Health Nursing, 23*(4), 351-366.

Bouten, E., Goudriaan, H., & Nieuwbeerta, P. (2002). Violence Prevention Program for Adolescents. *American Journal of Health Behavior, 24*(4), 268-280.

Box, S., Hale, C., & Andrews, G. (1988). Explaining fear of crime. *British Journal of Criminology, 28*(3), 340-356.

Bureau of Justice Statistics. (2001). *Violence in the Workplace, 1993-1999.* Washington, D.C.: U.S. Department of Justice.

Brecklin, L. E. & S. E. Ullman. (2001). The role of offender alcohol use in rape attacks: An analysis of National Crime Victimization Survey data. *Journal of interpersonal violence, 16*, 3-21.

Cheung, P., Schweitzer, I., Tuckwell, V., & Crowley, K. C. (1997). A prospective study of assaults on staff by psychiatric in-patients. *Medical Science Law, 37*(1), 46-52.

Christoffel, T., & Gallagher, S.S. (2005). *Injury Prevention and Public Health: Practical Knowledge, Skills, and Strategies* (2nd ed.). Gaithersburg, MD: Aspen Press.

Clemente, F., & Kleiman, M. (1976). Fear of crime among the aged. *The Gerontologist, 16*, 207–210.

Davies, W. & Burgess, P. W. (1988). Prison officers' experience as a predictor of risk of attack: and analysis within the British prison system. *Medical Science and Law, 28*(2), 135-138.

Eisele, G. R., Watkins, J. P., & Matthews, K. O. (1998). Workplace violence at government sites. *American Journal of Industrial Medicine, 33*, 485-492.

Estryn-Behar, M., van der Heijden, B., Camerino, D., Fry, C., Le Nezet, O., Conway, P., & Hasselhorn, H. (2008). Violence risks in nursing-results from the European "NEXT' study. *Occupational Medicine, 58*(2), 107-114.

Findorff, M. J., McGovern, P. M., Wall, M., Gerberich, S. G., & Alexander, B. (2004). Risk factors for work related violence in a health care organization. *Injury Prevention, 10*, 296–302.

Findorff-Dennis, M. J., McGovern, P.M. Bull, M., & Hung, J. (1999). Work related assaults: the impact on victims. *American Association of Occupational Health Nurses Journal, 47*, 456-465.

Flannery, R. B., Hanson, M. A., & Penk, W. E. (1994). Risk factors for psychiatric inpatient assaults on staff. *Journal of Mental Health Administration, 21*(1), 24-31.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser, M. S., ... Watt, G. D. (2004). An epidemiological study of the magnitude and consequences of work-related violence: The Minnesota nurses' study. *Occupational and Environmental Medicine, 61*, 495-503.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser, M. S., Ryan, A. D., Mongin, S. J., Watt, G. D., & Jurek, A. (2005). Risk factors for work-related assaults on nurses, *Epidemiology*, *16*(5), 704-709.

Gray, E., Jackson, J., & Farrall, S. (2008). Reassessing the fear of crime. *European Journal of Criminology, 5*(3), 363-380.

Hesketh, K., Duncan, S., Estabrooks, C. A., Reimer, M., Giovannetti, P., Hyndman, K., & Acorn, S. (2003). Workplace violence in Alberta and British Columbia hospitals. *Health Policy, 63*, 311-321.

Hoel, H., Einarsen, S. & Cooper, C. (2003). Organisational effects of bullying. In S. Einarsen, H. Hoel, D. Zapf & C. Cooper (Eds), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. London: Taylor & Francis.

Islam, S. S., Edla, S. R., Mujuru, P, Doyle, E. J., & Ducatman, A. M. (2003). Risk factors for physical assault: State-managed workers' compensation experience. *American Journal of Preventive Medicine*, *25 (*1), 31-37.

ISNA Bulletin. (2002). ANA on-line health and safety survey key findings. *ISNA Bulletin, 28*(2), 17.

Kozlowska, K., Nunn, K., & Cousens, P. (1997). Training in psychiatry: an examination of trainee perceptions. *The Australian and New Zealand journal of psychiatry, 31*(5), 628-640.

Kratcoski, P. C. (1988). The implications of research explaining prison violence and disruption. *Federal Probation, 52*(1), 27−32.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 59-74.

LeBlanc, M., & Kelloway, E. J. (2002). Predictors and outcomes of workplace violence and aggression. *Applied Psychology, 87(3),* 444-453.

Liss, G. M., & McCaskell, L. (1994). Injuries due to violence. *Journal of the American Association of Occupational Health Nurses, 42*, 384–390.

McCausland, R., & Parrish, A.A. (2002). The context of prison nursing. In: Norman, A., Parrish, A. (Eds.), *Prison Nursing*. Oxford, Blackwell Science, pp. 1–13.

McConnell, E. H. (2003). Fear of crime. In L. J. Moriarty (Ed.), *Controversies in victimology*. Cincinnati, OH: Anderson.

McPhaul, K. M., & Lipscomb, J. A. (2004). Workplace violence in health care: Recognized but not regulated. *The online journal of issues in nursing, 9*.

Mitchell, O., MacKenzie, D. L., Styve, G. J., & Gover, A. R. (2000). The impact of individual, organizational, and environmental attributes on voluntary turnover among juvenile correctional staff members. *Justice Quarterly*, *17*, 333–357.

Morrison, L. J. (1999). Abuse of emergency department workers: An inherent career risk or a barometer of the evolving health care system? *Canadian Medical Association Journal, 161*(10,) 1262-1263.

Muse, M. V. (2009). Correctional nursing: The evolution of a specialty. *Correct Care, 15*(4), 328-334.

Nachreiner, N. M., Gerberich, S. G., Ryan, A. D., & P. M. McGovern. (2007). Minnesota Nurses' Study: Perceptions of Violence and the Work Environment. *Industrial Health*, 45, 672-678.

Nachreiner, N. M., Gerberich, S. G., McGovern, P. M., Church, T. R., Hanse, H. E., Geisser, M. S., & Ryan, A. D. (2005a). Impact of training on work related assault. *Research in nursing and health, 28*(1), 67-78.

Nachreiner, N. M., Gerberich, S. G., McGovern, P. M., Church, T. R., Hanse, H. E., Geisser, M. S., & Ryan, A. D. (2005b). Relation between policies and work related assault:Minnesota Nurses' Study. *Occupational and Environmental Medicine, 62*, 675-681.

Nhiwatiwa, F. G. (2003). The effects of single session education in reducing symptoms of distress following patient assault in nurses working in medium secure settings. *Journal of psychiatric and mental health nursing, 10*(5), 561-568.

Norman, A. & Parrish, A. (2002). *Prison nursing*. Oxford, Blackwell Science.

Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. (2004). *Guidelines for Preventing Workplace Violence for Healthcare and Social Workers*. OSHA 3148-01R.

Poster, E. (1996). A multinational study of psychiatric nursing staffs' beliefs and concerns about work safety and patient assaults. *Archives of psychiatric nursing, 10*(6), 365-373.

Reimer, G. R. (2007). Transforming correctional health care through advanced correctional nursing education. *Journal of correctional health care, 13*(3) 163-169.

Riopelle, D. D., Bourque, L. B., Robbins, M., Shoar, K. I., & Kraus, J. (2000). Prevalence of assault in urban public service employment settings. *International Journal of Occupational and Environmental Health, 6,* 9–17.

Rippon, T. J. (2000). Aggression and violence in health care professions. *Journal of Advanced Nursing, 31*, 452-460.

Royal College of Nursing, 2001. *Caring for Prisoners*. RCN, London.

Schaufeli, W. B., & Peeters, M. C. W. (2000). Job stress and burnout among correctional officers: A literature review. *International Journal of Stress Management, 7*, 19-48.

Shields, M., & Wilins, K. (2009). Factors related to on-the-job abuse of nurses by patients. *Health Reports, 20*(2), 7-21.

Simonowitz J. A., Rigdon, J. E., & Mannings, J. (1997). Workplace violence. Prevention efforts by the occupational health nurse. *American Association of Occupational Health Nurses Journal, 45*(6), 305–318.

StataCorp. (2006). *STATA Statistical Software*. College Station, TX: Stata Corporation, version 9.

Thackrey, M., & Bobbitt, R. G. (1990). Patient aggression against clinical and nonclinical staff in a V A medical center. *Hospital and Community Psychiatry, 41*, 195-197.

Veele-Brice, S., Martin, D., Spigner, C., & Wickizer, T. (under review). Not in my job description: Correctional nurses' experiences of workplace non-physical violence.

U.S Department of Health and Human Services (USDHHS). (2006). *The registered nurse population.* Retrieved from http://bhpr.hrsa.gov/healthworkforce/rnsurvey04/

Whittington, R., Shuttleworth, S., & Hill, L. (1996). Violence to staff in a general hospital setting. *Journal of Advanced Nursing, 24*, 326-333.

Wilkinson, C. W. (2001). Violence at work: A business perspective. *American Journal of Preventive Medicine, 20*, 155–160.

Wood, A., White, I., & Royston, P. (2008). How should variable selection be performed with multiply imputed data? *Statistics in Medicine, 27*(17), 3227-3246.

Wortley, R. (2002). *Situational prison control: Crime prevention in correctional institutions.* Cambridge, UK: Cambridge University Press.

Chapter 4: Correctional nurses' experiences of non-physical workplace violence: Threats, verbal abuse, and sexual harassment as occupational hazards

Abstract

Non-physical workplace violence is a problem in health care and correctional settings, yet research on correctional nurses' risks and behaviors in response to events is scarce. In a survey of 172 correctional nurses (response rate 60%), 80% reported at least one incident of non-physical workplace violence in the prior twelve months. Verbal abuse was the most common with an annual incidence rate of 76.4 per 100 person years followed by threats (49.4 per 100) and sexual harassment (24.4 per 100). Victimization risk varied by respondent's race and sex. While workplace violence training was not preventive, the majority of respondents took some form of action to diffuse the situation when they or a coworker were victimized.

Background

Work related violence is a concern among health care workers (Lipscomb, 1999; NIOSH, 2002) with the research often focusing on nurses (Catlette, 2005; Gerberich, Church, McGovern, et al., 2005; Kindy, Petersen, & Parkhurst, 2005) due to their high rates of victimization (US DOL, 2006; US DOJ, 2001). While historically much of the research has been on physical violence (OSHA, 2004; ANA, 2001), a growing body of research has been published exploring nurses' experiences of non-physical workplace violence and its long term effects (Gates, 2004; Gerberich, et al., 2004; Catlette, 2005). This research often excludes correctional nurses. Indicators of workplace violence best practices also generally exclude correctional nurses, and little has been done to explore the behaviors employed by nurses at the time of non-physical victimization. This paper aims to describe the prevalence and characteristics of non-physical workplace violence against correctional nurses working in the Washington State Department of Corrections and to explore variations in the self-protective behaviors employed by correctional nurses in response to non-physical victimization against themselves and their coworkers.

Non-physical violence is commonly divided in to three categories; verbal abuse, threats, and sexual harassment. Using Gerberich, et al.'s (2004) definitions, verbal abuse occurs when "someone yells or swears at you, calls you names, or uses other words intended to control or hurt you;" a threat occurs when someone "uses words, gestures, or actions with the intent of intimidating, frightening, or harming you (physically or otherwise);" and sexual harassment occurs when "you experience any type of unwelcome sexual behavior (words or actions) that creates a hostile work environment." For the purposes of this paper we've

defined work related events to include any activities associated with the job or events that occurred in the work environment.

Verbal abuse has been identified as the most common form of non-physical violence experienced by nurses (Alexander, 2004) followed by threats. Gerberich, et al. (2005) reported that 34% of RN's and LPN's are verbally abused and 17% are threatened in the workplace annually. Due to the many challenges in defining and recording sexual harassment for research purposes (Gumport, 2003), estimations of prevalence range greatly with some studies reporting rates ranging from 7% annually (Gerbereich, et al., 2004) to 60% career prevalence (Duldt, 1982). While it is extremely difficult to precisely estimate the frequency of sexual harassment against nurses, some authorities contend that nurses have the highest rate of sexual harassment of any profession (Madison & Minichicello, 2001).

Consequences of Non-Physical Workplace Violence

While non-physical events do not have the immediate health concerns associated with physical violence, they are far more common (Johnson & Indvik, 2006; Keashly, 2001) and are associated with many serious repercussions for the individual and the workplace. In a 2005 systematic review of the non-somatic consequences of patient violence on nurses, researchers found that anger, anxiety and guilt were the most common consequences (Needham, et al., 2005). Nurses who have been exposed to non-physical violence have also been shown to endure emotional trauma and experience emotions such as hopelessness, fear, and hurt (O'Connell, et al., 2000; Richards, 2003). These feelings have been shown to result in decreased employee morale and satisfaction (Manderino & Berkey, 1997).

The consequences of non-physical workplace violence also have repercussions for the employer, including an increase in employee absenteeism and a decrease in employee

productivity (Manderino & Berkey, 1997). Among nurses, non-physical workplace violence has consistently been shown to be associated with employee turnover and intent to leave the profession (Aiken, et al., 2001; Estryn-Behar, et al., 2008; Sofield & Salmond, 2003), a serious concern given the current nursing shortage (Goodin, 2003). Finally, non-physical workplace violence can affect patient care because the stress of victimization can result in difficulty concentrating, leading to missed client information and medical mistakes (Valente & Bullough, 2004).

Various environmental modifications, educational programs, and policies have been identified as best practices for non-physical workplace violence prevention (OSHA, 2004). Workplace violence prevention trainings have been advocated for nurses (Elliot, 1997; UKCC, 2002), though there is no consensus on their effectiveness in preventing non-physical violence. While their effectiveness in preventing non-physical violence is uncertain, they have been shown effective in improving nurses' confidence to respond to violent events, their self-assessed competence, and their self-respect (Beech & Leather, 2006; Ilkiw-Lavalle, et al., 2002). Little work has been done on the application of these behaviors in real world events or to identify who acts, what actions they take, and how effective they perceive their action to be.

The goal of this paper is to better understand correctional nurses' experiences of non-physical violence in the workplace. A secondary goal is to explore the ways in which nurses respond to events of non-physical violence. In order to do this we will 1) estimate the annual prevalence and incidence of non-physical violence (verbal abuse, threats, and sexual harassment) against correctional nurses, 2) examine the associations between respondents' demographic characteristics and risk of workplace victimization, 3) examine the associations

between work characteristics and risk of workplace victimization, 4) identify characteristics of non-physical workplace violence events and perpetrators, 5) identify factors that affect victims likelihood to report their victimization to a supervisor, 6) examine nurses' perceived risk of non-physical victimization in the workplace, and 7) explore characteristics and behaviors of nurses who take protective action during events of non-physical workplace violence.

Methods

Study Setting and Subjects

Research methods and key variables have been discussed in detail in a companion paper (Veele-Brice, 2010). Briefly, study subjects were all nurses (full and part time) working with prisoners (from here on referred to as clients) at any of the Washington State Department of Corrections (DOC) prison facilities as of October, 2008 (N=289). Beginning January 1, 2009 eligible subjects were surveyed via a self-administered questionnaire designed by the research team and based on Gerberich, et al.'s 2004 Minnesota Nurses Study. Subjects had the option to anonymously complete the questionnaire either electronically or as a hardcopy. The questionnaire consisted of 120 closed and 6 open-ended questions and was divided into five major themes: experiences of verbal abuse, experiences of threats, experiences of sexual harassment, violence prevention, and respondents' demographic and employment characteristics. Data on physical violence were also collected and results are presented in the companion paper (Veele-Brice, 2010).

Our questionnaire ascertained respondents' demographic and work characteristics including categorical age (<40, 40-49, 50-59, 60+), race/ethnicity (based on U.S. Census categorizations), sex (binary male/female), number of years as a nurse, years working in

corrections, and primary professional activity. Many of Gerberich's close-ended questions were included to identify and describe incidents of non-physical workplace violence. Open-ended questions were developed by the research team to explore the actions of nurses who reported experiencing or witnessing a non-physical workplace violence event. This included the question, "Did you do anything to protect yourself or diffuse the situation while the incident was going on?" Follow-up questions were included to explore how helpful respondents perceived their behavior was in diffusing the situation. This study was approved by the University of Washington Institutional Review Board and the Washington State Department of Corrections Research Review Committee

Analytic Strategy

This was a mixed mode study using both quantitative and qualitative survey responses. Prevalence and annual incidence rates were calculated to determine the frequency of verbal abuse, threats, and sexual harassment against correctional nurses. All measures were calculated for the twelve months prior to the questionnaire going into the field (January – December, 2008). Point prevalence was reported per 100 nurses and victimization rates were calculated per 100 person years. Full-time employees were assumed to work a 40-hour work week and part-time employees were assumed to work a 20-hour week. A person-year represents one full-time employee working for one full year. Of the completed questionnaires, 15% were missing information on the number of months worked in the past year and/or whether they worked full or part time. In order to retain these cases in our rate calculations we used an imputation by chained equations technique to predict the amount of time each of these cases contributed (Ambler, Omar, & Royston, 2007; Wood, White & Royston, 2008). Using the *ice* command in STATA, five replications of the data were generated using an imputation

prediction model of respondents' sex, age, number of years in nursing, and facility where they work.

Quantitative Analyses

Descriptive and bivariate analyses were conducted to better understand the relationships between non-physical victimization and the individual-level demographic characteristics age, race (due to limited variability, recoded as binary White and Person of Color), and sex. For all analyses each form of non-physical violence (verbal abuse, threats, and sexual harassment) was considered independently as the dependent variable and then as an aggregated measure indicating experiencing any form of non-physical violence in the past twelve months. Tests of variance were run to identify relationships between victimization status and work characteristics, reporting of events, exposure to workplace violence, perceived risk of workplace victimization, social support, and institutional violence prevention measures. Additional analyses were conducted to explore these relationships in regard to taking actions to diffuse a violent event in the workplace.

Logistic regression equations were modeled to further explore these relationships and test the protective effect of violence-prevention policy and social support while controlling for demographic and work characteristics. Covariates were the binary variables age (dichotomized as younger than 50 and 50 and older), race (binary, White/Person of Color), sex, received violence prevention training in the past year, and social support (agree/disagree that coworkers are supportive) and the continuous variables measuring number of years worked as a correctional nurse and number of years worked as a nurse. Models were run in a step-wise fashion with victim demographic characteristics in the first step, occupational characteristics in the second step, and workplace violence policy and social support in the

final step. Multiple models were run with each form of non-physical victimization (verbal abuse, threats, and sexual harassment), and an indicator of experiencing any non-physical victimization as the dependent variables. Analyses were conducted in STATA version 9 (Stata Corporation, 2006) using the *svyset* command. To control for within institution correlation the *cluster* command was used.

Qualitative Analyses

As a second component of this work, open ended responses designed to ascertain respondents actions in response to non-physical workplace violence were qualitatively coded by a single researcher using content analysis techniques (Neuendorf, 2002). Six sets of questions were coded in two groups. All comments regarding actions taken in response to non-physical victimization were grouped together and all comments regarding actions in response to witnessed non-physical victimization were grouped together. The first group included descriptions of the respondents self protective behavior when 1) threatened, 2) verbally abused, and 3) sexually harassed. The second group included descriptions of the actions respondents took to protect a co-worker when they were being 1) threatened, 2) verbally abused, and 3) sexually harassed.

All responses were read a minimum of three times, first to gain a global perspective of the responses and second to conduct initial coding. At this time the coding categories were reviewed, similar themes were collapsed, and major domains were identified. A third review took place to assign all responses to the appropriate major domain(s). All analyses of qualitative data were exploratory in nature. Presented results include the emergence of common domains, represented by typical quotes.

Results

Of the total study population (N=289), 172 eligible nurses completed the questionnaire for a response rate of 59.5%. Not every respondent completed all questions. In an effort to retain as many cases as possible, respondents were only excluded from analyses where the missing variable was necessary for inclusion (i.e. a respondent who omitted information on their age would be retained in the calculation of rates by sex, given that they reported their sex). This decision resulted in some variability in the response rate by item. These differences are indicated in the text and tables. All facilities were represented and there were no statistically significant differences between the study population and questionnaire respondents on known demographic variables (Table 4.1). Among the respondents who completed all three questions regarding non-physical workplace victimization (N=165), 80% (N= 132) reported at least one incident of non-physical victimization in the previous twelve months (Table 4.2). Of these, 39% (N=52) reported experiencing only one form of non-physical violence, 39% (N=51) reported experiencing two forms, and 22% (N=29) reported being verbally abused, threatened, and sexually harassed in the past year (results omitted from table). When worker time was accounted for, the annual incidence rate of workplace non-physical victimization among correctional nurses was 76.4 per 100 person years. The incidence of verbal abuse was the highest, 76.4 per 100 person years, followed by threats (49.4 per 100 person years) and sexual harassment (24.4 per 100 person years). Of all the incidents of non-physical violence, 62% were reported to a supervisor. Respondents who were victims of multiple forms of non-physical workplace violence were no more likely to report an event than respondents who were victims of only one type. We found no significant associations between reporting and respondents' demographic and work characteristics, characteristics of the perpetrator, or characteristics of the event.

Demographic and Work Characteristics Related to Victimization

In bivariate analysis, women were significantly more likely to be sexually harassed than men (29% v. 7%; χ^2=5.7, p=0.02). People of Color were significantly less likely to be sexually harassed (7% v. 28%; χ^2=5.8, p=0.02) and significantly more likely to be threatened (70% v. 39%; χ^2=11.6, p<0.01) than Whites. Age was not significantly associated with any type of non-physical workplace violence. No indicators of job experience or employment characteristics proved to have a significant association with victimization status. Among nurses who had worked elsewhere prior to the DOC, those who had been sexually harassed at another job were more likely to have been sexually harassed in the past year (45% v. 15%; χ^2=15.2, p=0.02). This same relationship did not hold for nurses who had been victims of workplace threats (48% v. 40%; χ^2=2.2, p=0.34) or verbal abuse at another job (83% v. 67%; χ^2=4.3, p=0.12). While specific facilities had higher rates of non-physical victimization than others, there were no differences in non-physical victimization between nurses working in male and female facilities (10% v. 13%; χ^2=0.3, p=0.60) or treatment and non-treatment sections of facilities (56% v. 45%; χ^2=1.5, p=0.47). Interestingly, workplace violence prevention training did not have a significant impact on reducing nurses' risk for threats, verbal abuse, or sexual harassment.

Characteristics of Perpetrator and the Event

The majority of perpetrators of non-physical workplace violence were clients; 73% of verbal abuse, 75% of threats, and 62% of sexual harassment. Nursing coworkers were identified as the perpetrator in 14% of cases, correctional officers were in less than 10% of cases, and doctors in less than 5%. Most frequently incidents had only one perpetrator (100% of threats, 91% sexual harassment, and 94% verbal abuse). Correctional nurses were most

likely to be victimized by a male perpetrator (verbal abuse 72%, threats 72%, and sexual harassment 91%). In 33% of threats the victim perceived the perpetrator to be impaired by disease, illness, prescribed medication, or drugs and alcohol. Perpetrators were perceived to be impaired in 20% of cases of verbal abuse and 15% of sexual harassment.

The vast majority (93%) of incidents of non-physical violence occurred face-to-face, although incidents of sexual harassment and verbal abuse did occur via phone and email. Text messaging and "kites" (i.e. written correspondences from clients) were also identified as modes of non-physical victimization.

Exposure to Non-Physical Violence against Co-Workers

The majority of respondents had both witnessed (59% threats, 80% verbal abuse) and been made aware of (88% threats, 93% verbal abuse) incidents directed at their coworkers in the last twelve months. Nearly half of respondents witnessed a coworker being verbally abused four or more times in the past year and 11% reported witnessing over 30 incidents of verbal abuse in the past year (results omitted). Exposure to sexual harassment was less frequent, with less than a quarter (23%) of respondents witnessing a coworker being sexually harassed and slightly less than half (47%) reporting being made aware of an incident of sexual harassment.

Actions in Response to Non-Physical Workplace Violence Events

The majority of victims of non-physical violence, 78% (N=103), reported taking action to protect themselves and diffuse the situation. Of these, 63% reported the action helped the situation, 21% did not think it helped, and 16% were unsure. Results were comparable across violence types (results omitted). While many respondents reported being uncertain if their actions were helpful, the majority felt they were. Results were similar for

people who witnessed events. No significant demographic or occupational differences existed between respondents who did or did not act when they or a coworker was victimized, though most analyses had insufficient numbers to test. There was no statistically significant difference between respondents who had or had not received violence prevention training in taking action to protect oneself (86% v. 81%; χ^2=4.3, p=3.85) or a coworker (48% v. 47%; χ^2=9.9, p=1.93).

Analysis of the 184 qualitative responses from 107 surveys regarding actions in response to verbal abuse, threats, or sexual harassment led to the development of five major domains of nurse actions in response to non-physical workplace victimization; 1) seeking the presence of a fellow nurse or correctional officer, 2) removing oneself from the situation, 3) using verbal de-escalation techniques, 4) using authoritative position to direct perpetrator to stop, and 5) escalating, or behavior that has the potential to escalate, the confrontation. Of the first three domains, each of which is encouraged in workplace violence training, 21% of respondents explicitly indicated that they sought the support of a coworker, 24% noted that they removed themselves from the situation, and 28% identified using a form of violence de-escalation. Examples of responses include:

> "Talked in calm manner to diffuse situation, called over correctional staff. " (Victim of threat)
> "Talked to the inmate professionally, explaining the circumstances why he can't have what he wants." (Victim of verbal abuse)
> "Informed coworkers. Reported to her supervisor. Reported to union. Removed myself from her presence." (Victim of verbal abuse)
> "I left the cell immediately." (Victim of sexual harassment)

Coding of qualitative data regarding acting on behalf of a victimized coworker fell into similar domains as those for self-action. Of the 140 open ended responses, 24% of respondents explicitly indicated that they remained physically present or sought the support of

another coworker, 11% noted that they escorted the victim away from the situation, and 21% identified using a form of violence de-escalation. Examples of responses include:

> "Asked the offender to stop, reminded [them] that there would be an infraction issued. Called for help." (Verbal abuse witness)
> "Tryied (sic) to assist by using verbal skills to diffuse the situation." (Sexual harassment witness)
> "Asked for assistance from correctional officers." (Witness of threat)

Perceived Risk of Victimization

When asked if work-related violence was a problem at the facility where they work, 52% of respondents strongly agreed or agreed. The difference in agreement between victims and non-victims was of borderline statistical significance (40% v. 54%; χ^2=7.5, p=0.06). Nearly three quarters of respondents (72%) believed that correctional nurses' risk for work-related violence was higher than nurses in other fields. Verbally abused respondents were significantly more likely to express this belief than non-verbally abused respondents (55% v. 40%; χ^2=13.3, p<0.01) as were victims of threats relative to non-victims (59% v.46%; χ^2=9.0, p=0.03). Respondents who had been threatened also perceived their risk of other forms of non-physical violence to be higher (verbal abuse, p=0.04; sexual harassment, p=0.02), as did victims of verbal abuse (threat, p=0.01; sexual harassment, p=0.03). Victims of sexual harassment did not differ from non-victims in their perceived risk of being threatened or verbally abused (p=0.17 and 0.11 respectively). Nurses who perceived their risk of victimization to be high were significantly more likely to act to protect themselves (78% v. 52%; χ^2=12.3, p=0.04) but were no more likely to act on the behalf of a co-worker then nurses who perceived their risk to be low (55% v. 49%; χ^2=13.7, p=0.61).

Multivariate Analyses

Multivariate models were run with each of the following dependent variables: threats, verbal abuse, sexual harassment, and a binary indicator of any form of non-physical workplace violence in the past year. When modeled as a binary indicator of overall victimization, we found no independent variables significantly associated with odds of being a victim of non-physical workplace victimization. Similarly, we found no relationships to sexual harassment.

When threats were modeled as the dependent variable, after controlling for other demographic variables, Whites were 75% less likely to be threatened at work than their counterparts (OR= 0.25, p=0.01). This relationship remained significant and nearly unchanged with the addition of measures of occupational characteristics, workplace violence training, and social support (Table 4.3). Older age was significantly associated with a reduced odds of workplace verbal abuse (OR=0.25, p=0.01) after controlling for other demographic variables. When the model was rerun to include work characteristics, completion of violence prevention training, and social support the relationship was no longer significant. When these same models were run to identify who would act on their own or their coworker's behalf during an incident of non-physical workplace violence, no covariates proved to be statistically significant.

Discussion

The incidence of non-physical workplace violence, including verbal abuse, threats, and sexual harassment is extremely high among correctional nurses. Eighty percent of respondents reported at least one incident in the prior twelve months, though only a little over half of the incidents were formally reported to a supervisor. When incidents occurred, the majority of correctional nurses took action to protect themselves or coworkers from non-

physical violence. Using verbal de-escalation techniques and removing oneself from the situation were two of the most common actions taken.

Rates

Because of the population that correctional nurses work with there is an anecdotal belief that correctional nursing is a dangerous field. In the case of non-physical violence, this belief is supported in our study population. Because our study replicated much of the methodology used by Gerberich, et al. (2004) we were able to make direct comparisons between their results and ours. While our rates appear to be comparable, and even a little lower relative to emergency and perioperative nurses (Catlette, 2005; Cook, Green, & Troop, 2001; May, & Grubbs, 2002; Sofield, & Salmond, 2003), correctional nurses risk of victimization from non-physical violence is far higher than the overall nursing population. Comparing results we found that correctional nurses were two and a half times as likely to be threatened (54% v 17%) and verbally abused (79% v 34%) and nearly three and a half times as likely to be sexually harassed (24% v 7%) relative to the overall nursing population as reported by Gerberich (2004).

Consistent with previous studies, many of the incidents of non-physical violence were not officially reported (Findorff, et al., 2004; Sandberg, McNiel & Binder, 2002). Reasons identified in the literature for not reporting victimization include viewing violence as part of their job (Gerberich, et al., 2004; McPhaul & Lipscomb, 2004; Rippon, 2000), believing that violence is an expected workplace hazard that does not require highlighting (Poster, 1996), and believing that nothing will change as a result of reporting the incident (Kozlowska, Nunn, & Cousens, 1997). Because of the tendency to underreport violent incidents formally, our

findings indicate that using official reports would not be an appropriate way to estimate the prevalence of workplace non-physical violence against correctional nurses.

Predictors of victimization

Based on the literature, we anticipated that the rate of sexual harassment would be higher for women than men and that older age would reduce respondents' risk for all forms of non-physical victimization (Bronner, Peretz, & Ehrenfeld, 2003; Fiedler & Hamby, 2000). The diminished significance of sex on sexual harassment risk in multivariate analysis indicates that respondents increased odds of sexual harassment vary by their occupational roles. In particular, nurses who provide patient care were significantly more likely to experience sexual harassment than nurses performing other duties (χ^2=3.5, p=0.05). While age remained significantly associated with verbal abuse in multivariate models, it was not significantly associated with threats or sexual harassment. In graphical analysis it appears that these relationships are curvilinear, with rates being highest for the youngest ages, bottoming out in the 50-59 year old age group and rising again for nurses 60 and over. Because we used a categorical measure of age we were not able to examine this with more specificity.

We had not expected the racial differences we found in experiences of threats and sexual harassment. The annual prevalence of sexual harassment was four times higher for White respondents than for People of Color, while the prevalence of threats was twice as high for People of Color. While the relationship between race and sexual harassment risk decreased after modeling covariates, People of Color continued to be significantly more likely to be threatened even after controlling for other demographic variables, occupational characteristics, workplace violence training, and social support. This would indicate that there

is something besides differential participation in the workforce that leads to this increased threat. One explanation is that similar to the way that institutional racism results in police of color working in more dangerous settings (Bolton & Feagin, 2004) correctional nurses of color may be placed in settings at a higher risk for threats. Our research was unable to explore this in detail. Regardless, considering the propensity for People of Color to underreport victimization to officials (Weitzer & Tuch, 2006; Rennison, 2007), this indicates that increased focus should be put on People of Colors' experiences of workplace threats and prevention methods.

Correctional nurses have the potential to be victimized in the workplace by multiple perpetrators including clients, co-workers, supervisors, and non-medical prison staff. Although physicians have been identified in some studies as the most common perpetrator of non-physical violence against nurses (Cook, Green, & Troop, 2001; Johnson, DeMass-Martin, & Markle-Eder, 2007) our results support other published literature indicating that clients are the most frequent perpetrators (Cogin & Fish, 2009; Gerberich, et al., 2004; May & Grubbs, 2002). When interpreting these results, it is important to note that exposure time was not controlled for and, that in many institutions, nurses have regular contact with clients but little to no contact with physicians. Although this limits our ability to determine respondents' risk, given the disproportionate incidence of clients as perpetrators it is unlikely that accounting for exposure time would significantly change this finding. Not surprisingly, our results support the literature indicating that perpetrators are most commonly male (Gerberich, et al., 2004; Johnson, et al, 2007).

Interestingly, workplace violence prevention trainings did not significantly reduce nurses' risk of any of the three types of non-physical violence. This is likely because these

trainings are developed with a focus on reducing physical victimization and are not designed to address non-physical violence. This should not be viewed as a short-coming of this specific curriculum though since little is known about effective ways to prevent non-physical workplace violence, particularly in a correctional setting. We did find from the open-ended responses that correctional nurses are applying violence prevention techniques including verbal de-escalation, removing oneself from the situation, and seeking support from colleagues, to all forms of non-physical violence. While we did not design this study to test the effectiveness of these techniques on non-physical violence, it is informative to see how well engrained these methods have become. Many nurses specifically referenced using "verbal de-escalation techniques."

One of our most surprising findings was that social support was not preventive against non-physical workplace violence and was, in fact, positively associated with verbal abuse. This can be explained, in part, by the fact that the measure of social support was highly negatively skewed. The reason why social support was associated with verbal abuse is more difficult to explain. It is possible nurses who experience more social support are more likely to interact with clients, while nurses who work alone have less social support and less contact with clients.

Exposure and Perceived risk

Many of the negative consequences of non-physical workplace victimization also affect witnesses exposed to violence against co-workers (Jackson, Clare, & Mannix, 2002; Rees & Lehane, 1996). Given this, it is concerning that so many nurses have witnessed and/or been made aware of a coworker's victimization. Nurses in other settings often underestimate their risk of workplace violence (ANA, 2001), but respondents in this study appear to more

accurately gauge their risk of workplace violence - twice as many respondents to our survey relative to Gerberich, et al's. (2004) reported that violence was a problem in their work environment.

Interestingly, workplace violence victimization does not universally increase individuals' perceived risk of all forms of victimization. Compared to non-victims of the same type of non-physical violence, victims were significantly more likely to perceive their risk of victimization to be higher. While victims of threats and verbal abuse perceived their risk of other forms of non-physical violence to be higher, victims of sexual harassment did not. This indicates that experiences of sexual harassment may be very different from verbal abuse and threats and that victims of these different modes perceive themselves differently.

Limitations

There are some limitations to our study. The cross-sectional nature of our study does not allow for any conclusions about causality to be made and makes determining the chronology of events difficult. Additionally, our relatively small sample size and some of the unique features of the Washington State Department of Corrections make it difficult to generalize our findings to all correctional nurses. Finally, the fact that the qualitative data was coded by a single researcher is an additional potential cause for concern.

Conclusion

While non-physical violence does not have the same acute consequences that serious physical altercations do, there are many potentially negative consequences including increased stress, an inability to perform job requirements, and job dissatisfaction. In at least one study, nurses who were victims of non-physical violence reported higher levels of persistent frustration, anger, fear, and irritability after victimization than victims of physical

violence (Gerberich, et al., 2004) indicating that non-physical violence can have serious long-term consequences. The high rates of non-physical violence that we found in our study of nurses working in Washington State Correctional facilities leads us to conclude that work should be done to reduce verbal abuse, threats, and sexual harassment against correctional nurses. While workplace violence training did not affect respondents' risk of non-physical violence or who acted to diffuse violent events, our preliminary qualitative analysis indicates that nurses are implementing workplace violence prevention techniques such as verbal de-escalation and seeking the help of a coworker. Efforts should be made to validate the effectiveness of these techniques in addressing non-physical workplace violence against correctional nurses. If they prove to be effective, universal implementation should be recommended.

Given the steadily increasing prison population and the fact that nurses are the primary health care providers in prisons (Reimer, 2007), a growing number of health professionals are needed to care for inmates (Norman & Parrish, 2002). In a time when nurses are in short supply (Goodin, 2003), efforts to decrease non-physical violence against correctional nurses has the potential to improve employees' mental health, their job satisfaction, and to reduce employee turnover.

Table 4.1
Characteristics of Study Population Compared to Survey Respondents by Non-Physical Victimization Status

	Study Population (N=289)	Survey respondents (N=165)[a]		Sub-Analysis: Survey respondents who were victims of non-physical violence (N=132)		
	All correctional nurses	Not victim of non-physical violence	Victim of any non-physical violence	Verbally Abused	Threatened	Sexually harassed
		N=33	N= 132	N=125	N=77	N=37
Demographic characteristics		N=27[b]	N=112[b]	N=112[b]	N=62[b]	N=35[b]
Female	81%	85%	80%	79%	79%	94%
Age			N=110[b]	N=109[b]		
<40	16%	7%	16%	17%	16%	17%
40-49	24%	11%	29%	30%	21%	31%
50-59	41%	59%	32%	33%	40%	31%
60+	18%	22%	23%	21%	23%	20%
Race/Ethnicity		N=28[b]	N=111[b]	N=110[b]	N=61[b]	
White	88%	96%	86%	86%	80%	100%
Black	1%	0%	1%	1%	0%	0%
Asian	4%	4%	3%	3%	3%	0%
Pacific Islander	Not Available	0%	2%	2%	3%	0%
Hispanic/Latino	6%	0%	5%	6%	7%	0%
Multi-racial	Not Available	0%	4%	3%	7%	0%
Work characteristics		N=27[b]	N=108[b]	N=112[b]	N=68[b]	N=35[b]
Full time	Not Available	86%	86%	86% (113)	91% (63)	89% (36)
Military background	Not Available	11%	22%	23% (111)	23% (62)	20% (35)
		Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)
Years as a nurse	Not Available	23.5 (11.8)	19.5 (10.8)	19.4 (10.6)	21.3 (11.0)	17.8 (10.6)
Years as correctional nurse	Not Available	9.1 (8.8)	6.7 (6.9)	6.7 (6.9)	7.8 (7.3)	6.0 (6.1)

[a] Seven cases did not respond to all three non-physical workplace victimization questions and were excluded.
[b] Indicates variability in sample size across calculations.

Table 4.2
Correctional Nurses Annual Incidence and Prevalence Rates of Workplace Non-Physical Violence, by Demographic Characteristics

	All Types		Verbal Abuse		Threats		Sexual Harassment	
	Annual prevalence[a]	Annual incidence[b]	Annual prevalence[a]	Annual incidence[b]	Annual prevalence[a]	Annual incidence[b]	Annual prevalence[a]	Annual incidence[b]
Overall	80.0	76.4	79.1	76.4	46.7	49.4	24.2	24.4
Male	85.2	76.3	85.7	80.1	46.4	45.5	7.1	4.8
Female	79.5	76.4	77.9	75.3	43.0	45.9	28.9	29.9
Age <40	90.0	79.0	90.0	79.0	47.6	56.3	30.0	25.9
Age 40-49	91.4	90.0	91.7	93.5	37.1	38.9	30.6	29.2
Age 50-59	69.2	68.6	69.2	68.6	47.2	49.5	20.8	22.7
Age 60+	80.6	78.0	74.2	71.0	43.8	46.1	22.6	24.1
White	77.9	74.5	77.2	74.4	39.2	41.9	28.2	28.1
Person of Color	89.3	88.2	85.7	88.2	70.0	72.5	6.9	5.9

[a] Rate per 100 correctional nurses.
[b] Rate per 100 person years.

Table 4.3

Correctional Nurses' Odds of being Threatened at Work in the Past Twelve Months

	Reference	Model 1: Personal Demographics	Model 2: Model 1 + Work Characteristics	Model 3: Model 2 + Violence Prevention	Model 4: Model 2+ Social Support	Model 5: Model 3 + Social Support
Age						
	Age <50	1.30	1.12	1.13	1.25	1.25
Race						
	Person of color	0.25*	0.29*	0.24*	0.26*	0.22*
Sex						
	Male	1.09	1.02	1.21	1.02	1.21
Years as a nurse						
	Continuous	--	1.00	1.00	1.00	1.00
Years as a correctional nurse						
	Continuous	--	1.00	1.00	1.00	1.01
Violence prevention training in past year						
	Continuous	--	--	0.60	--	0.63
Social Support from coworkers						
	No support	--	--	--	0.48	0.50

* Statistically significant at $p \leq 0.05$.

Chapter 4 Notes

Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H., et al. (2001). Nurses' reports on hospital care in five countries. *Health affairs, 20*(3), 43-53.

Alexander, C. (2004). Occupational violence in an Australian healthcare setting: implications for managers. *Journal of health care management, 49,* 377-390.

Ambler, G., Omar, R.Z., & Royston, P. (2007). A comparison of imputation techniques for handling missing predictor values in a risk model with a binary outcome. *Statistical methods in medical research, 16*(3), 277-298.

American Nurses Association (ANA). (2001). *Nursing world health and safety survey.* Warwick, RI: Cornerstone Communications Group.

Beech, B. & P. Leather. (2006). Workplace violence in the health care sector: A review of staff training and intergration of training evaluation models. *Aggression and Violent Behavior, 11*, 27-43.

Bolton, K. & Feagin, J. (2004). *Black on blue: African-American police officers and racism.* New York, NY: Routledge.

Bronner, G., Peretz, C., & Ehrenfeld, M. (2003). Sexual harassment of nurses and nursing students. *Journal of advanced nursing, 42*(6), 637–644.

Catlette, M. (2005). A descriptive study of the perceptions of workplace violence and safety strategies of nurses working in level I trauma centers. *Journal of emergency nursing, 31*(6), 519-525.

Cogin, J., & Fish, A. (2009). Sexual harassment: a touchy subject for nurses. *Journal of health organizational management, 23*(4), 442-62.

Cook, J. K., Green, M., & Troop, R. V. (2001). Exploring the impact of physician verbal abuse on perioperative nursing. *Association of perioperative registered nurses journal.* Retrieved from www.findarticle.com/cf_O/mOFSL/3_74/80159514/print.jhtml.

Duldt, B. (1982). Sexual harassment in nursing: Another alienating communication hazard. *Nursing Outlook 6,* 336–343.

Elliott, P. P. (1997). Violence in health care: What nurse managers need to know. *Nursing Management, 28*(12), 38–42.

Estryn-Behar, M., van der Heijden, B., Camerino, D., Fry, C., Le Nezet, O., Conway, P. M., et al. (2008). Violence risks in nursing—Results from the European 'NEXT' study. *Occupational medicine, 58*(2), 107-114.

Findorff, M., McGovern, P. M., Wall, M., Gerberich, S. G., & Alexander, B. H. (2004). Risk factors for work-related violence in a health care organization. *Injury prevention, 10*(5), 296-302.

Fiedler, A., & Hamby, E. (2000). Sexual harassment in the workplace. *Journal of nursing administration, 30*(10), 497–503.

Gates, D. M. (2004). The epidemic of violence against healthcare workers. *Occupational and environmental medicine, 61,* 649-650.

Gerberich, S. G., Church, T. R., McGovern, P. M., et al. (2005). Risk factors for work-related assaults on nurses. *Epidemiology, 16*(5), 704-709.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., et al. (2004). An epidemiological study of the magnitude and consequences of work-related violence: The Minnesota nurses' study. *Occupational and environmental medicine, 61*, 495-503.

Goodin, H. J. (2003). The nursing shortage in the United States of America: an integrative review of the literature. *Journal of advanced nursing, 43*(4), 335–350.

Gumport, P. J. (2003). *Academic and workplace sexual harassment: a handbook of cultural, social science, management, and legal perspectives*. Westport, CT: Praeger Publishers.

Ilkiw-Lavalle, O., Grenyer, B. F. S., & Graham, L. (2002). Does prior training and staff occupation influence knowledge acquisition from an aggression management training program? *International Journal of Mental Health Nursing, 11*, 233–239.

Jackson, D., Clare, J., & Mannix, J. (2002). Who would want to be a nurse? Violence in the workplace: A factor in recruitment and retention. *Journal of nursing management, 10*, 13-20.

Johnson, C. L., DeMass-Martin, S. L., & Markle-Elder, S. (2007). Stopping abuse in the workplace. *American journal of nursing, 107* (4), 32–34.

Johnson, P. R., & Indvik, J. (2006). Sticks and stones: Verbal abuse in the workplace. *Journal of organizational culture, communications and conflict*. Retrieved from http://findarticles.com/p/articles/mi_m1TOT/is_1_10/ai_n25009735.

Keashly, L. (2001). Interpersonal and systemic aspects of emotional abuse at work: The target's perspective. *Violence & victims, 16* (3), 233-268.

Kindy, D., Petersen, S., & Parkhurst, D. (2005). Perilous work: nurses' experiences in psychiatric units with high risk of assault. *Archives of psychiatric nursing, 19*(4), 169-175.

Kozlowska, K., Nunn, K., & Cousens, P. (1997). Training in psychiatry: an examination of trainee perceptions. *The Australian and NewZealand journal of psychiatry, 31*(5), 628-40.

Lipscomb, J. (1999).Violence in the workplace: a growing crisis among health care workers. In. Charney, W., Fragal, G. eds. *The epidemic crisis of health care worker injury*. Boca Raton, FL: CRC Press.

Madison, J. & Minichicello, V. (2001). Sexual harassment in healthcare: classification of harassers and rationalizations of sex-based harassment behavior. *Journal of nursing administration, 31*(11), 534-543.

Manderino, M. A. & Berkey, N. (1997). Verbal abuse of staff nurses by physicians. *Journal of professional nursing, 13*, 48-55.

May, D. D., & Grubbs, L. M. (2002). The extent, nature, and precipitating factors of nurse assault among three groups of registered nurses in a regional medical center. *Journal of emergency nursing, 28*(1), 11-17.

McPhaul, K. M., & Lipscomb, J. A. (2004). Workplace violence in health care: Recognized but not regulated. *The online journal of issues in nursing, 9*.

National Institute of Occupational Safety and Health (NIOSH). (2002). *Violence: occupational hazards in hospitals*. Publication no. 2002-101. Washington, DC: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, DHHS (NIOSH).

Needham, I., Abderhalden, C., Halfens, R. J. G., Fischer, J. E., & T. Dassen. (2005). Non-somatic effects of patient aggression on nurses: A systematic review. *Journal of advanced nursing, 49*(3), 283-296/

Neuendorf, K. A. (2002). *The Content Analysis Guidebook* .Thousand Oaks, CA: Sage Publications.

Norman, A. & Parrish, A. (2002). *Prison nursing*. Oxford, Blackwell Science.
O'Connell, B., Young, J., Brooks, J., Hutchings, J., & Lofthouse, J. (2000). Nurses' perceptions of the nature and frequency of aggression in general ward settings and high dependency areas. *Clinical nursing, 9*, 602- 610.
Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. (2004). *Guidelines for preventing workplace violence for healthcare and social workers*. OSHA 3148-01R.
Poster, E. (1996). A multinational study of psychiatric nursing staffs' beliefs and concerns about work safety and patient assaults. *Archives of psychiatric nursing, 10*(6), 365-373.
Rees, C., & Lehane, M. (1996). Witnessing violence to staff: a study of nurses' experiences. *Nursing standard, 11*, 45-47.
Reimer, G. R. (2007). Transforming correctional health care through advanced correctional nursing education. *Journal of correctional health care, 13*(3) 163-169.
Rennison, C. (2007). Reporting to the police by Hispanic victims of violence. *Violence and victims, 22*, 754-772.
Richards, J. (2003). Management of workplace violence victims. Available at: http,//www,who,int/violence-injuryprevention / violence / interpersonal /en/wvmanagementvictimspaper,pdf. Accessed December 2005.
Rippon, T. J. (2000). Aggression and violence in health care professions. *Journal of Advanced Nursing, 31*, 452-460.
Sandberg, D. A., McNiel, D. E., & Binder, R. I. (2002). Stalking, threatening, and harassing behavior by psychiatric patients toward clinicians. *Journal of the American academy of psychiatry law, 30*, 221-229.
Sofield, L., & Salmond, S. W. (2003). A focus on verbal abuse and intent to leave the organization. *Orthopedic nursing, 22*(4), 274-283.
StataCorp. (2006). *STATA Statistical Software*. College Station, TX: Stata Corporation, version 9.
United Kingdom Central Council (UKCC). (2002). *The Recognition, prevention and therapeutic management of violence in mental health care*. Report prepared for the UKCC. London: Health Services Research Department, Institute of Psychiatry.
US Department of Labor (US DOL). (2006). Case and demographic characteristics for work-related injuries and illnesses involving days away from work: resource tables, 2004. Available at http://www.bls.gov/iif/oshcdnew.htm. Accessed January 7, 2008.
US Department of Justice (US DOJ). (2001). *National crime victimization survey: violence in the workplace, 1993-99*. Available at http://www.ojp.gov/bjs/pub/pdf/vw99.pdf. Accessed January 7, 2008.
Valente, S. M., & Bullough, V. (2004). Sexual harassment of nurses in the workplace. *Journal of nursing care quality, 19*(3), 234-241.
Weitzer, R., & Tuch, S. A. (2006). *Race and policing in America*. New York, NY: Cambridge University Press.
Wood, A., White, I., & Royston, P. (2008). How should variable selection be performed with multiply imputed data? *Statistics in medicine, 27*(17), 3227-3246.

Chapter 5: Conclusion

Conclusion

Employees risk for victimization in the workplace varies by demographic characteristics and occupation. While results from all three chapters indicate that most workplace violent incidents do not result in injury, there are still significant negative consequences associated with victimization. Exposure to violence has been shown to have long term detrimental effects on physical and mental health, even if no acute injury is sustained (Yehuda, 2002). Additionally, exposure to violence in the workplace has been shown to have a negative effect on employee morale and job satisfaction (LeBlanc & Kelloway, 2002; Hoel, Einarsen, & Cooper, 2003).

Summary of findings

The results from this dissertation indicate that non-fatal workplace violence is an issue for employees. While not highly prevalent (nationally the rate of workplace victimization in 2005 was 12.2 per 1,000 persons age 15 and older and the rate of victimization resulting in injury was 3.8 per 1,000 persons), the risk for victimization in the workplace is real and varies by both job-level and demographic characteristics. For example, in the higher risk field of correctional nursing, the annual incidence rate of workplace physical victimization was 110 per 1,000 nurses. This is ten times higher than the national rate, though it is comparable to the research published on nurses in other fields and to mental health workers, as outlined in chapter 2. Among correctional nurses the rate of non-physical violence is much higher than physical violence, nearly eight fold. The annual prevalence of non-physical workplace violence against correctional nurse in Washington State is 800 per 1,000 nurses, fourteen times higher than their rate of physical violence. The vast majority of these incidents are

verbal abuse (791 per 1,000), thought threats (467 per 1,000) and sexual harassment (242 per 1,000) are also more common than one would like.

In the analysis focused on Washington State correctional nurses, no significant difference was found in risk of physical victimization by demographic characteristics, though this may have been due to the low number of cases of physical victimization. The results for non-physical violence did indicate some differences by demographic characteristics. In particular, women were at a higher risk for some forms of violence and People of Color were significantly more likely to be threatened than White's.

The analysis of crime in the national population indicates that victims are unlikely to report events. In the local analyses of correctional nurse it appears that in both cases of physical and non-physical violence the majority of nurses were inclined to report the event to their supervisor. This difference may be due to a culture within the correctional institutions that supports victimization reporting, but is more likely to be due to the differential perceptions of severity between reporting an event to a supervisor and to the police. To make more informative cross-stud comparisons it would be necessary to look at national rates of reporting workplace violence victimization to supervisors.

Implications

The results of this work have multiple policy implications:

1) Workplace violence prevention training appears to be effective in reducing the risk of physical victimization in the workplace. Further research should be developed to design and evaluate the most effective violence prevention curriculum.
2) Non-White nurses are threatened in the workplace at a significantly higher rate than their White counterparts.

3) Workplace victimization is under-reported. While reporting is more common in some settings (such as corrections) many events go unreported. Additionally, many reports of victimization are not formally submitted. This has implications for the use of administrative data in estimating the frequency of occupational violence.

Conclusions

Workplace violence is a significant occupational health concern that warrants attention; from employers and managers, from researchers, and from policy makers. Workers deserve the comfort of knowing that efforts have been taken to ensure their safety at work. More research must be done to develop a better understanding of the characteristics of workplace violence events, was to predict events, and effective prevention measures, while also acknowledging the relative severity of workplace violence in comparison to other workplace hazards.

Chapter 5 Notes

Hoel, H., Einarsen, S., & Cooper, C. Organisational effects of bullying. (2003). In S. Einarsen, H. Hoel, D. Zapf & C. Cooper (Eds), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. London: Taylor & Francis, 2003.

LeBlanc, M., & Kelloway, E. J. (2002). Predictors and outcomes of workplace violence and aggression. *Applied Psychology, 87(3),* 444-453.

Yehuda, R. (2002). Post-traumatic stress disorder. *New England Journal of Medicine,* 346(2), 108-114.

Chapter 6: Additional Material

Key informant interview questions:

What are the various job titles for nurses in correctional settings?

Are there gender differences in job duties? Differences in experiences of risk?

Please describe for me a typical day of a correctional nurse. How does this vary by specialty?

Are there any violence prevention policies in place? How do they differ by institution? What is the level of awareness of these policies?

To what degree is victimization in the workplace a concern among correctional nurses? Of all concerns where do you think it ranks? What takes priority over it?

In what ways, either policy or self developed, do nurses attempt to prevent victimization in the workplace?

What are the major sources of risks of violence for correctional nurses? Do you think these are the same as those perceived to be the riskiest?

Is the risk of victimization an issue that is talked about in the workplace among colleagues? With administrators?

Can you remember a time when you or a coworker were victimized at work? What happened?

How did your coworkers respond? Administrators? Do you think the incident could have been prevented? How?

What would you like to see done to reduce risk of victimization among correctional nurses?

How does the risk of violence impact the way you (others) feel about their job? Do you think it impacts retention? How?

Are there any other issues around workplace violence that you think the correctional nurses are concerned about? Are there any other issues you would like to mention?

Recruitment Letter

December 17, 2008
Re: Workplace violence survey

Dear Washington State Department of Corrections Nurse,

The University of Washington in collaboration with the Department of Corrections is attempting to better understand your experiences of workplace violence. We have designed a study to determine how common workplace violence is among correctional nurses. We hope to understand what puts nurses at risk of physical and non-physical violence and to identify ways to prevent violence in order to improve nurse's safety. As a nurse currently employed by the Department of Corrections you are being asked to complete this survey.

The survey will be available for you to complete electronically or as a hard copy. You only need to complete the survey once, so pick the method you prefer.

If you would like to fill out a hard copy of the survey, please complete the attached survey and return it in the enclosed envelope or mail it to:

Sarah Veele-Brice
Workplace Violence Study
P O Box 6358
Kent, WA 98064

If you would prefer to complete the survey electronically please follow the link provided in the message sent to your work email address or go directly to
www.zoomerang.com/Survey/?p=WEB228GV8C2B6S

We hope you will help us by completing this survey. The survey should take about 10 minutes to complete.

Your participation in this project is voluntary and confidential. No one will be able to determine whether you participated or the answers you gave. We hope you'll choose to participate though, as your feedback will provide us with a better understanding of the types of violence correctional nurses experience in the workplace and ways to prevent future incidents from occurring. These results have the potential to influence violence prevention policy not only in Washington State but throughout the U.S.

Responses from all surveys will be summarized and you will receive an executive summary of the findings. In order to keep responses completely confidential we will not track who responds to the survey. This means that everyone will receive follow up surveys, even if they have already submitted their responses. If you receive such an email in the upcoming weeks, please disregard it.

If you have any questions or concerns, please feel free to contact Sarah Veele-Brice via phone: **206-817-1943** or email **svbrice@u.washington.edu** *(please note that we cannot guarantee the confidentiality of information sent by e-mail).*

Again, thank you so much for your participation! We look forward to your feedback!

Sincerely,

Sarah Veele-Brice, MPH
UW Department of Health Services

Barbara Curtis, Vickie Skeers, & Catherine Knox
Washington State Department of Corrections

UNIVERSITY OF WASHINGTON

INFORMATION STATEMENT

CORRECTIONAL NURSES' EXPERIENCES OF VIOLENCE IN THE WORKPLACE

Sarah Veele-Brice, PhC Diane Martin, PhD
Clarence Spigner, DrPH Tom Wickizer, PhD

University of Washington - Department of Health Services
Contact Sarah Veele-Brice: 206-817-1943

We are asking you to be in a research study. The purpose of this form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. When you have completed reading it you may keep this form for your records.

PURPOSE OF THE STUDY

The purpose of this study is to better understand how common workplace violence is among correctional nurses. We hope to better understand what puts nurses at risk of physical and non-physical violence and to identify ways to prevent violence in order to improve nurses' safety.

STUDY PROCEDURES

If you decide to be in this study we hope that you will complete the following survey. You may choose to complete this copy with pen or pencil or you may complete the survey online at www.zoomerang.com/Survey/?p=WEB228GV8C2B6S.
The survey will take 10 minutes to complete. You do not need to complete the entire survey in one sitting. You may choose to skip any questions you do not feel comfortable with and may stop the survey at any point.

All nurses within the Department of Corrections will be asked to complete this questionnaire. The questionnaire will ask you about experiences of violence at your worksite. Questions include; "Were you the target of a work-related physical assault at any time during the 12 months prior to today's date?"and "Do you believe that work-related violence is a problem in your environment?"

RISKS, STRESS, OR DISCOMFORT

There is no direct benefit to you from taking part in this study. Some people may feel that some of the questions ask about personal or sensitive information. Remember, you do not have to answer every question. If you feel anything is wrong or unfair, we urge you to contact Sarah Veele-Brice at 206-817-1943.

CONFIDENTIALITY

Your participation is voluntary. Your employer, supervisor, and coworkers will not know if you decided to participate or not. Your participation will be kept confidential, within the limits of the law. No names or other identifying information will be used in publications or presentations which may result from this study.

We really appreciate your time!

Thank you!

Correctional Nurses' Experiences of Violence in the Workplace

In the past 12 months did you work as a nurse in the Washington State Department of Corrections for <u>four weeks or more</u>? *Please check one.*

☐ Yes

☐ No ⟹ If no, thank you for taking the time to respond. Please stop here and return the questionnaire in the enclosed envelope.

- *This survey is about **work-related violence events**.*
- ***Work-related** includes any activities associated with your job or events that occur in your work environment; work-related travel should be included.*
- ***Work-related violence** is defined as the intentional use of physical force or emotional abuse, against an employee, that results in physical or emotional injury and consequences.*
- *Work related violence includes **physical assault, threat, sexual harassment**, and **verbal abuse**.*
- *Perpetrators of work related violence **<u>can be anyone</u>** including clients, coworkers, or supervisors.*

PHYSICAL ASSAULT

This section of the survey pertains to physical assault which occurs when you are hit, slapped, kicked, pushed, choked, grabbed, sexually assaulted, or otherwise subjected to physical contact intended to injure or harm you.

*Perpetrators **can be anyone** including clients, coworkers, or supervisors*

1. Were you the target of a work-related physical assault at any time before the last 12 months? *Check one.*

☐ Yes

☐ No

2. Were you the target of a work-related physical assault at any time during the last 12 months? *Check one.*

☐ Yes

☐ No ⟹ If no, please continue to question 29 on page 15.

3. Please estimate how many times in the past twelve months you were the victim of any kind of physical assault in the workplace. *Please write in a number.*

_____ **time(s)**

Please consider the most recent incident of physical violence that you experienced.

4. Month physical assault took place:
Write in month of the event. If unsure of exact month, please give your best estimate.

_____

5. When did the event occur? *Check one.*

☐ Weekday (Monday-Friday)

☐ Weekend (Saturday-Sunday)

6. Time of physical assault:

Please write in estimated time and circle am or pm. If exact time is unknown leave time blank and circle am or pm.

_____: _____ am / pm

7. What was the location of the physical assault? *Check all that apply.*

☐ Hallway

☐ Client/Patient's room

☐ Reception/Lobby/Waiting area/Lounge

☐ Nursing station

☐ Procedure or Exam Room/Surgical suite

☐ Classroom/Meeting Room

☐ Bathroom

☐ Stairway

☐ Elevator

☐ Parking lot/Ramp

☐ Office

☐ Other
Specify _____

8. Was the physical assault committed by one or by more than one person? *Check one.*

☐ One person

☐ More than one person

☐ Unsure

9. What was your relationship to the person(s) who physically assaulted you? *Check all that apply.*

- ☐ Patient/client
- ☐ Supervisor
- ☐ Subordinate
- ☐ Doctor
- ☐ Correctional officer
- ☐ Other employee
- ☐ Visitor
- ☐ Your spouse or relative
- ☐ Other
  Specify _____
- ☐ Unsure

10. Was the person(s) who physically assaulted you male or female? *Check all that apply.*

- ☐ Male
- ☐ Female

11. Was the person(s) who physically assaulted you impaired? *Check all that apply.*

- ☐ Yes, under the influence of disease/illness.
- ☐ Yes, under the influence of prescribed medication.
- ☐ Yes, under the influence of other drugs or alcohol.
- ☐ No, not impaired.
- ☐ Unsure

12. Was the event witnessed? *Check one.*

- ☐ Yes
- ☐ No

☐Unsure

13. If there was a physical injury, what was the type of physical injury? *Check all that apply.*

☐ There was no physical injury

☐ Bite

☐ Bruise/contusion

☐ Burn

☐Concussion/loss of consciousness

☐ Cut/laceration/scratch

☐ Penetration injury including puncture

☐ Fracture/dislocation

☐ Sprain/strain/torn ligament

☐ Poisoning

☐ Other
Specify _____

14. Did you report the event to a supervisor or other management personnel? *Check all that apply.*

☐ Yes, reported event orally.

☐ Yes, reported event in writing.

☐ No, I did not report the event.

15. When <u>you were physically assaulted</u> at work did you do anything to <u>protect yourself</u> or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

15(a). If yes, what did you do?

16. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

17. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

If you've only experienced one incident of workplace physical assault in the past 12 months please go to question 29 on page 15.

If you've experienced more than one incident of work-related physical violence, please consider the next most recent incident that you have experienced.

18. Month physical assault took place:
Write in month of the event. If unsure of exact month, please give your best estimate.

19. When did the event occur? *Check one.*

☐ Weekday (Monday-Friday)

☐ Weekend (Saturday-Sunday)

20. Time of physical assault:
Please write in estimated time and circle am or pm. If exact time is unknown leave time blank and circle am or pm.

_____: _____ am / pm

21. What was the location of the physical assault? *Check all that apply.*

☐ Hallway

☐ Client/Patient's room

☐ Reception/Lobby/Waiting area/Lounge

☐ Nursing station

☐ Procedure or Exam Room/Surgical suite

☐ Classroom/Meeting Room

☐ Bathroom

☐ Stairway

☐ Elevator

☐ Parking lot/Ramp

☐ Office

☐ Other
Specify _____

22. Was the physical assault committed by one or by more than one person? *Check one.*

☐ One person

☐ More than one person

☐ Unsure

23. What was your relationship to the person(s) who physically assaulted you? *Check all that apply.*

☐ Patient/client

☐ Supervisor

☐ Subordinate

☐ Doctor

☐ Correctional officer

☐ Other employee

☐ Visitor

☐ Your spouse or relative

☐ Other
Specify _____

☐ Unsure

24. Was the person(s) who physically assaulted you male or female? *Check all that apply.*

☐ Male

☐ Female

25. Was the person(s) who physically assaulted you impaired? *Check all that apply.*

☐ Yes, under the influence of disease/illness.

☐ Yes, under the influence of prescribed medication.

☐ Yes, under the influence of other drugs or alcohol.

☐ No, not impaired.

☐ Unsure

26. Was the event witnessed? *Check one.*

☐ Yes

☐ No

☐ Unsure

27. If there was a physical injury, what was the type of physical injury? *Check all that apply.*

☐ There was no physical injury

☐ Bite

☐ Bruise/contusion

☐ Burn

☐ Concussion/loss of consciousness

☐ Cut/laceration/scratch

☐ Penetration injury including puncture

☐ Fracture/dislocation

☐ Sprain/strain/torn ligament

☐ Poisoning

☐ Other
Specify _____

28. Did you report the event to a supervisor or other management personnel? *Check all that apply.*

☐ Yes, reported event orally

☐ Yes, reported event in writing

☐ No, I did not report the event

29. How do you perceive your risk of being <u>physically assaulted</u> at your job compared to <u>people in other professions</u>? *Circle one.*

Much higher Somewhat higher The same Lower No risk

30. How do you perceive your risk of being <u>physically assaulted</u> at

your job compared to nurses in other fields? *Circle one.*

Much higher Somewhat higher The same Lower No risk

31. In the last 12 months, how often were you *made aware of*, but not a witness to, physical assault in your work environment?
Circle one.

Never 1-3 times 4-10 times More than 10 times

32. In the last 12 months, how often have you *witnessed* other employees being physically assaulted in your work environment?
Circle one.

Never 1-3 times 4-10 times More than 10 times

If never, please continue to question 36,"Non-physical Violence - Threat" on page 19.

33. When you witnessed another employee being physically assaulted did you do anything to protect them or diffuse the situation while the incident was going on? *Check one.*

☐ Yes

☐ No

33(a). If yes, what did you do?

_____

_____

34. Did it help the situation in any way? *Check one.*

☐ Yes

☐ No

☐ Unsure

35. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

NON-PHYSICAL ASSAULT

The following questions pertain to work-related threats, sexual harassment, and verbal abuse.

*A **threat** occurs when someone uses words, gestures, or actions with the intent of intimidating, frightening, or harming you (physically or otherwise).*

***Sexual harassment** occurs when you experience any type of unwelcome sexual behavior (words or actions) that creates a hostile work environment.*

***Verbal abuse** occurs when someone yells or swears at you, calls you names, or uses other words intended to control or hurt you.*

THREAT

Perpetrators of work related threats <u>can be anyone</u> including clients, coworkers, or supervisors

36. Were you the target of any <u>work-related threats</u> at any time <u>during the last 12 months</u>? *Please check one.*

☐ Yes

☐ No ⟹ If no, please continue to question 49 on page 23.

Please consider the <u>most recent</u> threat that you experienced.

37. Month that threat occurred:
Write in month of the event. If unsure of exact month, please give your best estimate.

_____

38. When did the event occur? *Check one.*

☐ Weekday (Monday-Friday)

☐ Weekend (Saturday-Sunday)

39. Time that threat occurred:
Estimate time. Circle am or pm if exact time is unknown.

_____: _____ am / pm

40. Where did the threat occur? *Check all that apply.*

☐ Face to face/ In your presence

☐ Via telephone/ Voicemail/ Intercom

☐ Via email/ Fax/ Mail

☐ Other
Specify _____

41. What was your relationship to the person who threatened you? *Check all that apply.*

☐ Patient/client

☐ Supervisor

☐ Subordinate

☐ Doctor

☐ Correctional officer

☐ Other employee

☐ Visitor

☐ Your spouse or relative

☐ Other
Specify _____

☐ Unsure

42. Was the person who threatened you male or female? *Check one.*

☐ Male

☐ Female

43. Was the person who threatened you impaired? *Check all that apply.*

☐ Yes, under the influence of disease/illness.

☐ Yes, under the influence of prescribed medication.

☐ Yes, under the influence of other drugs or alcohol.

☐ No, not impaired.

☐ Unsure

44. Was the behavior witnessed? *Check one.*

☐ Yes

☐ No, never witnessed

☐Unsure

45. Did you report the event to a supervisor or other management personnel? *Check all that apply.*

☐ Yes, reported event orally.

☐ Yes, reported event in writing.

☐ No, I did not report the event.

46. When <u>you were threatened</u> at work did you do anything to <u>protect yourself</u> or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

46(a). If yes, what did you do?

_____

_____

47. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

48. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

49. How do you perceive your risk of being <u>threatened</u> at your job compared to <u>people in other professions</u>? *Circle one.*

Much higher Somewhat higher The same Lower No risk

50. How do you perceive your risk of being threatened at your job compared to nurses in other fields? *Circle one.*

Much higher Somewhat higher The same Lower No risk

51. In the last 12 months, how often were you *made aware of*, but not a witness to, threats in your work environment? *Circle one.*

Never 1-3 times 4-10 times More than 10 times

52. In the last 12 months, how often have you *witnessed* other employees being threatened in your work environment? *Circle one.*

Never 1-3 times 4-10 times More than 10 times

If never, please continue to question 56,"Verbal abuse" on page 25.

53. When you witnessed another employee being threatened did you do anything to protect them or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

53(a). If yes, what did you do?

_____

_____

54. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

55. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

VERBAL ABUSE

- *Verbal abuse occurs when someone yells or swears at you, calls you names, or uses other words intended to control or hurt you.*
- *Perpetrators of work related verbal abuse **can be anyone** including clients, coworkers, or supervisors.*

56. Did you experience any work-related verbal abuse within the last 12 months? *Please check one.*

☐Yes

☐No ⟹ If no, please continue to question 69 on page 29.

Please consider the most recent incident of verbal abuse that you experienced.

57. Month verbal abuse took place:
Write in month of the event. If unsure of exact month, please give your best estimate.

_____

58. When did the event occur? *Check one.*

☐ Weekday (Monday-Friday)

☐ Weekend (Saturday-Sunday)

59. Time of verbal abuse:
Please estimate time. Circle am or pm if exact time is unknown.

_____:_____ am / pm

60. Where did the verbal abuse occur? *Check all that apply.*

☐ Face to face/ In your presence

☐ Via telephone/ Voice mail/ Intercom

☐ Via e-mail/ Fax/ Mail

☐ Other
Specify _____

61. What was your relationship with the person who verbally abused you? *Check all that apply.*

☐ Patient/client

☐ Supervisor

☐ Subordinate

☐ Doctor

☐ Correctional officer

☐ Other employee

☐ Visitor

☐ Your spouse or relative

☐ Other
Specify _____

☐ Unsure

62. Was the person who verbally abused you male or female? *Check one.*

☐ Male

☐ Female

63. Was the person who verbally abused you impaired? *Check all that apply.*

☐ Yes, under the influence of disease/illness.

☐ Yes, under the influence of prescribed medication.

☐ Yes, under the influence of other drugs or alcohol.

☐ No, not impaired.

☐ Unsure

64. Was the behavior witnessed? *Check one.*

☐ Yes

☐ No, never witnessed

☐ Unsure

65. Did you report the event to a supervisor or other management personnel? *Check all that apply.*

☐ Yes, reported event orally.

☐ Yes, reported event in writing.

☐ No, I did not report the event.

66. When <u>you were verbally abused</u> at work did you do anything to <u>protect yourself</u> or diffuse the situation while the incident was going on? *Check one.*

☐ Yes

☐ No

66(a). If yes, what did you do?

_____

_____

67. Did it help the situation in any way? *Check one.*

☐ Yes

☐ No

☐ Unsure

68. Did it make the situation worse in any way? *Check one.*

☐ Yes

☐ No

☐ Unsure

69. How do you perceive your risk of being <u>verbally abused</u> at your job compared to <u>people in other professions</u>? ? *Circle one.*

Much higher Somewhat higher The same Lower No risk

70. How do you perceive your risk of being <u>verbally abused</u> at your job compared to <u>nurses in other fields</u>? *Circle one.*

Much higher Somewhat higher The same Lower No risk

71. In the last <u>12 months</u>, how often were you *<u>made aware of</u>*, but not a witness to, <u>verbal abuse</u> in your work environment? *Check one.*

☐ Never

☐ 1-3 times

☐ 4-10 times

☐ 11-20 times

☐ 21-30 times

☐ More than 30 times

72. In the last <u>12 months</u>, how often have you *<u>witnessed</u>* other employees being <u>verbally abused</u> in your work environment? *Check one.*

☐ Never

☐ 1-3 times

☐ 4-10 times

☐ 11-20 times

☐ 21-30 times

☐ More than 30 times

→ If never, please continue to question 76,"Sexual harassment" on page 32.

73. When you witnessed another employee being verbally abused did you do anything to protect them or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

73(a). If yes, what did you do?

_____

_____

74. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

75. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

SEXUAL HARASSMENT

- *Sexual harassment occurs when you experience any type of unwelcome sexual behavior (words or actions) that creates a hostile work environment.*
- *Perpetrators of work related sexual harassment **can be anyone** including clients, coworkers, or supervisors.*

76. Did you experience any work-related sexual harassment within the last 12 months?
Please check one.

☐ Yes

☐ No ⟹ If no, please continue to question 89 on page 37.

Please consider the most recent incident of sexual harassment that you experienced.

77. Month that sexual harassment occurred:
Write in month of the event. If unsure of exact month, please give your best estimate.

_____

78. When did the event occur? *Check one.*

☐ Weekday (Monday-Friday)

☐ Weekend (Saturday-Sunday)

79. Time that sexual harassment occurred:
Please write in estimated time and circle am or pm. If exact time is unknown leave time blank and circle am or pm.

_____: _____ am / pm

80. Where did the sexual harassment occur? *Check all that apply.*

☐ Face to face/ In your presence

☐ Via telephone/ Voicemail/ Intercom

☐ Via email/ Fax/ Mail

☐ Other
Specify _____

81. What was your relationship to the person who sexually harassed you? *Check all that apply.*

☐ Patient/client

☐ Supervisor

☐ Subordinate

☐ Doctor

☐ Correctional officer

☐ Other employee

☐ Visitor

☐ Your spouse or relative

☐ Other
Specify _____

☐ Unsure

82. Was the person who sexually harassed you male or female? *Check one.*

☐ Male

☐ Female

83. Was the person who sexually harassed you impaired? *Check all that apply.*

☐ Yes, under the influence of disease/illness.

☐ Yes, under the influence of prescribed medication.

☐ Yes, under the influence of other drugs or alcohol.

☐ No, not impaired.

☐ Unsure

84. Was the behavior witnessed? *Check one.*

☐ Yes

☐ No, never witnessed

☐ Unsure

85. Did you report the behavior to a supervisor or other management personnel? *Check all that apply.*

☐ Yes, reported event orally

☐ Yes, reported event in writing

☐ No, I did not report the event

86. When <u>you were sexually harassed</u> at work did you do anything to <u>protect yourself</u> or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

86(a). If yes, what did you do?

_____

_____

87. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

88. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

89. How do you perceive your risk of being <u>sexually harassed</u> at your job compared to <u>people in other professions</u>? *Circle one.*

Much higher Somewhat higher The same Lower No risk

90. How do you perceive your risk of being <u>sexually harassed</u> at your job compared to <u>nurses in other fields</u>? ? *Circle one.*

Much higher Somewhat higher The same Lower No risk

91. In the last 12 months, how often were you *made aware of*, but not a witness to, sexual harassment in your work environment? *Circle one.*

Never 1-3 times 4-10 times More than 10 times

92. In the last 12 months, how often have you *witnessed* other employees being sexually harassed in your work environment? *Circle one.*

Never 1-3 times 4-10 times More than 10 times

If never, please continue to question 96,"Perceived risk" on page 39.

93. When you witnessed another employee being sexually harassed did you do anything to protect them or diffuse the situation while the incident was going on? *Check one.*

☐Yes

☐No

93(a). If yes, what did you do?

_____

_____

94. Did it help the situation in any way? *Check one.*

☐Yes

☐No

☐Unsure

95. Did it make the situation worse in any way? *Check one.*

☐Yes

☐No

☐Unsure

PERCEIVED RISK

Please mark the response that best reflects your disagreement/agreement with the following statements

		Strongly Disagree	Disagree	Agree	Strongly Agree
96.	**I fear that in the next year I will be hit, kicked, grabbed, shoved or pushed at work.**	☐	☐	☐	☐
97.	**Work-related violence is a problem in the correctional facility where I work.**	☐	☐	☐	☐
98.	**Correctional nurses are at a higher risk for work-related violence than nurses in other fields.**	☐	☐	☐	☐
99.	**I believe that work-related violence against correctional nurses can be prevented.**	☐	☐	☐	☐

100. Have you ever been a victim of workplace violence while employed somewhere other than the Department of Corrections?
Check a box for each type of violence.

Physical Assault	☐Yes	☐No
Threat	☐Yes	☐No
Verbal abuse	☐Yes	☐No
Sexual harassment	☐Yes	☐No

☐I've never worked anywhere besides the Department of Corrections

VIOLENCE PREVENTION

101. Before beginning work in a correctional setting, did you receive any training specific to corrections? *Check one.*

☐Yes

☐No

102. Since you began working as a correctional nurse, have you received any training on preventing violence at work? *Check one.*

☐Yes

☐No

☐Unsure

103. In the past 12 months, have you participated in any classes, workshops, or meetings at work that have focused on violence prevention strategies? *Check one.*

☐Yes

☐No

☐Unsure

104. At your place of employment, is there a violence prevention policy in place? *Check one.*

☐Yes

☐No

☐Unsure

Please circle the response that best reflects how often you engage in the following behaviors

105. While at work I carry a personal alarm with me.	Always	Sometimes	Rarely	Never

106.	**While working, there is an easily accessible way for me to communicate with my coworkers (telephone, intercom, walkie-talkie, etc.)**	Always	Sometimes	Rarely	Never
107.	**While working, I am observed either directly by a coworker or through a closed-circuit TV.**	Always	Sometimes	Rarely	Never

Please check the response best reflecting your agreement/disagreement with the following statements.

		Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
108.	**My coworkers are aware of the violence prevention policies at my job.**	☐	☐	☐	☐
109.	**My coworkers adhere to the violence prevention policies at my job.**	☐	☐	☐	☐
110.	**Violence prevention policies at my job are strongly enforced.**	☐	☐	☐	☐
111.	**My fellow nurses are supportive of me in my job, I feel like they "have my back."**	☐	☐	☐	☐
112.	**Correctional officers and other prison staff are supportive of me in my job, I feel like they "have my back."**	☐	☐	☐	☐

ABOUT YOU

113. How long have you worked as a correctional nurse? *Please write in a number.*

_____ year(s)

If less than a year:

_____ months(s)

114. Are you employed full-time or part-time with the DOC? *Please check one.*

- ☐ Full-time
- ☐ Part-time

115. What facility do you currently work at? *Check all that apply.*

- ☐ Ahtanum View Corrections Center
- ☐ Airway Heights Corrections Center
- ☐ Cedar Creek Corrections Center
- ☐ Clallam Bay Corrections Center
- ☐ Coyote Ridge Corrections Center
- ☐ Larch Corrections Center
- ☐ McNeil Island Corrections Center
- ☐ Mission Creek Corrections Center
- ☐ Monroe Corrections Center
- ☐ Olympic Corrections Center
- ☐ Pine Lodge Corrections Center
- ☐ Stafford Corrections Center
- ☐ Washington Corrections Center
- ☐ Washington Corrections Center for Women
- ☐ Washington State Penitentiary

116. Do you work in a section of this facility that focuses on treatment (mental health, substance abuse, etc.)? *Check one.*

☐ Yes

☐ No

117. What is your primary professional activity at the correctional facility? *Check all that apply.*

☐ Provide patient care

☐ Case management

☐ Administration

☐ Teaching

☐ Supervised patient care

☐ Research

☐ I split my time equally between two or more activities

☐ Other
Specify _____

118. Does your job as a correctional nurse provide the largest source of income to your household? *Check one.*

☐ Yes

☐ No

119. Before becoming a correctional nurse, were you ever employed in any other job in corrections? *Check one.*

☐ No

☐ Yes

119(a). If yes, how long have you worked in non-nursing correctional care? *Please write in a number.*

_____ **year(s)**

If less than a year:

_____ **months(s)**

120. Have you ever served on active duty in the U.S. Armed Forces, Military Reserves, or National Guard? *Check one.*

☐ Yes

☐ No

121. In what year did you graduate from your basic nursing program? *Please write in a number.*

_____

122. What is your highest level of education? *Check one.*

☐ Associate's Degree

☐ Bachelor's Degree

☐ Master's Degree

☐ Doctorate Degree

123. What is your gender? *Check one.*

☐ Male

☐ Female

124. How old are you? *Check one.*

☐ Less than 30 years

☐ 30-39 years

☐ 40-49 years

☐ 50-59years

☐ 60 years or older

125. Which of the following best describes your race/ethnicity? *Check all that apply.*

☐ American Indian or Alaskan Native

☐ Native Hawaiian or Other Pacific Islander

☐ Asian

☐ Black, not of Hispanic origin

☐ White, not of Hispanic origin

☐ Hispanic

☐ Other
Specify _____

126. What type of nursing license do you have?

☐ RN

☐ LPN

☐ NP

☐ Other
Specify _____

THANK YOU FOR YOUR PARTICIPATION!

VICTIMIZATION RESOURCES

Resources on workplace violence:
U.S. Department of Labor
http://www.osha.gov/SLTC/workplaceviolence/index.html
Washington State Department of Labor and Industries
http://www.lni.wa.gov/Safety/Research/OccHealth/WorkVio/default.asp

Resources for victims of violence:
The National Center for Victims of Crime
http://www.ncvc.org/ncvc/main.aspx?dbID=DB_VictimAssistance207

- Assault:
  http://www.ojp.usdoj.gov/ovc/publications/infores/help_series/pdftxt/assaultvictimization.pdf
- Sexual Assault:
  http://www.ojp.usdoj.gov/ovc/publications/infores/help_series/pdftxt/sexualassaultvictimization.pdf

Washington State Department of Corrections resources:
Link to DOC workplace violence prevention program and policy files or the statement, "For further information on the DOC's workplace violence reporting and prevention policies, please contact the Department of Human Resources at 1-888-727-or e-mail: docjobinfo@doc1.wa.gov.

If you have questions about your rights as a research subject, you can call the University of Washington Human Subjects Division at (206) 543-0098.

Bibliography

Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H., et al. (2001). Nurses' reports on hospital care in five countries. *Health affairs, 20*(3), 43-53.

Alexander, C. (2004). Occupational violence in an Australian healthcare setting: implications for managers. *Journal of health care management, 49,* 377-390.

Ambler, G., Omar, R.Z., & Royston, P. (2007). A comparison of imputation techniques for handling missing predictor values in a risk model with a binary outcome. *Statistical Methods in Medical Research, 16*(3), 277-298.

American Nurses Association (ANA). (2001). *Nursing world health and safety survey.* Warwick, RI: Cornerstone Communications Group.

American Nurses Association (ANA). (2002). *Preventing workplace violence.* ANA. Washington, DC.

American Nurses Association. (2001). *Nursing world health and safety survey.* Warwick, RI: Cornerstone Communications Group.

Anderson, C. (2002). Workplace violence: are some nurses more vulnerable? *Issues in Mental Health Nursing, 23*(4), 351-366.

Bachman, D. (1994). *Violence and theft in the workplace.* US Department of Justice.

Bachman, R. (1994). The double edged sword of violent victimization against the elderly: Patterns of family and stranger perpetration. *Journal of Elder Abuse and Neglect,* 5(4) 59-76.

Bachman, R. (1998). Factors Related to Rape Reporting Behavior and Arrest: New Evidence from the National Crime Victimization Survey. *Criminal Justice and Behavior,* 25(1), 8-29.

Beech, B. & P. Leather. (2006). Workplace violence in the health care sector: A review of staff training and intergration of training evaluation models. *Aggression and Violent Behavior, 11,* 27-43.

Bennett, R. & Wiegand, R. (1994). Observations on crime reporting in a developing nation. *Criminology,* 32(1): 135 – 148.

Blumstein A & Beck A. 1999. Population growth in U.S. Prisons, 1980-1996. In M. Tonry & J. Petersilia (Eds.), *Crime and Justice: Prisons,* vol 26., pp. 17-62. Chicago: University of Chicago Press.

Bolton, K. & Feagin, J. (2004). *Black on blue: African-American police officers and racism.* New York, NY: Routledge.

Bouten, E., Goudriaan, H., & Nieuwbeerta, P. *(2002).* Violence Prevention Program for Adolescents. *American Journal of Health Behavior, 24*(4), 268-280.

Bowker D. (1999). *Constructing the client-computer interface: Guidelines for design and implementation of Web-based surveys.* Summary report 99-15. Pullman, WA: Social and Economic Sciences Research Center, Washington State University.

Box, S., Hale, C., & Andrews, G. (1988). Explaining fear of crime. *British Journal of Criminology, 28*(3), 340-356.

Boz, B., Acar, K., et. al. (2006). Violence toward health care workers in emergency departments in Denizli, Turkey. *Advances in therapy, 23*(2), 364-9.

Braveman P, Cubbin C, Egerter S, Chideya S, Marchi K, Metzler M, Posner S. 2005. Socioeconomic Status in Health Research: One Size Does Not Fit All. *JAMA.* 294:2879-2888

Breslow, N., & Day, N. (1980). *Statistical methods in cancer research: Vol. 1 - The analysis of case-control studies.* Lyon, France, IARC Scientific Publications.
Bronner, G., Peretz, C., & Ehrenfeld, M. (2003). Sexual harassment of nurses and nursing students. *Journal of advanced nursing, 42*(6), 637–644.
Bureau of Justice Statistics. (2001). *Violence in the Workplace, 1993-1999.* Washington, D.C.: U.S. Department of Justice.
Bureau of Justice Statistics. (2005). *Key crime and justice facts at a glance*. Retrieved March 17, 2009 from http://www.ojp.usdoj.gov/bjs/glance.htm#Crime.
Bureau of Labor Statistics (BLS). (1992). *Work injuries and illnesses by selected characteristics, 1992*. Washington, DC: U.S. Department of Labor.
Campolieti, M., Goldenberg, J., & Hyatt, D. (2008). Workplace violence and the duration of workers' compensation claims. *Industrial Relations*. Retrieved March 1, 2009, from http://www.allbusiness.com/labor-employment/workplace-health-safety-occupational/10200620-1.html.
Cao L, Hou C, & Huang B. (2007). Correlates of the Victim Offender Relationship in Homicide. *International journal of offender therapy and comparative criminology.* Epub.
Carmel, H., & Hunter, M. (1989). Staff injuries from inpatient violence. *Hospital Community Psychiatry,* 40 , 41–45.
Castillo, D. N., Davis, L., & Wegman, D. H. (1999). Young workers. *Occupational Medicine,* 14(3), 519–536.
Catlette, M. (2005). A descriptive study of the perceptions of workplace violence and safety strategies of nurses working in level I trauma centers. *Journal of emergency nursing, 31*(6), 519-525.
Center for Disease Control and Prevention (CDC). (2006). *Traumatic Occupational Injuries*. Retrieved November 14, 2006. http://www.cdc.gov/niosh/injury/traumaviolence.html
Center for Disease Control (2006). *Workplace violence prevention strategies and research needs*. Retrieved May 19, 1008 from http://www.cdc.gov/niosh/docs/2006-144/#a1
Chappell, D., & DiMartino, V. (2006). Violence at work. *Child Maltreatment, 6,* 219-229.
Chenier, E. (1998). The workplace: A battleground for violence. *Public Personnel Management,* 27, 557-569.
Cheurprakobkit, S. (2000). Police-citizen contact and police performance: Attitudinal differences between Hispanics and non-Hispanics. *Journal of Criminal Justice*, 28, 325-336.
Cogin, J., & Fish, A. (2009). Sexual harassment: a touchy subject for nurses. *Journal of health organizational management, 23*(4), 442-62.
Collins, J. & B. Cox B. (1987). Job activities and personal crime victimization: implications for theory. *Social Science Research, 16*, 345–360.
Cook, J. K., Green, M., & Troop, R. V. (2001). Exploring the impact of physician verbal abuse on perioperative nursing. *Association of perioperative registered nurses journal.* Retrieved from www.findarticle.com/cf_O/mOFSL/3_74/80159514/print.jhtml.
Cheung, P., Schweitzer, I., Tuckwell, V., & Crowley, K. C. (1997). A prospective study of assaults on staff by psychiatric in-patients. *Medical Science Law, 37*(1), 46-52.
Christoffel, T., & Gallagher, S.S. (2005). *Injury Prevention and Public Health: Practical Knowledge, Skills, and Strategies* (2nd ed.). Gaithersburg, MD: Aspen Press.

Clemente, F., & Kleiman, M. (1976). Fear of crime among the aged. *The Gerontologist, 16*, 207–210.

Davies, W. & Burgess, P. W. (1988). Prison officers' experience as a predictor of risk of attack: and analysis within the British prison system. *Medical Science and Law, 28*(2), 135-138.

Dillman D. (2007). *Mail and internet surveys: the tailored design method.* Hoobken, New Jersey: John Wiley & Sons, Inc.

Dixon T. (2008). Crime news and racialized beliefs: understanding the relationship between viewing and perceptions of African American's and crime. *Journal of communication.* 58(1): 106-125.

Dressler W, Oths K, Gravlee C. (2005). Race and ethnicity in public health research: models to explain health disparities. *Annual Review of Anthropology*, 34:231-252.

Duhart, D. (2001). *Violence in the workplace 1993-1999.* Washington D.C.: Bureau of Justice Statistics.

Duldt, B. (1982). Sexual harassment in nursing: Another alienating communication hazard. *Nursing Outlook 6,* 336–343.

Eller, J. (2006). *Violence and culture: A cross-cultural and interdisciplinary approach.* Thompson Wadsworth, Belmont, CA.

Elliott, P. P. (1997). Violence in health care: What nurse managers need to know. *Nursing Management, 28*(12), 38–42.

Eisele, G. R., Watkins, J. P., & Matthews, K. O. (1998). Workplace violence at government sites. *American Journal of Industrial Medicine, 33*, 485-492.

Estryn-Behar, M., van der Heijden, B., Camerino, D., Fry, C., Le Nezet, O., Conway, P., & Hasselhorn, H. (2008**).** Violence risks in nursing-results from the European "NEXT' study. *Occupational Medicine, 58*(2), 107-114.

Fajnzylber P, Lederman D, & N Loayza. (2002). What causes violent crime? *European economic review,* 46, 1323-1357.

Felson R. 1996. Big people hit little people: Sex differences in physical power and interpersonal violence. *Criminology* 34:433-452.

Felson, R. B., Messner, S. F., Hoskin, A., & Deane, G. (2002). Reasons for reporting and not reporting violence to the police. *Criminology,* 40, 617-648.

Fiedler, A., & Hamby, E. (2000). Sexual harassment in the workplace. *Journal of nursing administration, 30*(10), 497–503.

Findorff, M. J., McGovern, P. M., Wall, M., Gerberich, S. G., & Alexander, B. (2004). Risk factors for work related violence in a health care organization. *Injury Prevention, 10*, 296–302.

Findorff-Dennis, M. J., McGovern, P.M. Bull, M., & Hung, J. (1999). Work related assaults: the impact on victims. *American Association of Occupational Health Nurses Journal, 47*, 456-465.

Findorff, M., McGovern, P. M., Wall, M., Gerberich, S. G., & Alexander, B. H. (2004). Risk factors for work-related violence in a health care organization. *Injury prevention, 10*(5), 296-302.

Finkelhor, D., & Ormrod, R. K. (2001). Factors in the underreporting of crimes against juveniles. *Child Maltreatment,* 6(3), 219-229.

Flannery, R. B., Hanson, M. A., & Penk, W. E. (1994). Risk factors for psychiatric inpatient assaults on staff. *Journal of Mental Health Administration, 21*(1), 24-31.

Flannery, R. B. (2001). The employee victim of violence: Recognizing the impact of untreated psychological trauma. *American Journal of Alzheimer's Disease and Other Dementias,* 16, 230–233.

Flannery, R. B. (2001). Characteristics of assaultive psychiatric inpatients: Updated review of findings, 1995–2000. *American Journal of Alzheimer's Disease and Other Dementias,* 16, 153-156.

Flannery, R. B., & Walker, A. P. (2004). Safety skills of mental health workers: Empirical evidence of a risk management strategy. *Psychiatric Quarterly,* 74(1), 1-10.

Frumkin, H., Walker, E. D., & Friedman-Jiménez, G. (1999). Minority workers and communities. *Occupational Medicine,* 14(3), 495–517.

Gates, D. M. (2004). The epidemic of violence against healthcare workers. *Occupational and environmental medicine, 61,* 649-650.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser, M. S., ... Watt, G. D. (2004). An epidemiological study of the magnitude and consequences of work-related violence: The Minnesota nurses' study. *Occupational and Environmental Medicine*, *61*, 495-503.

Gerberich, S. G., Church, T. R., McGovern, P. M., Hansen, H., Nachreiner, N. M., Geisser, M. S., Ryan, A. D., Mongin, S. J., Watt, G. D., & Jurek, A. (2005). Risk factors for work-related assaults on nurses. *Epidemiology*, *16*(5), 704-709.

Goodin, H. J. (2003). The nursing shortage in the United States of America: an integrative review of the literature. *Journal of advanced nursing, 43*(4), 335–350.

Gray, E., Jackson, J., & Farrall, S. (2008). Reassessing the fear of crime. *European Journal of Criminology, 5*(3), 363-380.

Greenberg M & Ruback R. (1992). *After the crime: Victim decision making.* New York: Plenum Press.

Gumport, P. J. (2003). *Academic and workplace sexual harassment: a handbook of cultural, social science, management, and legal perspectives.* Westport, CT: Praeger Publishers.

Hanson, R. H., & Balk, J. A. (1992). A replication study of staff injuries in a state hospital. *Hospital and Community Psychiatry,* 43, 836–837.

Hart, T.C., & Rennison, C. (2003). *Reporting crime to the police, 1992–2000.* Bureau of Justice Statistics Special Report No. NCV–195710 Available at: www.ojp.usdoj.gov/bjs/pub/pdf/rcp00.pdf.

Hartley, D., Biddle, E. A., & Jenkins, E. L. (2005). Societal cost of workplace homicides in the United States, 1992-2001. *American Journal of Industrial Medicine,* 47(6), 518-527.

Hesketh, K., Duncan, S., Estabrooks, C. A., Reimer, M., Giovannetti, P., Hyndman, K., & Acorn, S. (2003). Workplace violence in Alberta and British Columbia hospitals. *Health Policy, 63*, 311-321.

Hendricks, S. A., Jenkins, E. L., & Anderson, K. R. (2007). Trends in workplace homicides in the U.S., 1993-2002: A decade of decline. *American Journal of Industrial Medicine,* 50(4), 316-325.

Hoel, H., Einarsen, S., & Cooper, C. Organisational effects of bullying. (2003). In S. Einarsen, H. Hoel, D. Zapf & C. Cooper (Eds), *Bullying and emotional abuse in the workplace: International perspectives in research and practice.* London: Taylor & Francis, 2003.

Hogh, A., & Viitasara, E. (2005). A systematic review of longitudinal studies of nonfatal workplace violence. *European Journal of Work and Organizational Psychology*, 14(3), 291–313.

Hurwitz J & M Peffley. 1997. Public Perceptions of Race and Crime: The Role of Racial Stereotypes. *American Journal of Political Science* 41:375–401.

Indvik, J. (1994). Workplace violence: an issue of the nineties. *Public Personnel Management, 23*(4), 515-524.

Inter-University Consortium for Public and Social Research. (2004). National crime victimization study codebook: 1992-2004.

Ilkiw-Lavalle, O., Grenyer, B. F. S., & Graham, L. (2002). Does prior training and staff occupation influence knowledge acquisition from an aggression management training program? *International Journal of Mental Health Nursing, 11*, 233–239.

Inter-University Consortium for Political and Social Research (ICPSR). (200). *Accuracy of NCVS estimates.* Retrieved June 12, 2008 from www.icpsr.umich.edu/NACJD/NCVS/accuracy.html

Islam, S. S., Edla, S. R., Mujuru, P, Doyle, E. J., & Ducatman, A. M. (2003). Risk factors for physical assault: State-managed workers' compensation experience. *American Journal of Preventive Medicine, 25 (*1), 31-37.

ISNA Bulletin. (2002). ANA on-line health and safety survey key findings. *ISNA Bulletin, 28*(2), 17.

Jackson, D., Clare, J., & Mannix, J. (2002). Who would want to be a nurse? Violence in the workplace: A factor in recruitment and retention. *Journal of nursing management, 10*, 13-20.

Janicak, C. (1999). An analysis of occupational homicides involving workers 19 years old and younger. *Journal of Occupational and Environmental Medicine*, *41*(12):1140-1145.

Janicek C. (2003). Regional variations in workplace homicide rates. *Compensation and Working Conditions*; Online November 2003.

Jenkins, E. (1996). Workplace homicide: industries and occupations at high risk. *Occupational Medicine, 11* (2), 219-25.

Jenkins, L. (1996). *Violence in the workplace*. National Institute of Occupational Safety and Health. Retrieved from http://www.cdc.gov/niosh/violcont.html.

Johnson, C. L., DeMass-Martin, S. L., & Markle-Elder, S. (2007). Stopping abuse in the workplace. *American journal of nursing*, *107* (4), 32–34.

Johnson, P. R., & Indvik, J. (2006). Sticks and stones: Verbal abuse in the workplace. *Journal of organizational culture, communications and conflict*. Retrieved from http://findarticles.com/p/articles/mi_m1TOT/is_1_10/ai_n25009735.

Karoly, L., Greenwood, P., et al. (1998). Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions. Santa Monica, CA.

Katula, S. (2006a). Domestic violence in the workplace--part I: understanding how it affects victims. *American Association of Occupational Health Nurses Journal, 54* (5), 197-200.

Katula, S. (2006b). Domestic violence in the workplace--Part II: employers' response. *American Association of Occupational Health Nurses Journal, 54* (8), 341-4.

Keashly, L. (2001). Interpersonal and systemic aspects of emotional abuse at work: The target's perspective. *Violence and Victims, 16* (3), 233-268.

Kindy, D., Petersen, S., & Parkhurst, D. (2005). Perilous work: nurses' experiences in psychiatric units with high risk of assault. *Archives of psychiatric nursing, 19*(4), 169-175.

Kozlowska, K., Nunn, K., & Cousens, P. (1997). Training in psychiatry: an examination of trainee perceptions. *The Australian and New Zealand journal of psychiatry, 31*(5), 628-640.

Kratcoski, P. C. (1988). The implications of research explaining prison violence and disruption. *Federal Probation, 52*(1), 27–32.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 59-74.

LeBlanc, M., & Kelloway, E. J. (2002). Predictors and outcomes of workplace violence and aggression. *Applied Psychology, 87(3),* 444-453.

Levitt, S. (2004). Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not. *Journal of Economic Perspectives, 18*(1), 163-190.

Lipscomb, J. (1999).Violence in the workplace: a growing crisis among health care workers. In. Charney, W., Fragal, G. eds. *The epidemic crisis of health care worker injury.* Boca Raton, FL: CRC Press.

Liss, G. M., & McCaskell, L. (1994). Injuries due to violence. *Journal of the American Association of Occupational Health Nurses, 42*, 384–390.

Luo, M. (2004). "Police Measures Avert Livery-Cab Killings." *The New York Times*, February 7, 2004.

Lynch, J. (1987). Routine activity and victimization at work. *Journal of Quantitative Criminology, 3*, 283–300.

Lynch, J. P., & Addington, L. A. (2007). *Understanding crime statistics: Revisiting the divergence of the NCVS and UCR.* New York, NY: Cambridge University Press.

Madison, J. & Minichicello, V. (2001). Sexual harassment in healthcare: classification of harassers and rationalizations of sex-based harassment behavior. *Journal of nursing administration, 31*(11), 534-543.

Manderino, M. A. & Berkey, N. (1997). Verbal abuse of staff nurses by physicians. *Journal of professional nursing, 13*, 48-55.

May, D. D., & Grubbs, L. M. (2002). The extent, nature, and precipitating factors of nurse assault among three groups of registered nurses in a regional medical center. *Journal of emergency nursing, 28*(1), 11-17.

Mayhew, C., & Chappell, D. (2007).Workplace violence risk for health care workers. *The Journal of occupational health and safety, Australia and New Zealand, 23*, 23-29.

Mayhew, C., & Chappell, D. (2003). The occupational violence experiences of some Australian health workers: An exploratory study. *The journal of occupational health and safety, Australia and New Zealand,* 19(6), 3–43.

Mayhew, C. & Quinlan, M. (1999). The relationship between precarious employment and patterns of occupational violence: Survey evidence from thirteen occupations', in K. Isaksson, C. Hogstedt, C. Eriksson, & T. Theorell (eds.), *Health Effects of the New Labour Market,* Kluwer Academic/Plenum publishers, New York: 183-205.

McCall, B. P., & Horwitz, I. B. (2004). Workplace Violence in Oregon: An Analysis Using Workers' Compensation Claims from 1990-1997. *Journal of Occupational and Environmental Medicine, 46*(4), 357-366.

McCausland, R., & Parrish, A.A. (2002). The context of prison nursing. In: Norman, A., Parrish, A. (Eds.), *Prison Nursing*. Oxford, Blackwell Science, pp. 1–13.
McConnell, E. H. (2003). Fear of crime. In L. J. Moriarty (Ed.), *Controversies in victimology*. Cincinnati, OH: Anderson.
McPhaul, K. M., & Lipscomb, J. A. (2004). Workplace violence in health care: Recognized but not regulated. *The online journal of issues in nursing, 9*.
Menckel, E., & Viitasara, E. (2002). Threats and violence in Swedish care and welfare—Magnitude of the problem and impact on municipal personnel. *Scandinavian Journal of Caring Sciences*, 16, 376–385.
Merecz, D., Rymaszewska, J., Moscicka, A., Kiejna, A., & J. Jarosz-Nowak. (2006). Violence at the workplace-a questionnaire survey of nurses. *European Psychiatry, 21*(7), 442-450.
Mitchell, O., MacKenzie, D. L., Styve, G. J., & Gover, A. R. (2000). The impact of individual, organizational, and environmental attributes on voluntary turnover among juvenile correctional staff members. *Justice Quarterly, 17*, 333–357.
Morrison, L. J. (1999). Abuse of emergency department workers: An inherent career risk or a barometer of the evolving health care system? *Canadian Medical Association Journal, 161*(10,) 1262-1263.
Muse, M. V. (2009). Correctional nursing: The evolution of a specialty. *Correct Care, 15*(4), 328-334.
Nachreiner, N. M., Gerberich, S. G., Ryan, A. D., & P. M. McGovern. (2007). Minnesota Nurses' Study: Perceptions of Violence and the Work Environment. *Industrial Health*, 45, 672-678.
Nachreiner, N. M., Gerberich, S. G., McGovern, P. M., Church, T. R., Hanse, H. E., Geisser, M. S., & Ryan, A. D. (2005). Impact of training on work related assault. *Research in nursing and health, 28*(1), 67-78.
National Board of Occupational Safety and Health. (1987). *Occupational Injuries in Sweden 1983*. Stockholm: Swedish Work Environment Fund.
National Institute of Occupational Safety and Health (NIOSH). (2002). *Violence: occupational hazards in hospitals.* Publication no. 2002-101. Washington, DC: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, DHHS (NIOSH).
Needham, I., Abderhalden, C., Halfens, R. J. G., Fischer, J. E., & T. Dassen. (2005). Non-somatic effects of patient aggression on nurses: A systematic review. *Journal of advanced nursing, 49*(3), 283-296/
Neuendorf, K. A. (2002). *The Content Analysis Guidebook* .Thousand Oaks, CA: Sage Publications.
Ng, E., Carpenter, J., Goldstein, H. & J. Rasbash. (2006). Estimation in generalised linear mixed models with binary outcomes by simulated maximum likelihood. *Statistical Modelling,* 6: 23–42.
Nhiwatiwa, F. G. (2003). The effects of single session education in reducing symptoms of distress following patient assault in nurses working in medium secure settings. *Journal of psychiatric and mental health nursing, 10*(5), 561-568.
Nigro, L. G. & Waugh, W. L. (1996). Violence in the American Workplace: Challenges to the Public Employer. *Public Administration Review, 56*(4), 326-333.
Norman, A. & Parrish, A. (2002). *Prison nursing*. Oxford, Blackwell Science.

Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. (2004). *Guidelines for Preventing Workplace Violence for Healthcare and Social Workers.* OSHA 3148-01R.

Occupational Safety and Health Association (OSHA). (2006). Safety and health topics: Workplace violence. Retrieved November 14, 2006. http://www.osha.gov/SLTC/workplaceviolence/

O'Connell, B., Young, J., Brooks, J., Hutchings, J., & Lofthouse, J. (2000). Nurses' perceptions of the nature and frequency of aggression in general ward settings and high dependency areas. *Clinical nursing, 9*, 602- 610.

Peek-Asa, C., Erickson, R., Kraus, J. F., Kisner, S. M., & Pratt, S. G. (1999). Traumatic occupational fatalities in the retail industry, United States 1992-1996. *American Journal of Industrial Medicine*, 35(2), 186-191.

Peek-Asa, C., Howard, J., Vargas, L., & Kraus, J. F. (1997). Incidence of nonfatal workplace assault injuries determined from employer's reports in California. *Journal of Occupational and Environmental Medicine,* 39, 44–50.

Poster, E. (1996). A multinational study of psychiatric nursing staffs' beliefs and concerns about work safety and patient assaults. *Archives of psychiatric nursing, 10*(6), 365-373.

Rees, C., & Lehane, M. (1996). Witnessing violence to staff: a study of nurses' experiences. *Nursing standard, 11*, 45-47.

Reimer, G. R. (2007). Transforming correctional health care through advanced correctional nursing education. *Journal of correctional health care, 13*(3) 163-169.

Rennison, C. (2007). Reporting to the police by Hispanic victims of violence. *Violence and victims, 22*, 754-772.

Richards, J. (2003). Management of workplace violence victims. Available at: http,//www,who,int/violence-injuryprevention / violence / interpersonal /en/wvmanagementvictimspaper,pdf. Accessed December 2005.

Riopelle, D. D., Bourque, L. B., Robbins, M., Shoar, K. I., & Kraus, J. (2000). Prevalence of assault in urban public service employment settings. *International Journal of Occupational and Environmental Health, 6,* 9–17.

Rippon, T. J. (2000). Aggression and violence in health care professions. *Journal of Advanced Nursing, 31*, 452-460.

Rodriguez, G. and N. Goldman. (1995). An assessment of estimation procedures for multilevel models with binary responses. *Journal of the Royal Statistical Society, Series A,* 158: 73–89.

Rogers, K. & E. Kelloway. (1997). Violence at work: personal and organizational outcomes. *Journal of Occupational Health Psychology, 2*(1), 63-71.

Rose DR, Clear TR. 1998. Incarceration, social capital, and crime: Implications for social disorganization theory. *Criminology*, 36: 441-479.

Ross, C. E., & Mirowsky, J. (2001). Neighborhood disadvantage, disorder, and health. *Journal of Health and Social Behavior,* 42(3), 258-276.

Royal College of Nursing, 2001. *Caring for Prisoners*. RCN, London.

Ruback, R. B., Outlaw, M. S., Menard ,K. S., & Shaffer, J. N., (1999). Normative advice to campus crime victims: The effects of age, gender, and alcohol Use. *Violence & Victims*, 14(4), 381 – 396.

Runyan, C., Bowling, J., Schulman, M., & S. Gallagher. (2005). Potential for violence against teenage retail workers in the United States. *Journal of Adolescent Health, 36*(3), 267.e1-5.

Salin, D. (2003).Ways of explaining workplace bullying: A review of enabling, motivating and precipitating structures and processes in the work environment. *Human Relations, 56(*10), 1213.

Sandberg, D. A., McNiel, D. E., & Binder, R. I. (2002). Stalking, threatening, and harassing behavior by psychiatric patients toward clinicians. *Journal of the American academy of psychiatry law, 30*, 221-229.

Schaufeli, W. B., & Peeters, M. C. W. (2000). Job stress and burnout among correctional officers: A literature review. *International Journal of Stress Management, 7*, 19-48.

Schlosser, Eric. Fast Food Nation: The Dark Side of the All-American Meal. Hougton Mifflin: 2001.

Schuck A, Rosenbaum D, & D Hawkins, 2008. The Influence of Race/Ethnicity, Social Class, and Neighborhood Context on Residents' Attitudes Toward the Police. *Police Quarterly OnlineFirst*, published on May 1, 2008 as doi:10.1177/1098611108318115

Shields, M., & Wilins, K. (2009). Factors related to on-the-job abuse of nurses by patients. *Health Reports, 20*(2), 7-21.

Sigler, R. T., & Johnson, M. I. (2002). Reporting violent acts to the police: A difference by race. *Policing: An International Journal of Police Strategies and Management,* 25(2), 274-293.

Simon, R., & Tardiff, K. (2008). *Textbook of Violence Assessment and Management.* Arlington, VA: American Psychiatric Publishing, Inc.

Simonowitz J. A., Rigdon, J. E., & Mannings, J. (1997). Workplace violence. Prevention efforts by the occupational health nurse. *American Association of Occupational Health Nurses Journal*, *45*(6), 305–318.

Sofield, L., & Salmond, S. W. (2003). A focus on verbal abuse and intent to leave the organization. *Orthopedic nursing, 22*(4), 274-283.

Spigner, C. (1998). Race, class, and violence: research and policy implications. *International journal of health services*. 28(2): 349-372.

StataCorp. (2006). *STATA Statistical Software*. College Station, TX: Stata Corporation, version 9.

Stone, J. & D. Stevens. (2000). Effectiveness of Taxi Partitions: Baltimore, Maryland, Case Study. *Transportation Research Record, 1731*, 71-78.

Swanberg, J., Macke, C., & T. Logan. (2006). Intimate partner violence, women, and work: coping on the job. *Violence and Victims, 21*(5), 561-78.

Swanberg, J., Logan, T., & C. Macke. (2005). Intimate partner violence, employment, and the workplace: consequences and future directions. *Trauma, Violence, and Abuse, 6*(4), 286-312.

Taylor, A. B.,West, S. G., & Aiken, L. S. (2006). Loss of power in logistic, ordinal logistic, and probit regression when an outcome variable is coarsely categorized. *Educational and Psychological Measurement.* 66(2), 228–39.

Thackrey, M., & Bobbitt, R. G. (1990). Patient aggression against clinical and nonclinical staff in a V A medical center. *Hospital and Community Psychiatry, 41*, 195-197.

Toscano, G., & Weber, W. (1995). *Violence in the Workplace.* Washington, DC: Bureau of Labor Statistics.

U.S. Department of Health and Human Services (US HHS). (1996). Current Intelligence Bulletin 57: Violence in the Workplace Risk Factors and Prevention Strategies. Retrieved November 18, 2006 at http://taxi-world.home.att.net/cib57.htm.

U.S department of health and human services. (2006). *The registered nurse population.* Retrieved from http://bhpr.hrsa.gov/healthworkforce/rnsurvey04/

U.S. Department of Health and Human Services. (2009). *Healthy people 2010: Leading health indicators.* Retrieved November 18, 2008, from http://www.healthypeople.gov/lhi/.

US Department of Justice (US DOJ). (2001). *National crime victimization survey: violence in the workplace, 1993-99.* Available at http://www.ojp.gov/bjs/pub/pdf/vw99.pdf. Accessed January 7, 2008.

U.S. Dept. of Justice, Bureau of Justice Statistics. (1998). Elderly Crime Victims: National Crime Victimization Survey. Retrieved July 31, 2008 from http://www.ojp.usdoj.gov/bjs/pub/ascii/ecv.txt

U.S. Dept. of Justice, Bureau of Justice Statistics. (2008). *National crime victimization survey, 2005.* Conducted by U.S. Dept. of Commerce, Bureau of the Census. Ann Arbor, MI: Inter-university Consortium for Political and Social Research,

US Department of Labor (US DOL). (2005). Case and demographic characteristics for work-related injuries and illnesses involving days away from work: resource tables, 2004. Available at http://www.bls.gov/iif/oshcdnew.htm. Accessed January 7, 2008.

United Kingdom Central Council (UKCC). (2002). The Recognition, prevention and therapeutic management of violence in mental health care. Report prepared for the UKCC. London: Health Services Research Department, Institute of Psychiatry.

Valente, S. M., & Bullough, V. (2004). Sexual harassment of nurses in the workplace. *Journal of nursing care quality, 19*(3), 234-241.

Weitzer, R & S Tuch. (2005). Racially Biased Policing: Determinants of Citizen Perceptions *Social Forces*, 83(3): 1009-1030

Weitzer, R., & Tuch, S. A. (2006). *Race and policing in America.* New York, NY: Cambridge University Press.

Whittington, R., Shuttleworth, S., & Hill, L. (1996). Violence to staff in a general hospital setting. *Journal of Advanced Nursing, 24*, 326-333.

Wieclaw, J., Agerbo, E., Mortensen, P. B., Burr, H., Tüchsen, F., & Bonde, J. P. (2006). Work related violence and threats and the risk of depression and stress disorders. *Journal of Epidemiology and Community Health,* 60(9), 771-775.

Wilkinson, C. W. (2001). Violence at work: A business perspective. *American Journal of Preventive Medicine, 20*, 155–160.

Wood, A., White, I., & Royston, P. (2008). How should variable selection be performed with multiply imputed data? *Statistics in Medicine*, *27*(17), 3227-3246.

World Health Organization (WHO). (1996). Global Consultation on Violence and Health. Violence: a public health priority. Geneva: WHO.

Wortley S, Hagan J, & R Macmillan. (1997). Just des(s)erts? The racial polarization of perceptions of criminal injustice. *Law & Society Review*, *31*:637-676.

Wortley, R. (2002). *Situational prison control: Crime prevention in correctional institutions.* Cambridge, UK: Cambridge University Press.

Yehuda, R. (2002). Post-traumatic stress disorder. *New England Journal of Medicine,* 346(2), 108-114.

Yu Q, Stasny E, & and Li B. 2008. Bayesian models to adjust for response bias in survey data for estimating rape and domestic violence rates from the NCVS. *The annals of applied statistics*. 2(2): 665-686.

Curriculum Vitae
Sarah Veele-Brice, PhD, MPH

Administrative Office of the Courts
1206 Quince Street SE
PO Box 41170
Olympia, WA 98501
360-705-5324 (w)
Sarah.Veele-Brice@courts.wa.gov

Current Position

Washington State Center for Court Research — *Olympia, WA*
Research Scientist (January, 2010 – present)

Education

University of Washington, School of Public Health — *Seattle, WA*
PhD program in Health Services. Area of emphasis in occupational and environmental health. Dissertation topic "Intentional Injury in the Workplace. Workplace Violence: Characteristics, Causes, and Prevention." (September 2005 – June 2010)

University of Michigan, School of Public Health — *Ann Arbor, MI*
Masters of Public Health in General Epidemiology. Masters Thesis "The compensatory effect of social support on self-reported physical health among female victims of intimate partner violence: A test of the Resiliency Theory Model." (August, 2003 – April 2005).

Loyola University — *Chicago, IL*
Bachelor of Arts and Sciences, Sociology. Minor in Peace Studies and Black World Studies. Honors Thesis "Students Perceptions of Loyola University Chicago by Race: Potential for Positive Change." (August, 1999 - May, 2003)

Awards

American Public Health Association: Public Health Nuring Section-Junior Investigator Award Nominee (May14, 2009), Harry Bridges Center for Labor Studies Grant Recipient (July 2008 – July 2009), University of Washington School of Public Health/ National Institute for Occupational Safety and Health Occupational Health Services Research Training Grant (September 2005 – present), Peer Reviewer American Journal of Public Health (2007 – present), University of Michigan School of Public Health Deans Award (August 2003-May 2005), Gallagher Award for Outstanding Graduating Senior in Sociology, Loyola University Chicago (April, 2003), Mulcahy Scholarship (May 2002 – May 2003), The National Society of Collegiate Scholars (Inducted February, 2001), Golden Key Honor's Society (Inducted April, 2001), Alpha Kappa Delta Honors Society (Inducted May, 2002), Phi Beta Kappa (Inducted May, 2003).

Presentations

American Public Health Association: Annual Conference *Philadelphia, PA*
Oral Presentation. "Correctional nurses' experiences of violence in the workplace." November 9, 2009.

American Public Health Association: Annual Conference *Philadelphia, PA*
Poster Presentation. "Demographic and occupational characteristics associated with workplace victimization and reporting practices." November 9, 2009.

7th Annual Regional National Occupational Research Agenda *Salt Lake City, UT*
Young/New Investigators Symposium
Oral Presentation. "Demographic and occupational characteristics associated with workplace violence victimization." April 17, 2009.

American Public Health Association: Annual Conference *Washington DC*

Poster Presentation. "Not in my job description: Characteristics of unreported workplace violence." November 4, 2007.

Research Experience

Doctoral Dissertation *Seattle, WA*
"Intentional Injury in the Workplace. Workplace Violence: Characteristics, Causes, and Prevention": composed of two projects.

Correctional Nurses' Experiences of Violence in the Workplace. This project is a survey of prison nurses in Washington State and Virginia and jail nurses in Florida (total study size of 677 correctional nurses). The goal of this project was to calculate the rate of workplace violent and non-violent (threats, sexual harassment, and verbal abuse) victimization among correctional nurses, to determine risk factors for victimization, and to identify practices that help to prevent victimization. All work on this project was done independently (with supervision from dissertation committee). This entailed designing the survey, collaboration with correctional facility supervisors and staff, survey instrument formatting and pre-testing, implementation in three states, coding and entering completed data in data management system, analyzing data, and preparing data for trade and academic presentation.

Characteristics and reporting patterns of victims of workplace violence. Analyses were conducted using secondary data from a large public access data set (National Crime Victimization Study). The goal of this project was to calculate national rates of workplace violent and non-violent victimization. Using regression modeling techniques, the secondary goals were to determine which demographic and job related characteristics are associated with workplace victimization and to identify variations in the decision to report victimization to the police.

Dissertation research is being written up for submission in peer reviewed journals.

Prevention Research Center *Ann Arbor, MI*

The Prevention Research Center (PRC) of Michigan works to improve the public's health by expanding and sharing knowledge between the community, the public health system, and the university. My research included development of and data analysis of the Speak to Your Health! community survey of residents of Flint, Michigan. Among other things, my analyses focused on the impact of having an incarcerated family member on mental and physical health, an issue that the community is deeply concerned with. While at the PRC I also worked with the Genesee County Health Department and Medical Examiner analyzing data on injury and mortality rates in Genesee County.

Center for Urban Research and Learning *Chicago, IL*

The Center for Urban Research and Learning (CURL) is a research center that emphasizes forming partnerships between the university and community. At CURL I worked on a variety of socially-oriented research projects and gained numerous skills in conducting and collaborating on such research. My work included census research on the changing availability of affordable housing in Chicago, creating a model budget for home-based childcare providers, and research on the racial gap in services in Chicago in all sectors of life from health to transportation. Within this project I was the lead researcher in the categories of crime and health data.

Mulcahy Scholarship *Chicago, IL*

Funded by the School of Arts and Sciences at Loyola University Chicago, this scholarship provides undergraduate students the opportunity to create, conduct, and present their own research projects. My research was a comparative study of the differing perceptions of undergraduate experiences dependent on race at Loyola University Chicago and Loyola University New Orleans using survey data, personal interviews, and on-site evaluation.

Teaching Experience

University of Washington *Seattle, WA*

Teaching assistant for Health Services 522: Health Program Evaluation (Fall 2009) Graduate level course. Responsibilities included lecturing, meeting with students to discuss issues with the course, assisting professor in creating and grading assignments and exams, regular meetings with professor, and assisting students in designing a program evaluation for implementation.

University of Michigan *Ann Arbor, MI*Graduate Student Instructor (GSI) for Sociology 310: Introduction to Research Methods (Winter 2004) a course required of all undergraduate Sociology majors.
Graduate Student Instructor for Sociology 210: Introduction to Sociology Statistics an undergraduate course offered to both majors and non-majors in the Sociology department (Fall 2003).
Responsibilities include creation of lesson plans, lecturing twice a week, meeting students individually during office hours, grading assignments and tests, weekly meetings with faculty and attending faculty run lectures. Student evaluations are available for review upon request.

Chicago Youth Program *Chicago, IL*

Volunteer mentor and tutor to "at risk" youth aged four to six. Commitment consists of a weekly tutoring session focusing on reading skills and a separate weekly meeting for activities to celebrate

participant's achievements (museum visits, play time, etc.). Responsibilities include developing and implementing curriculum, scheduling outings, and communicating with youth, their parents, and their teachers (August 2001- August 2003).

Center for Urban Research and Learning *Chicago, IL*
Research advisor for undergraduate students enrolled in the Loyola University Chicago, Urban Semester Seminar (SOCL 335). Responsibilities include dissemination of research responsibilities to undergraduates and evaluation of progress. Responsibilities also include acting as a contact and mentor for enrolled student (Spring 2003).

Sacred Heart Schools *Chicago, IL*
Head volleyball coach for seventh and eighth grade girls at a private Catholic school in Chicago. (August 2001 – November 2002).

Family and Children Services *Kalamazoo, MI*
Lead respite worker at a day treatment program for emotionally impaired boys aged four to ten. Responsibilities included scheduling and executing curriculum and outings; implementing a behavior management system for clients; monitoring a weekly budget; transporting clients; supervising and evaluating fellow respite workers; and communicating with clients, their parents, case workers, and the respite director (May–August 2000, May –August 2001).

Publications

Veele-Brice S, Wickizer T, Martin D, & C. Spigner. Demographic and occupational characteristics associated with workplace victimization and reporting practices. Under review- *Journal of Occupational and Environmental Medicine.*

Veele-Brice S, Martin D, Spigner C, & T Wickizer. Correctional nurses experiences of non-physical violence in the workplace: Predictors and deterrents. Under review – Journal of Nursing and Health.

Veele-Brice S, Martin D, Spigner C, & T Wickizer. "Just part of the job": Exploring prison nurses' experiences of physical victimization in the workplace. In progress.

Hough N, Neary T, Veele S. *Minding the Gap: An Assessment of Racial Disparity in Metropolitan Chicago.* Released November, 2003 at www.luc.edu/curl/pdfs/mgexec_sum.pdf/. Cited in the Chicago Sun Times (November 14, 2003) and the basis of documentary aired March 28, 2003 on WTTW 11- Chicago PBS affiliate.

Veele-Brice S, Webster D, Zimmerman M, Green-Moten E. *The Effect of Incarceration on Mental Distress of Family Members.* In progress.

Positions Held/Memberships

Member Kent for Health Outreach Committee (July 2008-present), Member American Public Health Association (December 2007- present), Co-Chair Academy Health – University of Washington Student Chapter (June 2006 - August 2007), Member University of Michigan: La Salud (September 2003-2006), Member Graduate Employee Organization (August 2003-May 2004), Member Public Health Students for Social Justice (January 2004-2006), President of Loyola University Chicago's Women's Volleyball Club (April 2001 –May 2003), Vice-President (May 2000-April 2001), President

of Loyola University Chicago's Sociology Club (February 2002-April 2003), Secretary (March 2001-February 2002), President of Loyola University Chicago's Sports Club Student Association (April 2002-May 2003), Vice-President (May 2001-April 2002).

Volunteer Activities

Kent International Festival Planning Committee (October 2008 – present). Member of committee organizing the first international festival to be held in Kent, WA (June 27, 2009). Volunteer responsibilities include: Planning, recruiting participants and performers, and supporting lead staff during the event.

Kruisin' Kent Passport Planning Committee (August 2008-present). The passport is a program that encourages school age children in Kent, WA to be active, eat healthy, and learn throughout the summer. Volunteer responsibilities include: Inception of project, planning, recruiting businesses to participate, recruiting schools to participate, implementation of project.

Reviewer – American Journal of Public Health (February 2007-present).

Certificates

University of Michigan School of Public Health Graduate Summer Certificate in Epidemiology (July, 2004), Certificate in Urban Studies (Loyola University Chicago, May 2001), Red Cross Adult First Aid and CPR certification (February, 2010), Mandt Verbal and Physical De-escalation Certification (June, 2001).

Skills

Statistical analyses: Descriptive statistics. Regression and Multilevel Hierarchical and Longitudinal Models

Qualitative research methods: Conducting interviews and focus group. Design and implementation of self-administered surveys

Proficient in:

Microsoft Word	STATA
Microsoft Excel	SPSS
Power Point	SAS