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Aggression and its consequences in nursing: A more complete story by adding its social context

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Aggression And Its Consequences In Nursing:

A More Complete Story By Adding Its Social Context

by

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Dedication

I want to dedicate my dissertation to my parents, Gongwei Yang and Youmei Xiong. I really appreciate the freedom they have provided me for developing myself, and the unconditional support that enables me to pursue my dream without any hesitation.

I would also like to dedicate my dissertation to my mentor Dr. Paul E. Spector. In the past 5 years, I have been truly enjoying the wonderful mentoring relationship with him. In a word, his mentoring has made my pleasant international journey.

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ABSTRACT

Using a 471-case nursing sample, the current study examined the direct and
indirect relationships between workplace aggression (including physical and
psychological) against nurses and their health and safety consequences. Specifically,
physical and psychological aggression nurses experienced were related to their job
dissatisfaction, turnover intention, physical symptoms, injuries and exposure to
contagious disease directly and/or indirectly through their emotional strain (irritation,
anxiety, and depression). In addition, my findings demonstrated that stronger violence
prevention climate (i.e., good prevention practices/response and low pressure for unsafe
practices) was related to less frequent violence and psychological aggression incidents
nurses experienced. Also, my results indicated significant moderating effect of
organizational violence prevention practices/response (one dimension of violence
prevention climate) in the relationships of nurses' physical and psychological aggression
with their anxiety and depression, such that nurses who perceived stronger (vs. weaker)
violence prevention climate seemed to be more (vs. less) anxious about or depressed by
aggression incidents that occurred to them. However, overall nurses who perceived
stronger violence prevention climate felt less anxious and depressed at work than those

who perceived weaker climate. Finally, regarding the role of social burden, there was evidence from this study supporting its positive relationship with nurses' perceived irritation, anxiety, and depression although there did not seem to be evidence supporting its moderating role between nurses' aggression experience and their emotional strain. In summary, emotional strain seemed to be a relatively consistent mediator between nurses' aggression experiences and their health or safety consequences, and nurses' perceived social context (violence prevention climate and social burden) did significantly and directly relate to their health and safety consequences, but more research is warranted before we conclude about their potential moderating role in the aggression-consequence relationships.

Chapter 1: Introduction

This study focuses on the relationships between nurses' experienced aggression and various assumed health and safety consequences. In addition, it examines how affect may function as a mediator between aggression and its consequences, and investigates if contextual variables will moderate the regression-outcome relationships among nurses. Those contextual variables are negative social interactions and organizational violence prevention climate (how much employees perceive that the organization emphasizes the control and elimination of physical violence and psychological aggression, Spector, Coulter, Stockwell, & Matz, 2007).

Human Aggression and Workplace Aggression

Human aggression has been a major focus for researchers and theorists in the past few decades given the destructive effect of aggression on individuals and societies (e.g., Bandura, 1973; Baron, 1977; Baron & Richardson, 1994; Berkowitz, 1993; Lorenz, 1966). As defined by Baron (1977), aggression is any form of behavior aiming to harm or injure another living being in ways the intended target is motivated to avoid. This definition captures a broad range of behaviors including physical aggression (i.e. violence) and verbal aggression. To be specific, there are five components in Baron's definition. First, aggression is a type of behavior as opposed to an emotion, an attitude or a motive. Second, aggression represents intentional acts; that is, aggressor intends to harm the target(s). Third, the nature of the intent behind aggression is to harm or injure the target(s). Fourth, aggression involves another living being as opposed to inanimate

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objects (e.g., furniture). Finally, the target of aggression is motivated to avoid the harm from the aggression.

Applying the concept of aggression to the workplace, Baron and Neuman (1996) conceptualized workplace aggression as any form of behavior by one or more persons in a workplace aiming to harm one or more others in the same workplace (or the entire organization). Specifically, they labeled the physical and relatively intense harm-doing as workplace violence but named those less severe non-physical instances of harm-doing (e.g., threats, yelling/shouting) as verbal aggression (Neuman & Baron, 2005). Given the fact that not all the non-physical instances of harm-doing are verbal (e.g., hostile postures), I use psychological aggression instead of verbal aggression to indicate the non-physical harm-doing, and use workplace violence to represent physical aggression, which is consistent with prior studies in the literature (e.g., Schat & Kelloway, 2003; Schat, Frone, & Kelloway, 2006).

Workplace violence is a serious problem recognized worldwide that is prevalent and consequential in occupational settings like the healthcare industry, particularly for nursing professionals (Gerbrich et al., 2004; International Labour Office, International Council of Nurses, World Health Organization, & Public Services International, 2002; Lanza, Zeiss, & Rierdan, 2006). As reported by the U.S. Bureau of Justice Statistics, on average 1.7 million episodes of victimization at work per year during the period of 1993 - 1999 (Duhart, 2001). In Gerberich et al. (2004) study of 4918 nurses across the whole Minnesota, 13.2% of them reported experienced physical violence at work in the past year. In reality, the occurrence rate is probably higher given that many violent incidents are unreported (e.g., Ferns, 2006; Ray, 2007). The prevalence of workplace violence in

nursing not only contributes to the decreased healthcare quality but also negatively influences nurses' health and well-being such as increased physical symptoms and emotional strain, or decreased job satisfaction, which will in turn increases healthcare costs due to medical errors and nurse turnover (e.g., Lanza, 2006; LeBlanc & Barling, 2005; Schat et al., 2006). I focus on workplace violence experienced by a sample of U.S. hospital nurses in my study not only because of its prevalence in nursing environment and its serious consequences discussed above, but also because physical violence is an understudied topic, especially from the perspective of industrial and organizational psychology.

In addition, I examined *psychological aggression.* There are three reasons for doing so. First, it has been shown to be even more prevalent than physical violence in the workplace including the healthcare setting (e.g., Gerberich et al., 2004; Greenberg & Barling, 1999; U.S. Postal Service Commission, 2000). For example, in Gerberich et al. (2004) study, 38.8% of the nurses reported experienced non-physical violence at work in the past year, as opposed to 13.2% occurrence rate of physical violence. Second, the literature on family violence (e.g., Murphy & O'Leary, 1989) and that on aggression in healthcare settings (e.g., Lanza et al., 2006) suggest that psychological aggression often becomes a precursor or cooccurrence to physical violence. For example, Lanza et al.'s (2006) study showed that healthcare workers who had experienced non-physical aggression were 7.17 times more likely to be attacked physically at work than those who had not experienced non-physical aggression. Finally, similar to workplace violence, psychological aggression has been related to various negative consequences such as physical symptoms (e.g., Gerberich et al., 2004), emotional strains (e.g., Needham,

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Abderhalden, Halfens, Fischer, & Dassen, 2005), and negative job attitudes (e.g.,

Gerberich et al., 2004; LeBlanc & Kelloway, 2002).

Occupational Stress Framework

Stressors and strains are two key concepts in the occupational stress framework.

As defined by Jex (1998), stressors concern aspects of the work environment that may

require employees' adaptive responses, whereas strains are the individual's

psychological, physical or behavioral adaptive responses to the work environment.

Workplace aggression represents a stressor that occurs to individuals at work and requires

its recipients' efforts in adjusting themselves and recovering from the emotional and

physical challenge brought by the incident. As suggested by occupational stress models

(e.g., Beehr & Newman, 1978; Caplan, Cobb, French, Van Harrison & Pinneau, 1975),

workplace aggression can be perceived as a stressful environmental incident that triggers

short-term emotional, physiological and behavioral responses, and if persistent over time,

it may contribute to long-term health consequences (e.g., disease). Due to the potential

distraction from emotional and physical strain brought by workplace aggression, injury

may occur as a result that in and of itself can serve as a stressor, particularly if it affects

the ability to complete job tasks, or requires medical treatment.

To be specific, workplace aggression as a stressor may trigger recipients' (harmed

nurses') negative emotional reactions such as irritation or anxiety (e.g., Needham et al.,

2005; Schat & Kelloway, 2003; Walsh & Clarke, 2003). The physiological component of

their emotional reactions may then contribute to physical symptoms such as headache or

stomach distress (e.g., LeBlanc & Kelloway, 2002; Needham et al., 2005; Schat &

Kelloway, 2003; Walsh & Clarke, 2003). These nurses' job satisfaction may decrease due

to repeated negative experience of workplace aggression (e.g., Budd, Arvey & Lawless, 1996), and their intention to leave may intensify as a planned strategy to escape that kind of experience (e.g., LeBlanc & Kelloway, 2002; Rogers & Kelloway, 1997). Interestingly, a lot of the empirical evidence on the above aggression-consequence relationships was found in healthcare settings.

Exposure to workplace aggression can be considered a significant stressor that is associated with emotional responses, most likely anxiety. Following Mandler (1979, 1984), stress response concerns autonomic and emotional arousal and preoccupation with the stressful event that interferes with continuous conscious processing. The autonomic and emotional arousal and preoccupation with the aggression event can serve as a distraction, which limits the availability of attention to daily job. Indeed, autonomic arousal has been shown to narrow attention (e.g., Mandler, 1975, 1993), and it also acts indirectly by occupying some of the limited capacity of attention-consciousness. In doing so, it limits the remaining availability of attention to those events originally perceived as central. The limited availability of attentional resources may contribute to the decreased memory of central tasks (e.g., Deffenbacher, 1983; Loftus & Burns, 1982), and hurt the individual's cognitive functioning (e.g., Bekker, de Jong, Zijlstra, & van Landeghem, 2000; Hamilton, 1975; Janis, 1993; van der Linden, Keijsers, Eling, & van Schaijkl, 2005). Such disrupted cognition can lead to errors in conducting tasks, resulting in accidental injury (e.g., Wadsworth, Moss, Simpson, & Smith, 2003) or self-exposure to workplace hazards, such as infectious diseases.

Workplace hazards, or occupational hazards, include occupational injury which concerns damage to the body, and the contacting of an illness while engaged in work

activities. For nurses, major sources of occupational hazards include musculoskeletal injuries due to lifting of patients, needlestick incidents that lead to exposure to bloodborne pathogens (e.g., hepatitis or HIV), and workplace aggression (e.g., Ramsay, Denny, Szirotnyak, Thomas, Corneliuson, & Paxton, 2006). As an increasingly prevalent issue in the healthcare industry (U.S. Department of Health and Human Services & Centers for Disease Control and Prevention, 2004), occupational hazards have been significantly related to employee social and health consequences (Dembe, 2001**;** Keller, 2001; Walsh & Clarke, 2003). Based on the theoretical arguments mentioned above (e.g., Mandler, 1975, 1993), as well as the limited empirical evidence on occupational stressor-hazard relationships in the stress and safety literatures (e.g., Goldenhar, Williams, & Swanson, 2003; Kelloway, Barling, & Hurrell, 2006; Takala, 2002), I argue that workplace aggression can be an important source of injuries and as a stressor it can contribute to contagious disease exposure. However, these occupational hazards (i.e., injuries and contagious disease exposure) have not been related to workplace aggression empirically. To shed light on this gap, these nursing hazards are investigated in my study as potential consequences of workplace aggression in addition to other ones already examined in the literature.

Taking the theoretical and empirical evidence together, I posit the following hypotheses.

Hypothesis 1a: Workplace violence will be positively associated with emotional strain (irritation, anxiety, and depression), physical symptoms, turnover intention, injuries and exposure to contagious disease, while negatively related to job satisfaction.

Hypothesis 1b: Psychological aggression will be positively associated with emotional strain (irritation, anxiety, and depression), physical symptoms, turnover intention, injuries and exposure to contagious disease, while negatively related to job satisfaction.

Emotional strain has been associated with physical strains, occupational injuries, exposure to contagious disease, and various job strains in the occupational stress literature, theoretically and empirically (Fuller, Stanton, Fisher, Spitzmuller, Russell, & Smith, 2003; Smith, Roman, Dollard, Winefield, & Siegrist, 2005). Theoretically, nurses' accumulated emotional strain may contribute to physical symptoms (even illness) in the long run, and increase the possibility of them being hurt at work due to the distraction from emotional strain or inadequate attentional resources. Therefore, their turnover intention may intensify as a result of their wanting to escape the source of their emotional strain. As argued by Cosmides and Tooby (2000) and Lord and Harvey (2002), emotion processing (the key component of emotional strain) is a first-response system when interacting with the external environment and can be the leading system that activates and coordinates subsequent cognitive, behavioral and physical processes. It is possible that emotional strain precedes the other types of strain (e.g., job dissatisfaction, turnover intention, or physical symptoms) and so may be related to workplace aggression more directly. Empirically, previous studies showed that emotional strain (i.e., irritation, anxiety, or depression) correlates with physical symptoms (e.g., Schat & Kelloway, 2000; Smith et al., 2005; Spector & O'Connell, 1994), job dissatisfaction (e.g., Fuller et al., 2003; Hasson & Arnetz, 2008; Spector & O'Connell, 1994) and turnover intention (e.g.,

Liu, Spector & Jex, 2005; O'Driscoll & Beehr, 1994; LeBlanc & Kelloway, 2002).

Evidence has also been found for the relationship of emotional strain with occupational injuries/accident rate and exposure to contagious disease (e.g., Barling, Kelloway & Iverson, 2003; Guastello, Gershon, & Murphy, 1999; Siu, Phillips & Leung, 2004).

Hypothesis 2: Emotional strain (irritation, anxiety, and depression) will be positively related to turnover intention, physical symptoms, injuries and exposure to contagious disease, while negatively related to job satisfaction.

Further, the above discussion on aggression-emotional strain link and emotional strain-other strains link seems to suggest that emotional strain mediates the relationship between nurses' experience of workplace aggression and other outcome variables (i.e., job dissatisfaction, turnover intention, physical symptoms, injuries and exposure to contagious disease). Indeed, there has been some limited evidence supporting the mediating effect of emotional strain in the relationships of occupational stressors in general (e.g., job-task demands and organizational stressors) with physical symptoms (e.g., Smith et al., 2005), job dissatisfaction (e.g., Fuller et al., 2003), injuries or near-miss injuries (e.g., Goldenhar et al., 2003) mostly with non-nursing samples. However, few empirical studies have investigated how nurses' emotional strain from experiencing workplace aggression as a particular stressor may account for their physical symptoms, job dissatisfaction and intention to quit current jobs, or even contribute to their potential physical injuries or exposure to contagious disease at work. Therefore, mediation effects of emotional strain are hypothesized as following.

Hypothesis 3a: Emotional strain (irritation, anxiety, and depression) will mediate the relationship between workplace violence and job satisfaction, turnover intention, physical symptoms, injuries and exposure to contagious disease.

Hypothesis 3b: Emotional strain (depression, anxiety, and irritation) will mediate the relationship between psychological aggression and job satisfaction, turnover intention, physical symptoms, injuries and exposure to contagious disease.

In order to understand the connection between workplace aggression, strains, and safety outcomes more comprehensively, I put the aggression-outcome relationships into their social context by examining the role of organizational violence prevention climate and negative social interactions in the present study. Bringing in the social contextual factors should give us a more complete picture of the interactions between nurses' stressful personal experience (from workplace aggression) and their work environment.

Organizational Climate and Organizational Violence Prevention Climate

Organizational climate represents employees' shared perceptions of the events, behaviors, and rules about the organization which are encouraged explicitly and implicitly (Schneider, 1990; Zohar, 2002). It focuses on a set of employees' shared beliefs and perceptions in a certain aspect of the organization (Schneider & Reichers, 1983). This concept has been examined in different organizational contexts (aspects), especially in organizational safety area (e.g., Anderson & West, 1996; Hofmann, Morgeson, & Gerras, 2003; Probst, 2004; Schneider, 1990; Zohar, 2003). In addition, it has been conceptualized at both the aggregated-level (e.g., Hofmann, et al., 2003; Zohar & Luria, 2005) and the individual level as climate perceptions (Goldenhar et al., 2003;

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Probst, 2004) in the literature. Following Schneider and Reichers (1983), "employee perceptions are potentially excellent sources of data for *climate* research (p.20)." This may explain the fact that most of the safety climate research to date has taken the perspective of individual climate perception (e.g., Carr, Schmidt, Ford, & DeShon, 2003). My study focuses on individual climate perceptions.

Three components are deemed important to form organizational climate: Policies, procedures, and practices (Schneider, 1990; Zohar, 2002). To be specific, policies demonstrate the strategic goals and means of goal attainment at the organization level, procedures provide guidelines for employees/management to take actions relevant to these goals and means, while practices indicate how management in the organization executes the policies and procedures. It is important to note that organizations may have multiple aspects to focus on and so climate can be formed in different domains such as safety, service, and innovation. As argued by Zohar (2002), actual management practices (e.g., the relative priority of safety as opposed to productivity) are enforced policies and procedures. They are mostly demonstrated in the actual behavior patterns of the management in the organization, and become more important inputs than formal policies and procedures for employees to make sense of the organizational events and form their organizational climate perceptions.

Safety climate, similar to other kinds of organizational climate, exists in employees' minds and is formed through a process of organizational sense-making (Drazin, Glynn, & Kazanjian, 1999; Weick, 1995). That is, employees learn about the organization's explicit policies and procedures on how to create and maintain a safe work environment, and observe how the management behaves to show its focus on safety

issues in daily work. It provides a social context for employees to understand and respond to safety issues. First, the strength of this context employees perceive could explain how much they are motivated to learn safety knowledge, and do safe work behaviors, which then contributes to individual- and organization-level safety record (Neal, Griffin, & Hart, 2000; Zohar, 2000; 2002).

Second, the social context (safety climate) may also impact how employees react to environmental factors (especially safety-relevant ones) in the workplace. When employees perceive a favorable safety climate (safety prevention behaviors are encouraged), they take safety into consideration while they interact with other people at work or other parts of their work environment. For example, Hoffman et al. (2003) found that team-level safety climate moderated the relationship between leader-member exchange and safety citizenship role definitions such that employees expanded their safety citizenship role definitions more in responses to high-quality leader member exchange (LMX) relationships in a positive safety climate than in a less positive safety climate. As another example, Probst's (2004) study suggested that employees' perceived safety climate at the individual level attenuated the negative effects of job insecurity on their safety outcomes. Specifically, job insecurity had less negative implications for employee safety outcomes when the organization had a strong safety climate as opposed to weak climate. Therefore, it seems that both group-level and individual level organizational safety climate can moderate the relationship between environmental factors and employee outcomes.

Spector et al. (2007) argued for the importance of examining organizational violence prevention climate, that is, how much employees perceive that the organization

emphasizes control and elimination of physical violence and psychological aggression. Their argument is in line with the idea that organizational climate measures should be specific to the domain of interest (e.g., Schneider, Bowen, Ehrhart, & Holcombe, 2000; Zohar, 2003). Indeed, Kessler, Spector, Chang, and Parr (2008) found preliminary evidence for the construct validity of an organizational violence climate measure and its relation to employees' violence exposure and strains at the individual level. Consistent with Zohar's (1980, 2002) conceptualization of safety climate, Kessler et al.'s (2008) violence prevention climate scale measures three components: Policies and procedures, practices and response, and pressure for unsafe practices. The "policies and procedures" dimension captures employees' awareness of the formal rules and regulations about preventing aggression, and the communicating process of these rules and regulations. The "practices and response" dimension measures employees' assessment of the degree to which the management actually enforces the formal aggression prevention policies and responds appropriately to aggression incidents. Finally, the "pressure for unsafe practices" dimension reflects the extent of employees' perceived pressure to ignore the aggression prevention policies and procedures in order to meet their other job demands, which reflects if aggression prevention is taken as a priority over productivity (Zohar, 2002).

Following the literature of safety climate (Neal & Griffin, 2004; Zohar, 2002), presumably violence prevention climate can be one of the antecedents of aggression/violence occurrence, and as a social context it modifies the strength of certain relationships between aggression-related variables and outcomes. In an organization with a favorable climate emphasizing aggression prevention, the management and employees

themselves take actions to prevent workplace aggression, which may contribute to a low occurrence rate of physical violence and psychological aggression (e.g., Spector et al., 2007). Conceivably, if employees perceive that aggression prevention is strongly emphasized in the organizational environment (context), they may be more alert to aggression-related issues, but they will feel less emotional strain when encountering aggression incidents, due to their high accessibility to resources (e.g., rules, regulations or training) from colleagues or the organization management to handle these types of issues. Therefore, I predict that, with a strong perception of violence prevention climate, nurses tend to experience less physical violence and psychological aggression, and they will be less emotionally reactive to the incidence of physical violence and psychological aggression, compared to their counterparts who perceive weak violence prevention climate. One important thing to point out is that my study examines the individual-level organizational violence climate, namely violence prevention climate perception, given that individual differences in organizational climate perception exist among employees even if they are in the same work environment (e.g., Ottinot, 2008). This is along the same direction as Carr et al.'s (2003) efforts in investigating the association between organizational climate perceptions and assumed work outcomes, but specifically in the domain of workplace aggression.

> *Hypothesis 4a: Organizational violence prevention climate will be negatively associated with the occurrence of workplace violence.*
>
> *Hypothesis 4b: Organizational violence prevention climate will be negatively associated with the occurrence of psychological aggression.*

Hypothesis 5a: Organizational violence prevention climate will moderate the relationship between workplace violence experience and emotional strain (irritation, anxiety and depression) such that nurses who perceive strong violence prevention climate will have a weaker violence-emotional strain relationship than those who perceive weak climate.

Hypothesis 5b: Organizational violence prevention climate will moderate the relationship between psychological aggression experience and emotional strain (irritation, anxiety and depression) such that nurses who perceive strong violence prevention climate will have a weaker psychological aggression-emotional strain relationship than those who perceive weak climate.

Social burden

The dual nature of social relations has been well addressed by social exchange theorists (Heller, 1979; Homans, 1974; Thibaut & Kelley, 1959). As stated by Heller (1979), "It is apparent that interpersonal relations can be either supportive or stressful. What is crucial is discovering the conditions that lead either to positive or negative outcomes" (p.356). Originally pointed out by Rook (1984, 1992), the negative side of social exchange can make a big difference in explaining people's health and stress. She argued that the negative feelings aroused by negative social exchange may be more salient and so more strongly impact people's health and behaviors than positive social exchange because of the less frequent occurrence of negative interactions than positive ones in both short-term and long-term perspectives. Rook (1998) suggested that negative social exchange scenarios could include denial of support, criticism, rejection,

interference, demands or control attempts, deception or betrayal, and exploitation. Primarily, she approached this construct by measuring negative social ties in people's social network (e.g., number of negative social ties or negative feelings aroused by them), as opposed to positive social ties they have.

Along similar lines, researchers operationalized negative social exchange in different ways such as social conflict (e.g., Abbey, Abramis, & Caplan, 1985), social negativity (Finch, Okun, Pool & Ruehlman, 1999), social undermining (Vinokur & van Ryan, 1993; Vinokur, Price, & Caplan, 1996), and negative social interactions (e.g., Lakey, Tardiff, & Drew, 1994). As described by Okun and Lockwood (2003), social negativity (i.e., negative social exchange) is not as well defined as social support, which explained why they used 21 search terms (e.g., problematic support, social rejection, social hindrance, or social insensitivity) to make sure that they got a complete list of studies on this topic for their meta-analysis. To be specific, Abbey et al. (1985) defined social conflict as the potential negative aspects of interpersonal relations, such as expressions of negative affect and disconfirmation. Finch et al. (1999) focused on anger, insensitivity and interference/hindrance as three components of negative social exchange, and developed a 3-dimension measure of negative social exchange (social negativity) accordingly based upon Ruehlman and Karoly's (1991) Test of Negative Social Exchange. Vinokur and van Ryan (1993) conceptualized social undermining as behaviors directed towards a target person that display negative affect (anger or dislike), negative evaluation of this person in terms of his/her attributes, actions, and efforts (e.g., criticism), and those that make difficult or hinder the target person's goal attainment. Lakey et al. (1994), however, modeled the Inventory of Socially Supportive Behaviors

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(Barrera, Sandler, & Ramsey, 1981) to develop an Inventory of Negative Social Interactions (INSI), a general measure which consists of various stressful social interactions. All the above conceptualizations and the research based upon them approached negative social exchange by measuring the frequency of negative behaviors in social interactions.

To date, the literature has shown that negative social exchange is a construct relatively independent from social support (e.g., Finch et al., 1999; Okun & Lockwood, 2003), and is an important antecedent of psychological distress /emotional strain (e.g., Okun, Finch, & Kasje, 2000; Rook, 1992, 1998). More interestingly, there has also been evidence for its being a moderator which exacerbates the relationship between stressors and strains (e.g., Axelrod, Myers, Durvasula, Wyatt, & Cheng, 1999; Cranford, 2004).

In addition to the above efforts in the social and clinical psychology domains (specifically the area of interpersonal relationships), Duffy and colleagues (2002, 2006) have drawn industrial and organizational psychologists' attention to negative social exchange at work by defining social undermining in the work context. Different from previous researchers in the area of negative social exchange, they defined social undermining as behaviors intended to hinder (over time) the target person's ability to build and maintain positive interpersonal relationships, a favorable reputation, and work-related success. Specifically, they emphasized that social undermining behaviors are intentional, insidious in that they weaken the target person gradually, and can be displayed directly or indirectly, physically or verbally. Duffy and colleagues' efforts to date have shown to some degree that their construct of social undermining from both coworkers and supervisors seems to function as a social stressor associated with

employees' affective, cognitive and behavioral outcomes at the individual-level and group-level.

However, I am arguing that more efforts need to be made in investigating the role of negative social exchange (interactions) in organizational research by bringing in a concept of social burden at work, from a perspective different from Duffy and colleagues'. There are a couple of reasons for doing so. First, Duffy and colleagues' conceptualization of social undermining views negative social interactions as a social stressor but has paid little attention to the process of how these negative social interactions can mediate or moderate the relationships between individual or organizational phenomena. For example, social undermining (as defined by Vonikur and van Ryan, 1993) may mediate the process of work-family crossover from one spouse to another such that the strain of one spouse increases his/her social undermining behaviors towards his/her partner and so elevates her/his strain level such as depression (e.g., Westman, 2001). As another example, negative social interactions may exacerbate employees' negative reactions towards certain stressors such that those exposed to more negative interactions with their social ties at work demonstrate higher strains at work in response to stressors than their counterparts with fewer negative social interactions (e.g., Axelrod, et al., 1999; Cranford, 2004). My conceptualization of social burden taps the perspective of being a process variable in addition to being a social stressor, especially when it is measured at multiple time points. Second, Duffy and colleagues confound behaviors with their potential outcomes (i.e., weaken the ability to build/maintain social relationships, good reputations and job success) while defining social undermining. My conceptualization of social burden only focuses on negative behaviors occurring in social

interactions. Third, Duffy and colleagues emphasized the "intentional" component of social undermining. However, their measure of social undermining doesn't measure intention. My standpoint of defining social burden is that the behaviors are perceived to be negative by the target employee no matter if they are intentional or not. The target employee's attribution (intentional or not) process of the behaviors in social interactions is not the focus of this construct. Finally, Duffy and colleagues' definition of social undermining includes both one-on-one interactions (e.g., belittled you or your ideas) and indirect strategic behaviors (e.g., spread rumors about you). However, my conceptualization of social burden only includes one-on-one interactive behaviors at work.

Therefore, by integrating the literature built on Vinokur and van Ryan's (1993) framework and Rook's (1984, 1992, 1998) framework, I conceptualize social burden as behaviors occurring in commonplace social interactions at work which are perceived as negative by the target person. Specifically, these behaviors could be those that display negative affect in the presence but not towards the target employee (e.g., act emotionally upset in the presence of the target nurse), or those that interfere with his/her job tasks or goal attainment (e.g., give bad advice about his/her work).One of the original components in Vinokur and van Ryan's (1993) conceptualization of social undermining – behaviors that indicate negative evaluation of the target person's attributes, actions and efforts (e.g., expressing dislike) – was dropped to avoid the conceptual overlap with workplace incivility (Andersson & Pearson, 1999). Social burden addressed here can be differentiated from Duffy and colleagues' social undermining in that social undermining is done intentionally but social burden only focuses on behaviors perceived as negative

by the target person (intention is not important). Social burden also differs from the construct of workplace incivility in that incivility covers a broad range of colleagues' rude/impolite interpersonal behaviors in the workplace with ambiguous intention to harm the target person (Andersson & Pearson, 1999), but social burden focuses on one-on-one commonplace negative exchanges (non-necessarily rude; e.g., a coworker's complaining in front of you) which may drain the target person's resources that can otherwise be used to enhance his/her job performance or cope with stressful work situations. Finally, social burden can be differentiated from workplace aggression (Baron & Neuman, 1996) because some social burden behaviors can be displayed in a positive or neutral manner but be perceived as negative (e.g., give bad advice) by the target person, however, workplace aggression always manifests itself in negative ways. Plus, workplace aggression is normally shown with clear intention to harm the target person at work; in contrast, intention is not important for social burden.

Following the literature on negative social exchange in the area of social and clinical psychology (e.g., Finch et al., 1999; Okun & Lockwood, 2003), I expect that social burden from colleagues positively relates to negative affect at work. That is, the more negative social interactions the nurses experience, the higher emotional strain (i.e., irritation, anxiety and depression) will occur to them.

Hypothesis 6: Social burden will be positively associated with the target nurses' emotional strain (irritation, anxiety, and depression).

Further, from the perspective of occupational stress, exposure to aggression at work will require resources to handle it. Under such circumstances, social burden is

especially salient due to that fact that it demands of the target nurses' attentional

resources and distracts them from their regular tasks or the recovering process from their

aggression experience (e.g., Rook, 1998). Therefore, nurses with high social burden from

their social network should demonstrate a higher aggression-emotional strain association

than their counterparts with low social burden. Some (albeit limited) empirical evidence

in the literature (e.g., Axelrod, et al., 1999; Cranford, 2004) has demonstrated the stress-

exacerbation effect of negative social interactions in stress process.

> *Hypothesis 7a: Social burden will moderate the relationship between workplace*
>
> *violence experience and emotional strain (irritation, anxiety and depression) such*
>
> *that nurses who perceive high social burden will demonstrate stronger violence-*
>
> *emotional strain relationship than those who perceive low social burden.*
>
> *Hypothesis 7b: Social burden will moderate the relationship between*
>
> *psychological aggression experience and emotional strain (irritation, anxiety and*
>
> *depression) such that nurses who perceive high social burden will demonstrate*
>
> *stronger psychological aggression-emotional strain relationship than those who*
>
> *perceive low social burden.*

In sum, the current study investigates the following model shown in Figure 1.
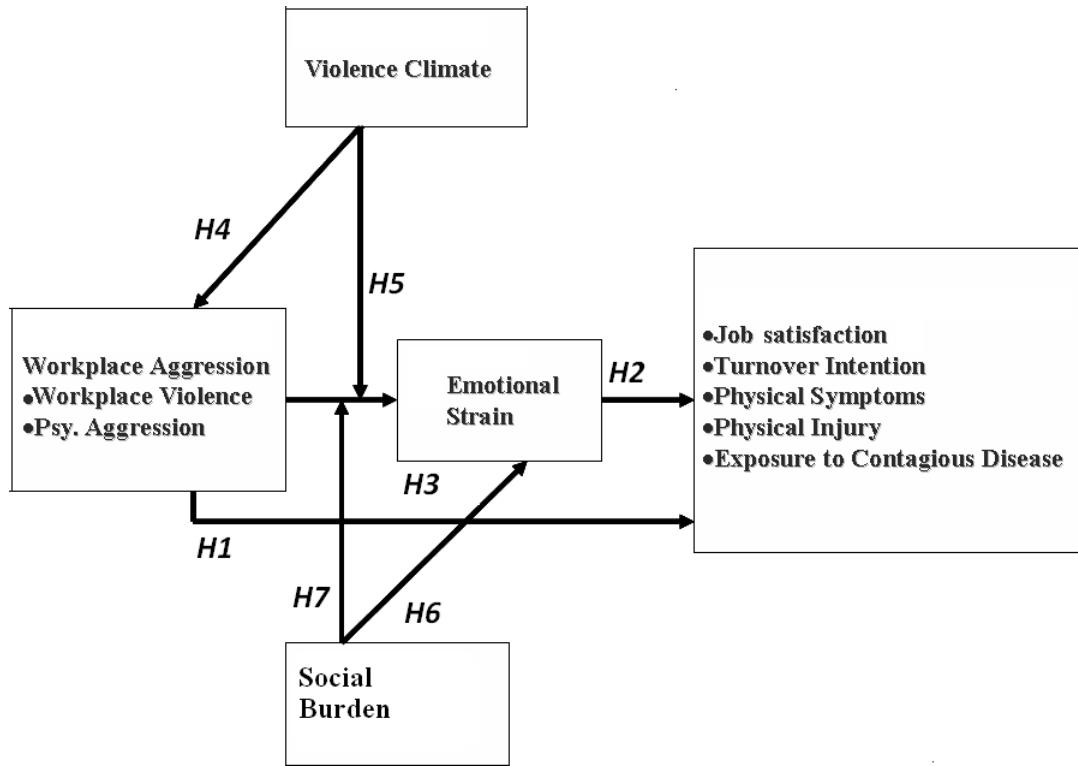
Figure 1 Hypothesized Relationships

Chapter 2: Method

Participants

My participants were 471 nurses, including 230 and 241 from each of two medium-size public hospitals (750-800 nurses each) in Florida, respectively. Ninety-four point two percent of them were female, and 90.9% worked in direct patient care areas. Ninety-three point five of them were registered nurses, while the rest were licensed practical nurses or nurse practitioners. These nurses had an average age of 43 years old (SD = 11.5), an average tenure of 17.5 years (SD = 12.3), and average weekly work hours of 36.7 (SD = 9.4). In addition, 140 of our respondents responded to paper surveys and 323 of them responded online, while 8 of them did not report the survey mode they used.

Procedure

Two local hospitals in Florida agreed to participate in my study, provided that I share with them a hospital-level report on the aggression situation against their nurses and its association with the nurses' health and safety status. Hardcopy anonymous surveys were handed out at nursing staff meetings, in nurses' break rooms, or in the onsite cafeteria of these hospitals, with prepaid envelopes provided for participants to mail the completed surveys back. All the nurses were also given an option of doing the survey online which was hosted by Surveymonkey.com via a paid secure account. A

small gift (a pen with USF logo) was provided for each nurse participant in one of the hospitals; a half continuing education point was provided for each nurse participant in the other hospital.

Measures

Nursing Aggression Scale. Twelve items were adapted to assess workplace violence (7 items) and psychological aggression (5 items) exposure from several sources in the literature (i.e., Barling, Rogers, & Kelloway, 2001; Lanza et al., 2006; Neuman & Keashly, 2004; Rogers & Kelloway, 1997; Spector et al., 2007). Nurses were instructed to respond to the items by indicating the frequency of exposure to each violent act during the prior 12 months, from never (1) to daily (6). An example item for workplace violence is "Been hit with an object," and one for psychological aggression is "Been insulted." Higher scores indicate more frequent physical violence or psychological aggression, respectively for each subscale. The alpha coefficient of the workplace violence scale and the psychological aggression in this sample was .82 and .87, respectively.

Social Burden Scale (SBS). From Lakey et al.'s (1994) 40-item INSI scale, Vinokur and van Ryan's (1993) 7-item scale of social undermining, and Finch et al.'s (1999) revised 21-item Test of Negative Social Exchange (Ruehlman & Karoly, 1991), I adapted nine items, wrote another three items as a complement, and tailored them into work context when appropriate so as to measure social burden at work. Participants were instructed to respond to the items on a 1-5 Likert scale ranging from 1 (Not at all) to 5 (About every day). An example item is "Wasted my time with their problems." Higher scores indicate more frequent negative social interactions.

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Two pilot studies were conducted to provide evidence for the construct validity of the SBS. First, 19 Subject Matter Experts (either industrial and organizational psychologists with doctoral degree or senior doctoral students majoring in industrial and organizational psychology) were instructed to sort the 12 items into one of the two dimensions "negative affect display" and "interference" based upon provided definitions of the two dimensions. Two items were dropped due to the fact that inter-rater consistency was lower than .90 (i.e., simply the number of SMEs who categorized the target item into the proposed dimension divided by the total number of SMEs); i.e., "Burdened me by complaining," and "Burdened me by talking about their work problems." Therefore, four items were categorized into the dimension "negative affect display," and six were categorized into the dimension "interference."

Second, 125 employed students (average weekly work hours = 25.8; average age = 21.8 years old; average tenure = 1.8 years) recruited from the University of South Florida were surveyed. In addition to the social burden measure (SBS), a few relevant variables were also measured in order to check the nomological network of social burden. There variables included job satisfaction (3 items, alpha = .89), physical symptoms (13 items, alpha = .84), anxiety (4 items, alpha = .61), irritation (3 items, alpha = .88), depression (5 items, alpha = .83), and emotional support (5 items, alpha = .88), most of which were measured by the same scales utilized in the main study (see page 28-29 towards the end of this section) except for emotional support. Specifically, this construct was measured by the part A of the Social Support Questionnaire for Transactions (Suurmeijer et al., 1995), with items tailored to work context when appropriate (e.g., "people" was changed into "my colleagues"). The pilot survey is attached in Appendix A.

With this 125-case sample, item analysis was run to check inter-item correlation pattern and item discrimination, and no problematic items in SBS were identified. Exploratory factor analysis was then conducted to check the factor structure of the SBS, which confirmed the two-dimension structure of social burden, with four items loaded on "negative affect display" and six items on "interference" in a way consistent with SME's categorization. Further, correlational analyses were used to check the nomological network of the construct "social burden." Specifically, both "negative affect display" (4 items, alpha = .83) and "interference" (6 items, alpha = .86) were significantly and negatively related to job satisfaction ($r = -.21$, $p < .05$ and $r = -.28$, $p < .01$, respectively), but significantly and positively related to physical symptoms ($r = .35$, $p < .01$ and $r = .41$, $p < .01$, respectively), anxiety ($r = .25$, $p < .01$ and $r = .28$, $p < .01$, respectively), irritation ($r = .37$, $p < .01$ and $r = .34$, $p < .01$, respectively), and depression ($r = .30$, $p < .01$ and $r = .37$, $p < .01$, respectively). Interestingly, there was no significant relationship between either dimension of social burden and emotional support although the correlations were negative ($r = -.09$, *ns.* and $r = -.11$, *ns.*, respectively), in a way consistent with the conceptualization of social burden. Another observation from the pilot survey was that there was relatively high correlation between negative affect display and interference ($r = .72$) and these two dimensions seemed to correlate with other relevant variables (i.e., those in their nomological network) in similar patterns. Though, in most of the cases (except for the relationships with irritation and emotional support) interference had significantly stronger relationships with other variables than negative affect display. In summary, conceptual and preliminary empirical evidence from the pilot studies supported the two-dimension structure of the construct "social burden."

Given some mislabeling of items in designing the main study, one of the ten final items (i.e., "Distracted me when I was doing something important at work") was not put in the final survey. Therefore, confirmatory factor analysis of the 9-item social burden scale was conducted in Amos 4.0 (Arbuckle, 2000) with the 471-case sample from my main study, with four items loaded on "negative affect display" and six items loaded on "interference" as specified by my pilot studies. Results demonstrated inadequate model fit (CFI = .94, TLI = .91, RMSEA = .12, and χ^2/df = 7.3), with a high correlation between the two factors (standardized estimation as .90). Based upon the modification indices, three items were eliminated due to their high correlations with other items in the same dimension and their relatively low factor loadings; i.e., "Wasted my time with their personal problems" from the "negative affect display" dimension, "Asked me to do something for him/her in the middle of my work." and "Tried to get me do things I didn't want to" from the "interference" dimension. The 7-item scale (with three items for "negative affect display" dimension and four ones for "interference" dimension) had a significantly better fit than the original 9-item scale ($\Delta\chi^2/df$ = 11.8). However, there was still a high correlation between these two dimensions (r = .88). Alternatively, another two-factor measurement model (7 items) was run with the correlation between the two factors fixed as 1 (i.e., the two dimensions are perfectly correlated). It showed significantly worse fit than the two-factor model with the inter-factor correlation freely estimated in that its χ^2 increased significantly ($\Delta\chi^2/df$ = 9.07). Therefore, negative affect display and interference are two unique (albeit related) dimensions of social burden (see more about this scale in Appendix B). The alpha coefficient was .86 for negative affect display and .83 for interference in my sample.

Organizational Violence Prevention Climate Scale. The 12-item shortened organizational violence prevention climate scale was utilized (Kessler et al., 2008), with 4 items for each of the three subscales: Policies and procedures, practices and response, and pressure for unsafe practices. All items use 1-6 Likert scale with 1 as "Strongly Disagree" and 6 as "Strongly Agree." An example item for the dimension "policies and procedures" is "In my unit, violence prevention procedures are detailed," one for the dimension "practices and response" is "Management encourages employees to report physical violence," and one for the dimension "pressure for unsafe practices" is "In my unit in order to get the work done, one must ignore some violence prevention policies." Due to miscommunication in the project implementation process, one item in each of the first two dimensions was inconsistent across online and hard-copy survey. Therefore, three items (consistent across the two survey media) were used for "practices and response," and "policies and procedures" in the final analysis, with alpha coefficient as .86 and .90, respectively. The alpha coefficient for the 4-item dimension "pressure for unsafe practices" was .88 in the current study. Higher scores indicate better policies and procedures, and better violence prevention practices and response, but less pressure for unsafe practices.

Emotional Strain Scale. Anxiety and irritation were measured by the 4-item and 3-item subscales of the Emotional Strain Scale (Caplan, Cobb, French, Van Harrison & Pinneau, 1980), respectively. Participants were instructed to respond to the items based upon their experience in the past month on a 1-4 Likert scale ranging from 1 (Never or a little) to 4 (Most of the time). An example item for anxiety is "I feel nervous," and one for irritation is "I have gotten angry." The alpha coefficient was .65 and .91 in the current

study, respectively. Higher scores for the subscales indicate higher anxiety and irritation, respectively.

Depression Scale. The 5-item short version (Bohannon, Maljanian & Goethe, 2003) of Radloff's (1977) Epidemiological Studies Depression Scale (CES-D) was used to measure nurses' depression. Participants were instructed to respond to items about how they felt in the past week on a 4-point Likert scale with 1 as "Rarely or none of the time (less than 1 day)" and 4 as "Most or all of the time (5-7 days)." An example item is "I feel lonely." The alpha coefficient of this scale was .77 in this study. Higher scores indicate higher levels of depression.

Physical Symptoms Inventory. A 13-item short version of the Physical Symptoms Inventory (Spector & Jex, 1998) was used to measure physical symptoms. Participants were asked how often they experienced each symptom over the past month. The response choices range from 1 (Less than once per month or never) to 5 (Several times per day). An example item is "An upset stomach or nausea." The alpha coefficient of this scale was .84 in the current study. Higher scores for this scale indicate more physical symptoms.

Job Satisfaction. Job satisfaction was assessed with the 3-item job satisfaction subscale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). The scale has 6 response choices that range from 1 (Strongly disagree) to 6 (Strongly agree). An example item is "All in all, I am satisfied with my job." The coefficient alpha of this scale was .82 in the current study. Higher scores indicate higher levels of job satisfaction.

Turnover Intention Scale. Intention to quit the job was assessed by the 3-item scale of turnover intention from the Michigan Organizational Assessment Questionnaire

(Cammann et al., 1979). Response choices range from 1(Strongly disagree) to 6 (Strongly agree). An example item is "Recently, I often think of changing the current job." The alpha coefficient of this scale was .91 in this study. Higher scores indicate stronger turnover intention.

Injuries. The nine-item Standardized Nordic Questionnaire (Kuorinka et al., 1987) was used to measure nurses' injuries. Participants were instructed to respond if they experienced any injury in each part of their body (e.g., back) over the past 12 months and over the past week, respectively. Back injury in particular is of interest given its frequency among nurses due to improper patient lifting (Meier, 2001). This scale has been widely used to measure physical injuries in the occupational safety area (e.g., Hagen, Magnus, & Vetlesen, 1998; Lei, Dempsey, Xu, Ge, & Liang, 2005; Smith, Mihashi, Adachi, Koga, & Ishitake, 2006). Higher scores indicate more injuries.

Contagious disease exposure. Exposure to contagious diseases was assessed with five items such as "I had a bloodborne pathogenic exposure," and "I had a needlestick while doing injections." The items were developed based upon the literature in nursing hazard of being exposed to contagious disease (e.g., Ramsay et al., 2006), and were assessed and revised by two SMEs (experienced RN). Participants were instructed to reply about the frequency of experiencing those exposures during the prior 12 months, from 1 (never) to 5 (four or more times). Higher scores indicate more frequent exposure to contagious disease.

Demographic variables. Finally, nurses' gender, age, tenure as a nurse, area of patient care (direct vs. indirect), job type (licensed practical nurse, registered nurse, or nurse practitioner), and hours of work per week were also measured. In addition, one

item about nurses' interest in the study topic was added at the end in order to check if there was a self-selection effect in the respondents (e.g., Rogelberg & Stanton, 2007); i.e., if the nurses who are really interested in this research topic select themselves to participate in this study. This item reads "How much are you interested in this research topic (workplace violence and injuries)?" with a 1-5 Likert scale ranging from "1 = Not at all" to "5 = To a great extent."

All the above scales are attached in Appendix C which contains the complete questionnaire used for this study. Scales that use the same anchors are combined into the same section.

Chapter 3: Results

Measurement of Distinct Constructs

A measurement model with specific items loaded on specific constructs (i.e.,

organizational violence prevention climate— prevention policies/procedures, prevention

practices/response, and pressure for unsafe practices, social burden—negative affect

display and interference, job dissatisfaction, emotional strain— irritation, anxiety, and

depression, and turnover intention) was tested. This model was compared with its

baseline model in which all the correlations between the constructs were forced to 1 (i.e.,

all the constructs were essential one general factor). There was significant improvement

in fit indices from the baseline model to the expected model; i.e., decreased Chi-square

with $\Delta\chi^2$/df equal to 13.9, decreased Root Mean Square Error of Approximation,

RMSEA, increased Comparative Fit Index, CFI, and Non-Normal Fit Index, NNFI.

Therefore, it provided evidence for the discriminant validity of all the measures I used;

that is, the different scales in my study measure different constructs. It is important to

note that workplace violence, psychological aggression, physical symptoms, physical

injuries and exposure to contagious disease were not included in this analysis due to their

being causal indicator constructs instead of effect indicator constructs (e.g., Bollen &

Lennox, 1991; Edwards & Bagozzi, 2000).

Prevalence of Workplace Aggression

Among the 471 nurses we surveyed, 51.6% of them experienced at least one of the seven kinds of physical violent behaviors, and 85.2% of them experienced at least one of five types of psychological aggression. Specifically, the occurrence rate of individual physical violent behaviors varied from 1.3% (Been assaulted with weapon) to 38.4% (Been pushed, grabbed or shoved). The occurrence rate of individual non-physical (psychological) aggressive behaviors varied from 25.4% (Had something thrown at you) to 78.6% (Been yelled or shouted at).

Hypothesis Testing

Based upon the literature on musculoskeletal disorders (MSD; e.g., Bernard, 1997; Bork et al., 1996), specifically, that on safety research of healthcare workers and epidemiology research in general (e.g., Manek & Macgregor, 2005; Shaw, Pransky, Patterson, & Winters, 2005), I combined the injuries in hand/wrist and elbow into upper-extremity injuries, those in neck and shoulder into neck/shoulder injuries, and those in hips/thighs, knees, and ankles/feet into lower-extremity injuries. Given the prevalence of back injury, especially low back injury (e.g., Meier, 2001) among nurses, low back injury and upper back injury were examined as two separate categories along with the other three ones (upper-extremity, neck/shoulder, and lower-extremity) in my hypothesis testing.

Correlational analysis was run to test *Hypotheses 1, 2, 4 and 6*. Preacher and Hayes's (2008) bootstrap analysis was used to test *Hypothesis 3*, the mediation effect. Moderated multiple regression (Baron & Kenny, 1986) was run to test *Hypotheses 5 and 7*. For all the analysis, hospital ID was controlled in that the two hospitals where my study took place are located in different cities, and have somewhat different nursing unit

structures and management styles, which may account for some differences in the focal

relationships of my study. But as a reference, the zero-order correlations among study

focal variables were also provided (see Table 1).

Table 1
Descriptive Statistics and Zero-Order Correlations among Focal Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Violence	1.31	.45	.82																							
2 Psyaggr	2.09	.97	.71	.87																						
3 Anxiety	1.83	.76	.17	.16	.80																					
4 Irritation	2.37	.85	.14	.27	.41	.91																				
5 Depression	1.52	.58	.07	.16	.47	.39	.77																			
6 Negaffect	2.02	.85	.22	.37	.25	.46	.27	.86																		
7 Interference	1.88	.79	.28	.46	.32	.45	.30	.74	.83																	
8 Practices	4.88	1.26	-.23	-.29	-.23	-.22	-.21	-.34	-.37	.86																
9 Policies	4.24	1.54	-.12	-.15	-.19	-.24	-.17	-.34	-.29	.69	.90															
10 Pressure	2.28	1.31	.18	.27	.21	.12	.14	.26	.29	-.35	-.17	.88														
11 Physym	1.76	.54	.21	.27	.52	.41	.54	.36	.43	-.24	-.21	.15	.84													
12 Jobsat	4.93	1.14	-.14	-.16	-.24	-.23	-.35	-.20	-.22	.26	.16	-.28	-.35	.82												
13 Intent	2.87	1.60	.17	.20	.25	.28	.29	.19	.24	-.27	-.12	.25	.38	-.61	.91											
14 Contgexp	1.09	.24	.07	.13	.16	.06	.13	-.01	.04	-.07	-.02	.03	.20	-.11	.09	N/A										
15 Lowback_y	.67	.48	.18	.18	.06	.12	.13	.05	.06	-.11	-.08	.11	.26	-.09	.17	.13	N/A									
16 Upextremity_y	.26	.33	.06	.11	.17	.11	.27	.17	.12	-.05	-.08	.06	.30	-.18	.18	.09	.22	N/A								
17 Neck.shoulder_y	.61	.44	.15	.21	.11	.18	.11	.20	.19	-.15	-.17	.15	.27	-.15	.20	.02	.37	.33	N/A							
18 Upperback_y	.47	.50	.12	.15	.10	.11	.10	.15	.10	-.07	-.07	.15	.27	-.22	.22	.09	.36	.27	.54	N/A						
19 Lowextremity_y	.33	.35	.12	.19	.12	.16	.24	.17	.13	-.13	-.14	.13	.34	-.20	.21	.17	.36	.47	.39	.30	N/A					
20 Lowerback_w	.26	.44	.03	.11	.07	.18	.20	.13	.14	-.14	-.12	.10	.32	-.21	.21	.05	.43	.22	.33	.29	.36	N/A				
21 Upextremity_w	.07	.21	.03	.08	.12	.14	.30	.16	.14	-.10	-.07	.08	.30	-.18	.16	.13	.07	.43	.15	.09	.20	.12	N/A			
22 Neck.shoulder_w	.21	.36	.03	.10	.09	.09	.15	.20	.16	-.11	-.15	.12	.22	-.18	.17	.01	.11	.17	.47	.30	.15	.31	.12	N/A		
23 Upperback_w	.16	.37	-.01	.05	.09	.07	.13	.17	.09	-.13	-.12	.13	.23	-.30	.25	.05	.17	.13	.34	.45	.16	.41	.16	.46	N/A	
24 Lowextremity_w	.09	.31	.09	.12	.10	.16	.26	.14	.16	-.14	-.07	.09	.34	-.18	.19	.18	.17	.22	.17	.14	.41	.20	.44	.17	.18	N/A

Note: $r > .10$, $p < .05$; $r > .13$, $p < .01$; values on the diagonal indicate coefficient alphas of the corresponding scales. Injury variables ended with "_y" indicate injuries in the past year, while those ended with "_w" indicate injuries in the past week.

Hypothesis 1a stated that nurses' experienced workplace violence would be positively associated with their emotional strain (irritation, anxiety, and depression), physical symptoms, job dissatisfaction, turnover intention, injuries and exposure to contagious disease. As shown in Table 2, nurses' experienced workplace violence was significantly and positively related to irritation, anxiety, turnover intention, physical symptoms, low back problems, upper back problems, neck/shoulder problems, and lower extremity problems (i.e., hips/thighs, knees, & ankles/feet) in the prior 12 months, while negatively related to job satisfaction. Therefore, *Hypothesis 1a* was fully supported for job satisfaction, turnover intention, and physical symptoms, partially supported for emotional strain and injuries, and not supported for contagious disease exposure.

Hypothesis 1b stated that nurses' experienced psychological aggression would be positively associated with their emotional strain (irritation, anxiety, and depression), physical symptoms, job dissatisfaction, turnover intention, injuries and exposure to contagious disease. As shown in Table 2, nurses' experienced psychological aggression was significantly and positively related to all the negative emotions (anxiety, irritation, and depression), physical symptoms, turnover intention, contagious disease exposure in the past 12 months, and all injuries (low back, upper back, neck/shoulder, upper extremity, and lower extremity) in the past 12 months. Also, it was significantly and negatively related to nurses' job satisfaction. In addition, it was positively associated with nurses' low back problems, and lower extremity problems in the past week. Therefore, *Hypothesis 1b* was fully supported for emotional strain, job satisfaction, turnover

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intention, physical symptoms and contagious disease exposure, and partially supported for injuries.

Hypothesis 2 posited that emotional strain (irritation, anxiety, and depression) would be positively related to physical symptoms, job dissatisfaction, turnover intention, injuries and exposure to contagious disease. As demonstrated in Table 2, all three emotions (anxiety, irritation, and depression) were significantly and positively related to physical symptoms and turnover intention, while negatively related to job satisfaction. They also positively related to contagious disease exposure in the past 12 months, and all the injuries in the past 12 months or in the past week, with a few exceptions: Irritation was not related to contagious disease exposure, or neck/shoulder problems or upper back problems in the past week; anxiety was not associated with low back problems either in the past 12 months or past week, nor with neck/shoulder problems or upper back problems in the past week. Therefore, this hypothesis was fully supported for physical symptoms, job satisfaction, and turnover intention, and partially supported for contagious disease exposure and injuries.

Table 2

Correlations between Demographic Variables and Focal Variables with Hospital ID
Controlled for

	Variables	Mean	SD	1	2	3	4	5
1	Gender	.95	.23	N/A				
2	Age	43.99	10.72	-.01	N/A			
3	Tenure	16.97	11.87	.15	.80	N/A		
4	Area	.92	.28	-.01	.20	.21	N/A	
5	Workhrs	36.43	8.42	-.08	.08	.09	.25	N/A
6	Violence	1.30	.45	-.10	.00	-.06	-.04	.08
7	Psyaggr	2.09	.97	-.09	.12	-.01	-.02	.09
8	Anxiety	1.81	.74	.00	.12	-.12	-.06	-.13
9	Irritation	2.36	.84	-.03	-.05	-.05	.00	.05
10	Depression	1.50	.56	.01	.01	-.01	-.04	-.09
11	Negaffect	2.02	.84	-.05	-.01	.02	.03	.09
12	Interference	1.87	.79	-.07	-.07	-.04	.04	.10
13	Practices	4.89	1.25	.02	.07	.06	-.04	.02
14	Policies	4.24	1.55	.04	.02	.02	-.06	.01
15	Pressure	2.27	1.31	-.09	-.04	-.10	-.09	-.03
16	Physym	1.75	.51	.03	-.07	-.08	-.05	-.01
17	Jobsat	4.95	1.14	-.02	.00	.03	.04	.04
18	Intent	2.84	1.58	-.07	-.07	-.08	-.06	-.04
19	Contgexp	1.10	.24	-.01	.03	.03	-.09	-.04
20	Lowback_y	.69	.47	-.03	.03	.00	-.11	.11
21	Upextremity_y	.26	.33	.05	.16	.12	.00	.02
22	Neck.shoulder_y	.62	.43	-.01	.06	.01	-.03	.03
23	Upperback_y	.48	.50	.13	-.06	-.03	-.04	-.01
24	Lowextremity_y	.34	.35	.07	.12	.07	-.06	.04
25	Lowerback_w	.26	.44	.06	.01	-.03	-.03	.08
26	Upextremity_w	.08	.21	.00	.13	.10	-.08	-.05
27	Neck.shoulder_w	.23	.37	.02	.08	.10	.09	.03
28	Upperback_w	.17	.38	.08	-.01	-.06	-.06	-.05
29	Lowextremity_w	.09	.21	.02	.09	.07	-.05	.05

Note: $r > .11$, $p < .05$; $r > .14$, $p < .01$; "Tenure" was measured by years, "Area" indicates direct or indirect patient care (with direct care coded as "1"), and female was coded as "1"; values on the diagonal indicate alpha coefficients of the corresponding scales; "N/A" indicates "Not Applicable."

Table 2 (Con't)
Correlations between Demographic Variables and Focal Variables with Hospital ID Controlled for

	Variables	Mean	SD	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
6	Violence	1.30	.45	.82																							
7	Psyaggr	2.09	.97	.70	.87																						
8	Anxiety	1.81	.74	.15	.14	.80																					
9	Irritation	2.36	.84	.13	.30	.33	.91																				
10	Depression	1.50	.56	.07	.17	.40	.36	.77																			
11	Negaffect	2.02	.84	.24	.41	.23	.45	.25	.86																		
12	Interference	1.87	.79	.30	.49	.30	.43	.27	.72	.83																	
13	Practices	4.89	1.25	-.28	-.31	-.21	-.18	-.19	-.31	-.35	.86																
14	Policies	4.24	1.55	-.17	-.16	-.18	-.19	-.18	-.29	-.26	.69	.90															
15	Pressure	2.27	1.31	.17	.29	.20	.13	.13	.27	.30	-.38	-.20	.88														
16	Physym	1.75	.51	.23	.30	.45	.40	.52	.34	.40	-.20	-.21	.15	.84													
17	Jobsat	4.95	1.14	-.15	-.16	-.29	-.23	-.33	-.22	-.23	.27	.20	-.27	-.31	.82												
18	Intent	2.84	1.58	.17	.20	.31	.30	.30	.24	.27	-.29	-.19	.24	.35	-.61	.91											
19	Contgexp	1.10	.24	.09	.13	.17	.07	.13	.02	.06	-.09	-.08	.02	.19	-.08	.06	N/A										
20	Lowback_y	.69	.47	.15	.15	.10	.15	.18	.09	.10	-.13	-.13	.11	.31	-.08	.15	.11	N/A									
21	Upextremity_y	.26	.33	.07	.12	.16	.12	.28	.18	.13	-.05	-.08	.05	.32	-.17	.17	.09	.22	N/A								
22	Neck.shoulder_y	.62	.43	.15	.22	.14	.19	.14	.22	.22	-.16	-.18	.15	.31	-.16	.19	.01	.35	.31	N/A							
23	Upperback_y	.48	.50	.10	.15	.11	.13	.12	.18	.13	-.07	-.09	.14	.29	-.21	.19	.07	.35	.24	.52	N/A						
24	Lowextremity_y	.34	.35	.12	.16	.14	.17	.25	.19	.15	-.14	-.15	.12	.36	-.19	.20	.15	.33	.48	.38	.29	N/A					
25	Lowerback_w	.26	.44	.01	.11	.09	.20	.23	.15	.16	-.16	-.17	.10	.34	-.20	.20	.03	.40	.23	.31	.27	.34	N/A				
26	Upextremity_w	.08	.21	.02	.09	.12	.12	.31	.15	.14	-.08	-.04	.08	.30	-.16	.15	.13	.05	.43	.14	.07	.19	.11	N/A			
27	Neck.shoulder_w	.23	.37	.04	.12	.08	.10	.16	.19	.16	-.11	-.12	.12	.24	-.19	.19	.02	.11	.13	.48	.29	.15	.21	.09	N/A		
28	Upperback_w	.17	.38	-.01	.06	.09	.07	.14	.18	.10	-.12	-.12	.13	.23	-.30	.26	.05	.16	.12	.34	.46	.15	.39	.13	.47	N/A	
29	Lowextremity_w	.09	.21	.07	.11	.10	.16	.27	.16	.18	-.12	-.05	.09	.35	-.16	.18	.16	.14	.22	.15	.12	.38	.22	.43	.18	.17	N/A

Note: r > .10, p < .05; r > .13, p < .01; values on the diagonal indicate alpha coefficients of the corresponding scales. Injury variables ended with "_y" indicate injuries in the past year, while those ended with "_w" indicate injuries in the past week; N/A indicates "Not Applicable".

Hypothesis 3a stated that emotions would mediate the relationship between workplace violence and various health and safety outcomes. *Hypothesis 3b* stated that emotions would mediate the relationship between psychological aggression and various health and safety outcomes. To test *Hypothesis 3a*, Preacher and Hayes's (2008) bootstrap analysis was used with bootstrap run for 5000 times for each analysis. Specifically, all three emotions were examined as mediators at the same time between each of workplace violence and each of the work outcome variables (i.e., job satisfaction, turnover intention, physical symptoms, contagious disease exposure and each of the five categories of injuries), with hospital ID controlled for. Given the fact that workplace violence was measured with the timeframe "in the past 12 months," and emotions (except for depression) were measured with the timeframe "over the past month," injuries measured with the timeframe "in the past week" (as opposed to "in the past 12 months") were used when the mediation role of emotions between violence and injuries was examined. Similar analysis strategy was used to test *Hypothesis 3b* corresponding to psychological aggression.

As shown in Table 3, evidence suggested that anxiety was the most consistent mediator for the relationship of workplace violence with physical symptoms, job satisfaction, and turnover intention (all partial mediation effects). In addition, there was evidence that irritation partially mediated the relationship of workplace violence with physical symptoms and turnover intention. Emotions did not seem to mediate the relationship of workplace violence with contagious disease exposure and injuries that occurred to nurses in the past week. Therefore, *Hypothesis 3a* was partially supported.

Table 3

Mediating Effect of Emotions between Workplace Violence and Health and Safety Outcomes

IV	Mediator	DV	IV-->Mediator	Mediator-->DV	Indirect Effect	Mediation	Direct Effect (with indirect effect partialled out)	Total model (R^2)
Violence	anxiety	physym	.24**	.15**	.04*	Partial	.17**	.42
	irritation		.23*	.12**	.03*	Partial		
	depression		.08	.36**	.03	No		
Violence	anxiety	jobsat	.22**	-.24**	-.05*	Partial	-.27*	.18**
	irritation		.22*	-.11	-.02	No		
	depression		.07	-.47**	-.03	No		
Violence	anxiety	intent	.24**	.36**	.09*	Partial	.46**	.19**
	irritation		.23*	.33**	.07*	Partial		
	depression		.08	.38**	.03	No		
Violence	anxiety	contgexp	.26**	.19*	.05	No	.18	.06**
	irritation		.24**	-.01	.00	No		
	depression		.09	.15	.02	No		
Violence	anxiety	lowback	.24**	-.04	-.01	No	.02	.06**
	irritation		.23*	.08**	.02	No		
	depression		.08	.13**	.01	No		
Violence	anxiety	upperback	.02**	.02	.00	No	.00	.02
	irritation		.05**	-.03	.00	No		
	depression		.02**	.09*	.00	No		
Violence	anxiety	upextremity	.24**	-.01	.00	No	.01	.09**
	irritation		.23*	.01	.00	No		
	depression		.08	.22**	.02	No		
Violence	anxiety	neck/shoulder	.04**	.03	.00	No	.00	.03*
	irritation		.04**	.02	.00	No		
	depression		.01	.15*	.00	No		
Violence	anxiety	lowextremity	.24**	-.04	-.01	No	.08	.08**
	irritation		.23*	.06	.01	No		
	depression		.08	.28**	.02	No		

Note: "0"s in the table indicate values lower than .01; all the injuries were measured with the time frame "in the past week." Hospital ID was controlled for in the mediation analyses.

As demonstrated in Table 4, there was evidence suggesting that anxiety mediated the relationship of psychological aggression with job satisfaction, turnover intention, physical symptoms and contagious disease exposure, either partially or fully. In addition, there was evidence that depression fully mediated the relationship between psychological aggression and job satisfaction; irritation and depression partially mediated the relationship of psychological aggression with physical symptoms and turnover intention. When it came to predicting injuries, depression seemed to fully mediate the relationships of psychological aggression with low back and lower extremity problems. In addition, irritation fully mediated the relationship between psychological aggression and low back problems in the past week. Hereto, *Hypothesis 3b* was partially supported.

Table 4
Mediating Effect of Emotions between Psychological Aggression and Health and Safety Outcomes

IV	Mediator	DV	IV-->Mediator	Mediator-->DV	Indirect Effect	Mediation	Direct Effect (with indirect effect partialled out)	Total model (R^2)
Psyaggr	anxiety	physym	.10**	.16**	.02*	Partial	.06**	.41**
	irritation		.25**	.10**	.03**	Partial		
	depression		.09**	.35**	.03**	Partial		
Psyaggr	anxiety	jobsat	.10**	-.25**	-.03*	Full	-.09	.17**
	irritation		.25**	-.09	-.02	No		
	depression		.09**	-.46**	-.04*	Full		
Psyaggr	anxiety	intent	.09**	.39**	.04*	Partial	.19**	.18**
	irritation		.24**	.29**	.07*	Partial		
	depression		.09**	.36*	.03*	Partial		
Psyaggr	anxiety	contgexp	.11**	.20*	.02*	Full	.12	.06**
	irritation		.26**	-.03	-.01	No		
	depression		.10**	.13	.01	No		
Psyaggr	anxiety	lowback	.10**	-.04	.00	No	.03	.07**
	irritation		.24**	.07*	.02*	Full		
	depression		.09**	.13**	.01*	Full		
Psyaggr	anxiety	upperback	.04**	.03	.00	No	.00	.02
	irritation		.04**	-.01	.00	No		
	depression		.02**	.09*	.00	No		
Psyaggr	anxiety	upextremity	.10**	-.01	.00	No	.02	.09**
	irritation		.24**	.01	.00	No		
	depression		.09**	.22**	.02	No		
Psyaggr	anxiety	neck/shoulder	.02**	.02	.00	No	.01	.04**
	irritation		.05**	-.01	.00	No		
	depression		.02**	.19**	.00	No		
Psyaggr	anxiety	lowextremity	.10**	-.03	.00	No	.04	.08**
	irritation		.24**	.05	.01	No		
	depression		.09**	.27**	.02*	Full		

Note: '0's in the table indicate values lower than .01; all the injuries were measured with the time frame "in the past week." Hospital ID was controlled for in the mediation analyses.

Hypothesis 4a and 4b posited that organizational violence prevention climate

would be negatively associated with the occurrence of workplace violence and

psychological aggression, respectively. Table 2 showed the significant negative

relationships of nurses' perceived violence prevention practices/response and

policies/procedures with the frequencies of both their violence and psychological aggression experience. As also shown in Table 2, nurses' perceived pressure for unsafe practices was positively related to the frequencies of both their violence and psychological aggression experience. In other words, the better violence prevention climate nurses perceived, the less frequently workplace violence and psychological aggression tended to occur to them. Alternately, the more frequently workplace violence and psychological aggression occurred to nurses, the worse violence prevention climate they perceived. Therefore, *Hypothesis 4a and 4b* were fully supported.

Hypothesis 5a and *Hypothesis 5b* posited that organizational violence prevention climate would moderate the relationships of nurses' workplace violence and psychological aggression experiences with their emotional strain (irritation, anxiety and depression) such that nurses who perceive strong violence (prevention) climate would have weaker relationships of their experienced workplace violence and psychological aggression with emotional strain than those who perceive weak climate. My results indicated significant moderating effects of organizational violence prevention practices/response in the relationships of nurses' experienced workplace violence and psychological aggression with their anxiety and depression (Table 5). However, the direction of the moderating pattern was opposite to the hypotheses in that nurses who perceived strong violence prevention practices/response tended to be more emotionally reactive to their experienced workplace violence and psychological aggression (i.e., feeling anxious and depressed), as opposed to those who perceived weak prevention practices. The moderating effects of violence prevention practices/response were further illustrated in Figure 2-5. In sum, *Hypotheses 5a and 5b* were not supported.

Table 5
Violence Prevention Practices/Response Moderated the Aggression-Emotion
Relationships

Workplace Violence			Psychological Aggression		
Predictors	*Anxiety*	*Depression*	Predictors	*Anxiety*	*Depression*
Step 1 - Control Variable			*Step 1 - Control Variable*		
Hospital ID	-.03	-.08	Hospital ID	-.02	-.07
F	.02	1.1	F	.01	1.06
R^2	.00	.00	R^2	.00	.00
Step 1 - Direct effects			*Step 1 - Direct effects*		
Violence	.13*	.04	Psy. Aggression	.09	.12*
Violence Prevention Practices	-.23**	-.24**	Violence Prevention Practices	-.24**	-.21**
ΔF	13.74**	10.71**	ΔF	13.16**	12.74**
ΔR^2	.06**	.05**	ΔR^2	.06**	.06**
Step 3 - Interaction			*Step 3 - Interaction*		
Violence X Practices	.11*	.11*	Psy. aggression X Practices	.11*	.10*
ΔF	4.88*	4.47*	ΔF	4.72*	4.04*
ΔR^2	.01*	.01*	ΔR^2	.01*	.01*
Full model F	8.16**	6.80**	Full model F	7.82**	7.71**
Full model R^2	.07**	.06**	Full model R^2	.07**	.07**

Note: The coefficients are the standardized beta weights from the final step of the
multiple regression. *$p < 0.05$; **$p < 0.01$.

Figure 2 Violence Prevention Practices/Response Moderated the Violence-Anxiety Relationship
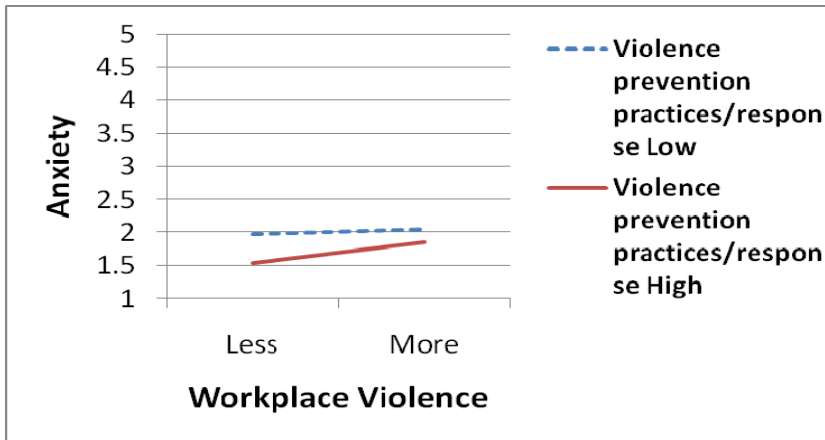

Figure 3 Violence Prevention Practices/Response Moderated the Violence-Depression Relationship
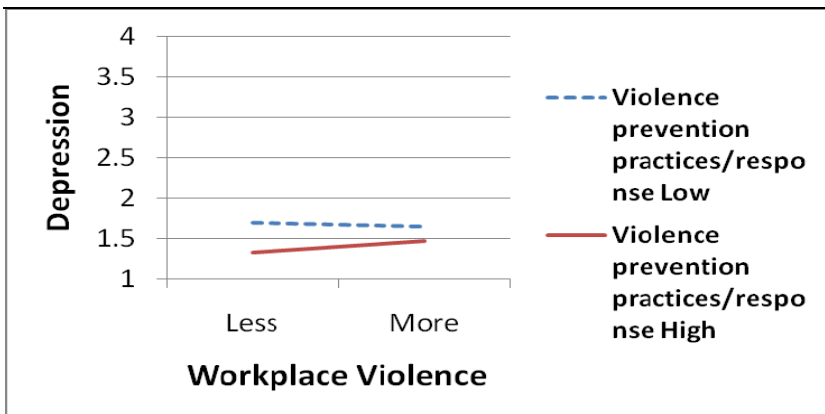
Figure 4 Violence Prevention Practices/Response Moderated the Psychological
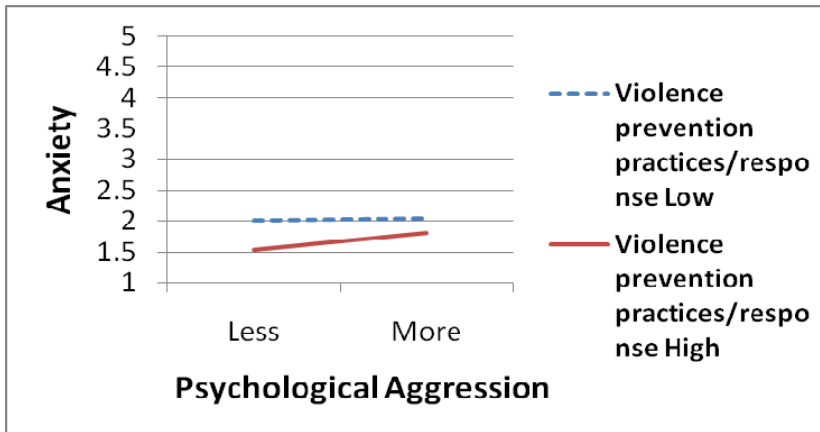Aggression- Anxiety Relationship

Figure 5 Violence Prevention Practices/Response Moderated the Psychological
Aggression- Depression Relationship
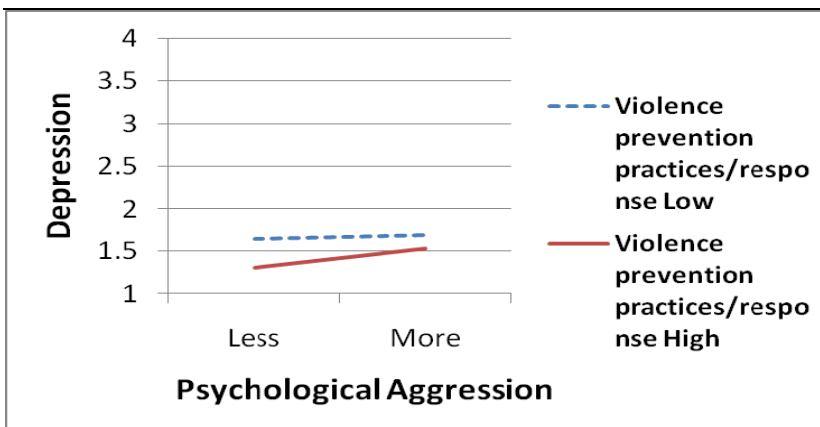
Hypothesis 6 proposed that social burden is positively associated with the target

nurses' emotional strain (irritation, anxiety, and depression). As shown in Table 2, both

negative affect display and interference nurses experienced from their social ties were

significantly and positively related to their irritation, anxiety and depression. Therefore,

Hypothesis 6 was fully supported.

Hypotheses 7a and 7b posited that social burden would moderate the relationships of nurses' experienced workplace violence and psychological aggression with their emotional strain (irritation, anxiety and depression) such that nurses who perceive high social burden would demonstrate stronger relationships of workplace violence and psychological aggression with emotional strain, as opposed to those who perceive low social burden. Moderation analyses showed that neither negative affect display nor interference moderated the relationships of nurses' experienced workplace violence and psychological aggression with their emotional strain. Importantly though, both nurses' experienced negative affect display and interference from their colleagues consistently contributed to nurses' feelings of anxiety, irritation and depression over and above the main effect of their workplace violence or psychological aggression experience.

In summary, nurses' experienced workplace violence and psychological aggression were significantly associated with various assumed health and safety outcomes. Evidence was found that nurses' emotional strain seemed to be a relatively consistent mediator in the aggression-outcome relationships. In addition, nurses' perceived social context (violence prevention climate and social burden) did significantly and directly relate to their health and safety consequences, but limited evidence was found regarding the potential moderating role of these two contextual variables in the aggression-consequence relationships.

Gender, area of patient care, and job type were not controlled in the hypotheses testing due to the potential limiting of statistical power by the uneven split among categories (e.g., only 25 males, 39 in indirect patient care, and 27 licensed practical nurses and 1 nurse practitioner out of 471 participants). Other demographics (i.e., weekly

work hours, age and tenure as a nurse) and the variable about participants' interest in the study topic were also controlled in the hypothesis testing one at a time (to preserve statistical power) along with hospital ID. There was no difference in the results of all the hypothesis tests before and after controlling work hours or interest in the study topic. Given the high correlations between age and tenure (.80), only tenure as a nurse was examined as a control variable given its relevance to the focal relationships, and the results were compared before and after controlling it. No difference was found for the mediation analysis except that irritation lost its significance in mediating the psychological aggression - low back injury relationship after controlling for tenure. However, I lost all the significant moderating effects after controlling tenure. Interestingly, there did not seem to be evidence from the correlation matrix for collinearity between tenure, aggression and violence prevention climate, nor was the main effect of tenure on emotional strain significant in any of the regression models. Possibly, such a loss of significance was due to decreased statistical power in the moderated regression analysis after adding tenure as another predictor and/or relatively low effect size (i.e., the moderating effects).

Chapter 4: Discussion

The current study examined the relationships of nurses' experienced workplace violence and psychological aggression with various assumed health and safety consequences, and also investigated how nurses' emotional strain and two contextual variables (violence prevention climate perceptions and social burden) accounted for these relationships.

Evidence from a 471-case nursing sample generally supported a significant association of nurses' experienced physical violence and psychological aggression with various assumed health (i.e., emotional strain including irritation, anxiety and depression, physical symptoms, job dissatisfaction, and turnover intention) and safety (i.e., injuries and contagious disease exposure) consequences. My findings also supported the idea that emotional strain generally works as a significant mediator between nurses' experienced physical violence and psychological aggression and various assumed consequences. In addition, organizational violence prevention climate perceptions were found to be significantly associated with the occurrence of workplace violence and psychological aggression against nurses, and to significantly moderate the aggression-emotion relationships (only for anxiety and depression, but not for irritation) although not in the expected direction. Finally, perceived social burden was shown to be a significant predictor of nurses' various assumed health and safety consequences over and above their experienced workplace violence and psychological aggression.

The Link between Workplace Aggression and Health and Safety Consequences

Consistent with the previous literature (e.g., Gerberich et al., 2004; LeBlanc & Kelloway, 2002; Lanza, 2006; LeBlanc & Barling, 2005; Needham et al., 2005; Schat et al., 2006), in my study nurses' experienced physical violence and psychological aggression were significantly associated with various assumed health outcomes including emotional strain, job dissatisfaction, turnover intention, and physical symptoms. Aligned with the theoretical frameworks and limited empirical evidence in occupational stress and safety area (e.g., Duhart, 2001; Kelloway et al., 2006; Mandler, 1975, 1993; Peterson & Mayhew, 2005) but going beyond the previous empirical research, my study found that nurses' experienced physical violence and psychological aggression were also significantly related to various assumed safety outcomes including injuries of some body parts and contagious disease exposure.

Specifically, both workplace violence and psychological aggression against nurses seemed to have negative implications for their physical injuries (including upper extremity, neck/shoulder area, upper back, low back, and lower extremity) and exposure to contagious disease (e.g., due to needlesticks). That is, the more frequently nurses experience physical violence or psychological aggression from their colleagues or patients, the more likely they will get injured or expose themselves to contagious disease (e.g., contacting bloodborne pathogens) at work. Such empirical evidence from my study should inform healthcare management of the necessity of addressing both workplace aggression and nursing safety issues (injury and contagious disease exposure) at the same time.

The Role of Emotional Strain

Following Cosmides and Tooby (2000) and Lord and Harvey (2002), emotional processing functions as a first-response system while individuals encounter with events that happen in their surrounding environment. As argued by Mandler (1979, 1984), emotional arousal is one of the most critical individual reactions following stressful incidents, and it should play an important role in explaining the link between stressors and possible physical and behavioral strains; i.e., the link between nurses' perceived workplace aggression and possible health and safety consequences. Consistent with the above theoretical arguments and limited empirical evidence in the literature (e.g., Fuller et al., 2003; Goldenhar et al., 2003; Smith et al., 2005), my findings indicated that emotional strain did function as a first-response mechanism that accounted for the associations of nurses' experienced violence and psychological aggression with various assumed health and safety outcomes. That is, nurses might have felt emotional strain or distraction (including irritation, anxiety, and depression) after being attacked physically or psychologically. Their emotional strain could then build up and contribute to their increased physical symptoms (e.g., trouble in sleeping or stomach problems), dissatisfaction with their job, more frequent thoughts of quitting their job (as one way of escaping the source of attacks), and accidental physical injuries or exposure to contagious disease (due to emotional distraction and inadequate attentional resources resulting from that distraction).

Overall, results with emotional strain including irritation, anxiety and depression suggest that they may function as a critical mechanism underlying the association between nurses' experienced violence and psychological aggression and various assumed health and safety outcomes. This is consistent with the literature of nursing stress (e.g.,

McVicar, 2003; Needham et al., 2005). Further, such a finding has gone beyond the previous literature that primarily focused on psychological and physical health consequences of workplace aggression against nurses. That is, emotional strain may also mediate the relationships of nurses' experienced violence and psychological aggression with safety outcomes that have generally low occurrence rate (i.e., injuries and contagious disease exposure).

The Role of Organizational Violence Prevention Climate Perceptions

My results showed that nurses' perceived violence prevention climate perceptions in the hospital were significantly related to the frequency of their experienced physical violence and psychological aggression at work. In other words, the better violence prevention climate nurses perceived, the fewer physical or psychological attacks nurses tended to report having experienced at work. Such a finding is consistent with the literature of violence prevention climate perceptions (Kessler et al., 2008; Spector et al., 2007) and that of safety climate in general (Zohar, 1980, 2002). However, the causal direction between violence prevention climate perceptions and aggression occurrence in the workplace can not be determined unless evidence is accumulated from data of multiple time points.

When it comes to the potential moderating role of violence prevention climate perceptions in the relationship between aggression and emotional strain, an unexpected pattern was found among this sample of nurses. To be specific, nurses who perceived better violence prevention practices/response were more emotionally reactive (in terms of anxiety and depression) to physical or psychological attacks that occurred to them at work than those who perceived worse practices/response. In other words, nurses seemed

to become more sensitive (at least emotionally) to aggressive behaviors against them at work when they observed and perceived that hospital management was trying to enact violence prevention policies or procedures and to appropriately respond to incidents of physical violence or psychological aggression. One possible reason is that nurses who perceived good violence prevention practices/response might have high expectations that few aggression incidents should occur in their unit. Therefore, those nurses who bore such an expectation would have trouble in reconciling the inconsistency between good violence prevention climate they perceived and bad aggression events against them and so experience high emotional strain, when aggressive behaviors actually happened to them. From another perspective, Figure 2-5 could also indicate that good violence prevention climate perceptions did not seem to make a difference in terms of reducing nurses' anxiety or depression when the occurrence rate of workplace aggression was high. However, good violence prevention climate perceptions were related to less anxiety or depression when the occurrence rate of workplace aggression was low.

It is important to note though that nurses who perceived better violence prevention practices/response generally felt less irritated, anxious and depressed than their counterparts who perceived weaker climate, possibly owing to higher management support they perceived. Therefore, nurses' beliefs in hospital management's appropriate violence prevention practices/response could to some extent protect them from experiencing emotional strain in general, but the protection effect will be counteracted when aggression incidents happen to them. However, more investigation is warranted before we conclude about the potential moderating role of perceived violence prevention climate perceptions in the aggression-emotional strain relationships. For example, with

data from multiple time points, stronger evidence will be provided regarding if violence prevention climate perceptions in the hospital could buffer the negative impact of workplace aggression against nurses on their emotional well-being and even physical well-being and their safety outcomes in the long run. In addition, efforts need to be made to identify the best timing when violence prevention programs could take effect for certain organizations; that is, if such programs could only be effective before the occurrence rate of workplace aggression goes beyond a certain threshold in certain organizations.

The Role of Social Burden

In my study, both dimensions (negative affect display and interference) of social burden were positively associated with emotional strain including irritation, anxiety and depression. To be specific, the more negative affect display or interference from their social ties, the more likely nurses felt irritated, anxious and depressed. Such a finding is consistent with the literature of social negativity (Okun et al., 2000; Rook, 1992, 1998). That is, negative social interactions, particularly when nurses' social ties demanded emotional support from them or constantly interfere with their work process, could be emotionally draining for these nurses. More importantly, such negative social interactions (social burden) predicted nurses' emotional strain over and above their experienced physical violence and psychological aggression.

Following transactional stress theory (Lazarus, 1991) and conservation of resources theory (Hobfoll, 1989), the resource-draining characteristics of social burden should have important implications for the relationship between nurses' experiences of being attacked and their emotional strain. In other words, while nurses who were attacked

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try to cope with such a significant stressor (aggression) at work, the social burden from their social network may become particular salient in that it fights for nurses' available resources including attention, energy and time. Interestingly, the results of my study did not support such an exacerbating effect of social burden in the relationships of nurses' experienced workplace violence and psychological aggression with their emotional strain; i.e., neither "negative affect display" nor "interference" moderated the aggression-emotional strain relationships.

However, further moderated regression analyses were run to explore the potential moderating effects of social burden between emotional strain and various other assumed health and safety outcomes (e.g., physical symptoms, turnover intention or injuries). That is, one of the indices of emotional strain (e.g., anxiety) and one of the two social burden dimensions were added in the first step, and their interaction term was added in the second step. The results showed that both dimensions of social burden did significantly moderate the relationships of emotional strain with various outcomes. For example, negative affect display from nurses' social ties exacerbated the positive relationship between their anxiety and physical symptoms, while interference from their social ties intensified the positive relationships of their anxiety with their physical symptoms and turnover intention. Therefore, further investigation is warranted before we conclude about the potential moderating role of social burden in the aggression-outcome relationships. For example, with a sufficient sample size and longitudinal design, moderated mediation analysis could be conducted to examine in the same framework the potential moderating role of social burden and the mediating role of a certain negative emotion (e.g., anxiety) in between nurses' experienced aggression and various outcomes.

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Limitations and Implications

A few limitations of this study deserve mention here. First of all, the hypotheses related to violence prevention climate were only able to be tested at the individual level. Efforts were made to include as many nursing units as possible in this study. However, the final sample only had 15 units from one hospital and 13 units from the other hospital, with three or more nurses in each unit. Such low numbers of units within hospitals limited the statistical power of multi-level analyses (i.e., aggression-outcome relationship at individual level and aggregated unit-level violence prevention climate perceptions to be used at the unit level, with hospital-level variance partialled out). Future research need to focus on getting participants from sufficient number of units or even hospitals so as to examine the role of violence prevention climate (perceptions) in aggression-outcome relationship from a cross-level perspective. Second, even at the individual level of analysis, the sample size of my study only provided limited statistical power for the mediation and moderator analyses (e.g., Aguinis, 1995; Fritz & Mackinnon, 2007; O'Connor, 2006). Therefore, the data from this study provided a conservative test of my hypotheses.

In addition, the data in this study were single-source data from nurses' self-report. A better design that could be used in future research is to collect objective health and safety records (e.g., number of times of calling in sick, number of days of sick leave due to injury, or actual injury accident report) at individual and/or unit or even hospital level (if a sufficient number of units or hospitals were available for multi-level analysis). Alternatively, supervisor report of nurses' injury incidents or errors at work could serve as a good complement to nurses' self-report safety outcomes. Finally, the cross-sectional

design of this study precludes me from making conclusions regarding the causal relationships among focal variables such as the relationship between violence prevention climate perceptions and aggression occurrence, or that between nurses' experienced aggression, emotional strain, and other health or safety outcomes.

Nonetheless, my study was based upon a moderate-size field sample and it should contribute to the literature on workplace aggression in the following ways. First, occupational safety issues, namely physical injuries and exposure to contagious disease in this case, were investigated as potential consequences of workplace aggression in addition to the variables examined in previous research which were mentioned previously (i.e., physical symptoms, emotional strain such as anxiety or depression, negative job attitudes such as job dissatisfaction, and turnover intention). My study is one of the first attempts to integrate aggression and safety in the same study. Second, organizational violence prevention climate is a relatively new concept derived from organizational safety climate (Zohar, 1980). Bringing this concept into the research design, my study furthered the understanding of this construct through examining its potential role as an antecedent of aggression occurrence and a moderator in the aggression-consequence relationships. Finally, my study also explored the possible mechanisms through which social burden explains some of the aggression-outcome dynamics, which hopefully will draw more attention to this interesting construct in future organizational research.

Future research should seek to further investigate the relationships between workplace aggression and various safety issues in addition to the variables included in the current study. Echoing the focus of the National Institute of Occupational Safety and Health (NIOSH)'s National Occupational Research Agenda (Marras, Cutlip, Burt, &

Waters, 2009; NIOSH, 1996; Occupational Safety and Health Administration, 2004),

such research should have the potential to link workplace aggression exposure and

workers' safety (e.g., injuries, infectious disease exposure, or safety behaviors), which

may then inform organizations how to address these two problems with common

solutions. In addition, more research, especially multi-level and longitudinal research,

needs to be done to understand the role of violence prevention climate (perceptions) in

the aggression-outcome dynamics. In the long run, such research will be able to inform

potential interventions (e.g., to enhance violence prevention climate or employees'

perceptions of it) that aim at reducing workplace aggression occurrence or safety

concerns. It is also important to note that social burden deserves more attention from

researchers who are interested in occupational health or interpersonal relationships at

work. Due to social burden's close connection with individuals' health status (e.g.,

depression symptoms as suggested by the clinical psychology literature; Okun &

Lockwood, 2003), it will be interesting to investigate long-term health consequences of

individuals' social burden by using longitudinal designs with multiple time points. Given

its root in social psychology, it will be informative to further examine this construct in

contrast with other variables related to interpersonal relationships such as emotional

support within the same study. Finally, social network analysis (Brass, Galaskiewicz,

Greve, & Tsai, 2004; Scott, 1991; Wasserman & Faust, 1994) could add a lot to research

on social burden since it is conceivable that social burden from different social ties may

not be weighted equally (given that the strength of the relationships between target

individuals and different social ties could be different).

Conclusions

With a 471-case nursing sample, this study found generally significant relationships of workplace violence and psychological aggression with various assumed consequences (i.e., physical symptoms, job dissatisfaction, turnover intention, physical injuries and contagious disease exposure). Such a finding went beyond the previous literature in terms of empirically linking workplace aggression (an occupational stressor) with low-occurrence-rate safety outcomes (physical injuries and contagious disease exposure), and addressing occupational health and safety issues within the same study. More importantly, both nurses' personal feelings (emotional strain) and the psychosocial context (violence prevention climate perceptions) they perceived at work were found to play a role (mediator and moderator, respectively) in explaining the link between their experienced workplace aggression and assumed health and safety consequences. Future research should investigate this aggression-consequence link in a more specific way such as examining aggression from a specific source (patient or physician, in the case of nursing), examining safety behaviors that help prevent accidents, or investigating injuries from improper body movements such as lifting. Also, it would be really interesting to investigate how certain psychosocial risk factors (e.g., workplace aggression) are transferred via emotional, cognitive, physiological or psychophysical route to accidents or injuries. Research along this line will be able to inform intervention programs that aim at improving workers' health and safety not only in the healthcare industry but also in other industries and organizations.

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Appendices

Appendix A: Pilot Survey

Department of Psychology
4202 East Fowler Ave.
Tampa, Florida 33620

We are conducting a study on working people. The following questions ask you to reflect on yourself and your experiences in your current job. The entire survey should **take 5-8 minutes to complete**.

The survey is anonymous, so do not put your name or identifying information on it. No one but you will know how you responded.

You are free to participate in this study or to withdraw at any time. Your decision to participate or not to participate will not impact your employment status. Your taking this survey indicates your agreement to participate.

If you have any questions about this research study or would like to receive results, please contact Liu-Qin Yang at lyang2@mail.usf.edu. If you have questions about your rights as a person participating in a research study, you may contact the Division of Research Integrity and Compliance of the University of South Florida at (813) 974-5638.

Thank you very much for your time and participation!

Sincerely,
Liu-Qin Yang, Doctoral Candidate

Paul Spector, Professor
Department of Psychology
University of South Florida

Please think of your interactions with your colleagues and feelings _over the past month_!

Please indicate how often these things have happened to you at work in dealing with coworkers or supervisors **during the past month**	Not at all	Once or Twice	About Once a Week	Several Times a Week	About Every Day
1. Wasted my time with their personal problems.	1	2	3	4	5
2. Acted emotionally upset in my presence (not towards me).	1	2	3	4	5
3. Wanted me to take care of their work responsibilities.	1	2	3	4	5
4. Asked me to do something for him/her in the middle of my work.	1	2	3	4	5
5. Made my job difficult.	1	2	3	4	5
6. Lost his/her temper in my presence (not towards me).	1	2	3	4	5
7. Gave bad advice on my work.	1	2	3	4	5
8. Tried to get me do things I didn't want to.	1	2	3	4	5
9. Acted in an angry manner in my presence (not towards me).	1	2	3	4	5
10. Distracted me when I was doing something important at work	1	2	3	4	5
11. Burden me by complaining.	1	2	3	4	5

Over the past month, how often have you experienced each of the following?	Never or a little	Some of the time	A good part of the time	Most of the time
12. I have felt nervous.	1	2	3	4
13. I have felt jittery.	1	2	3	4
14. I have felt calm.	1	2	3	4
15. I have felt fidgety.	1	2	3	4
16. I have gotten angry.	1	2	3	4
17. I have gotten aggravated.	1	2	3	4
18. I have gotten irritated or annoyed.	1	2	3	4

Over the past month, how often have you experienced each of the following symptoms?	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
19. An upset stomach or nausea	1	2	3	4	5
20. A backache	1	2	3	4	5
21. Trouble sleeping	1	2	3	4	5
22. Headache	1	2	3	4	5
23. Acid indigestion or heartburn	1	2	3	4	5
24. Eye strain	1	2	3	4	5
25. Diarrhea	1	2	3	4	5
26. Stomach cramps (Not menstrual)	1	2	3	4	5
27. Constipation	1	2	3	4	5
28. Ringing in the ears	1	2	3	4	5
329. Loss of appetite	1	2	3	4	5
30. Dizziness	1	2	3	4	5
31. Tiredness or fatigue	1	2	3	4	5

Now, please think of your feelings _in the past week_ to answer the following 5 questions!

Below is a list of ways you may have felt or behaved. Please describe how you have felt **during the past week**.	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
32. I felt depressed.	1	2	3	4
33. My sleep was restless.	1	2	3	4
34. I felt lonely.	1	2	3	4
35. I had crying spells.	1	2	3	4
36. I could not 'get going'.	1	2	3	4

Finally, please think of *your job in general* to answer the rest of the questions (almost there!)

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

Please use the seven-point rating scale above to indicate how much you agree that each statement describes your job and yourself *at work*.	SD	MD	SLD	SLA	MA	SA
37. In general, I don't like my job.	1	2	3	4	5	6
38. All in all, I am satisfied with my job.	1	2	3	4	5	6
39. In general, I like working here.	1	2	3	4	5	6
40. My colleagues at work are warm and affectionate towards me.	1	2	3	4	5	6
41. My colleagues at work are friendly to me.	1	2	3	4	5	6
42. My colleagues at work sympathize with me when I am in a difficult situation.	1	2	3	4	5	6
43. My colleagues at work show their understanding for me.	1	2	3	4	5	6
44. My colleagues at work are willing to lend me a friendly ear.	1	2	3	4	5	6
45. I often think of leaving this organization.	1	2	3	4	5	6
46. It is very possible that I will look for a new job next year.	1	2	3	4	5	6
47. Recently, I often think of changing my current job.	1	2	3	4	5	6

Background
48. I am _____Male _____Female
49. I am _____ years old
50. My occupation is _____
51. I work _____ hours per week
52. I have been working in this job _____ years_____ months
53. I consider my current job is in _____ industry
54. Questions # _____ in this survey were not clear to me

Appendix B: Final Social Burden Scale

Please indicate how often these things have happened to you at work in dealing with coworkers, supervisors or physicians **during the past month**	Not at all	Once or Twice in Total	Once or twice per week	Once or twice per day	Several times per day
1*. Acted emotionally upset in my presence (not towards me).	1	2	3	4	5
2. Wanted me to take care of their work responsibilities.	1	2	3	4	5
3. Asked me to do something for him/her in the middle of my work.	1	2	3	4	5
4. Made my job difficult.	1	2	3	4	5
5*. Lost his/her temper in my presence (not towards me).	1	2	3	4	5
6. Gave me bad advice about my work.	1	2	3	4	5
7*. Acted in an angry manner in my presence (not towards me).	1	2	3	4	5

Note: Items marked with "*" form the dimension "negative affect display," and the rest of the items form the dimension "Interferences."

Appendix C: Main Study Survey

Department of Psychology
4202 East Fowler Ave.
Tampa, Florida 33620

We are conducting a study of nurses' experienced with injuries and workplace violence. The following questions ask you to reflect on yourself and your experiences in your current job. The entire survey should **take 10-15 minutes to complete**.

The survey is anonymous, so do not put your name or identifying information on it. No one but you will know how you responded.

You are free to participate in this study or to withdraw at any time. Your decision to participate or not to participate will not impact your employment status. Your taking this survey indicates your agreement to participate.

If you have any questions about this research study or would like to receive results, please contact Liu-Qin Yang at lyang2@mail.usf.edu. If you have questions about your rights as a person participating in a research study, you may contact the Division of Research Integrity and Compliance of the University of South Florida at (813) 974-5638.

Thank you very much for your time and participation!

Sincerely,
Liu-Qin Yang, M.A., Doctoral Candidate

Paul Spector, Ph.D., Professor
Department of Psychology
University of South Florida

	In the table on this page, you will be asked to check whether certain things have happened to you at work.						
	How often have you been subjected to this behavior *in your workplace over the past 6 months*? [Please check *only one* for each behavior]						
		Never	Once or Twice	A few times	Monthly	Weekly	Daily
1.	Been hit with an object						
2.	Been assaulted with weapon (e.g., knife, gun, etc.)						
3.	Been kicked or punched						
4.	Been slapped						
5.	Been pushed, grabbed or shoved						
6.	Been bitten						
7.	Been spat upon						
8.	Been yelled or shouted at						
9.	Been sworn at						
10.	Been threatened verbally or in a written message or note (including e-mail)						
11.	Had something thrown at you						
12.	Been insulted						
13.	Did you report to hospital authority any of the above behaviors you were subjected to?	☐Yes		☐No		☐N/A	
14.	If yes, how did you report the incident? ☐ Wrote an incident report ☐ Told the charge nurse ☐ Told the unit manager ☐ Others (specify) _____						

How many times have the following things happened to you *at work* over the *past 12 months* (Check **only one**)?	Never	Once	Twice	Three times	Four or more times
15. I had bloodborne pathogenic exposure.					
16. I had a needlestick while doing injections.					
17. I had a needlestick while doing suturings.					
18. I had a needlestick while drawing blood.					
19. I had to go through post exposure prophylaxis (PEP).					

Physical Injury Checklist

Neck
Shoulders
Upper Back
Elbows
Wrists/Hands
Lower Back
Hips/Thighs
Knees
Ankles/Feet
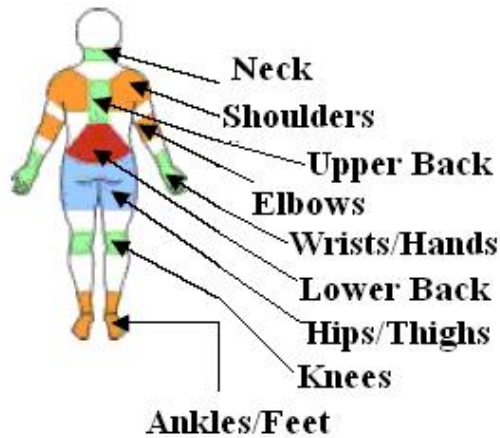
How to answer the questionnaire

In the following picture, you can see the approximate position of the parts of the body in which you might have had an injury (if any).

Please answer by putting a cross in the approximate box-one cross for each question. You may be in doubt as to how to answer, but please do your best anyway. Note that the questionnaire is to be answered, even if you have never had trouble in any part of your body.

To be answered by everyone	To be answered only by those who have had trouble	
Have you at any time *during the last 12 months* had trouble (ache, pain, discomfort) in:	Have you at any time *during the past 12 months* been prevented from doing normal work (at home or away from home) because of the trouble?	Have you had trouble at any time *during the last 7 days (Note: This time frame is different from the previous questions)?*
20. Neck No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
21. Shoulders No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
22. Elbows No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
23. Wrist/Hand No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
24. Upper Back No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
25. Low Back (Small of the back) No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
26. One or both hips/thighs No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
27. One or both knees No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐
28. One or both ankles/feet No ☐ Yes ☐	No ☐ Yes ☐	No ☐ Yes ☐

Now, please think of your interactions with your colleagues and feelings _over the past month_!

Please indicate how often these things have happened to you at work in dealing with coworkers, supervisors or physicians **during the past month**	Not at all	Once or Twice in Total	Once or twice per week	Once or twice per day	Several times per day
29. Wasted my time with their personal problems.	1	2	3	4	5
30. Acted emotionally upset in my presence (not towards me).	1	2	3	4	5
31. Wanted me to take care of their work responsibilities.	1	2	3	4	5
32. Asked me to do something for him/her in the middle of my work.	1	2	3	4	5
33. Made my job difficult.	1	2	3	4	5
34. Lost his/her temper in my presence (not towards me).	1	2	3	4	5
35. Gave me bad advice about my work.	1	2	3	4	5
36. Tried to get me do things I didn't want to.	1	2	3	4	5
37. Burdened me by complaining.	1	2	3	4	5
38. Acted in an angry manner in my presence (not towards me).	1	2	3	4	5

Over the past month, how often have you experienced each of the following symptoms?	Not at all	Once or Twice in Total	Once or twice per week	Once or twice per day	Several times per day
39. An upset stomach or nausea	1	2	3	4	5
40. A backache	1	2	3	4	5
41. Trouble sleeping	1	2	3	4	5
42. Headache	1	2	3	4	5
43. Acid indigestion or heartburn	1	2	3	4	5
44. Eye strain	1	2	3	4	5
45. Diarrhea	1	2	3	4	5
46. Stomach cramps (Not menstrual)	1	2	3	4	5
47. Constipation	1	2	3	4	5
48. Ringing in the ears	1	2	3	4	5
49. Loss of appetite	1	2	3	4	5
50. Dizziness	1	2	3	4	5
51. Tiredness or fatigue	1	2	3	4	5

Over the past month, how often have you experienced each of the following?	Not at all	Once or Twice in Total	Once or twice per week	Once or twice per day	Several times per day
52. I have felt nervous.	1	2	3	4	5
53. I have felt jittery.	1	2	3	4	5
54. I have felt calm.	1	2	3	4	5
55. I have felt fidgety.	1	2	3	4	5
56. I have gotten angry.	1	2	3	4	5
57. I have gotten aggravated.	1	2	3	4	5
58. I have gotten irritated or annoyed.	1	2	3	4	5

**Now, please think of your feelings _in the past week_ to answer the following 5 questions!**

Below is a list of ways you may have felt or behaved. Please describe how you have felt **during the past week**.	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
59. I felt depressed.	1	2	3	4
60. My sleep was restless.	1	2	3	4
61. I felt lonely.	1	2	3	4
62. I had crying spells.	1	2	3	4
63. I could not 'get going'.	1	2	3	4

Finally, please think of _your job in general_ to answer the rest of the questions (almost there!)

1	2	3	4	5	6
Strongly Disagree	**M**oderately Disagree	**SL**ightly Disagree	**SL**ightly Agree	**M**oderately Agree	**S**trongly Agree

Using above 1-6 scale, to what extent do you agree or disagree with each of the following statements?	SD	MD	SLD	SLA	MA	SA
64. In general, I don't like my job.	1	2	3	4	5	6
65. All in all, I am satisfied with my job.	1	2	3	4	5	6
66. In general, I like working here.	1	2	3	4	5	6
67. Reports of workplace violence from other employees are taken seriously by management.	1	2	3	4	5	6
68. Management in this organization quickly responds to episodes of violence.	1	2	3	4	5	6

	SD	MD	SLD	SLA	MA	SA
69. Management encourages employees to report physical violence.	1	2	3	4	5	6
70. Management encourages employees to report verbal violence.	1	2	3	4	5	6
71. My employer provides adequate assault/violence prevention training.	1	2	3	4	5	6
72. In my unit, violence prevention policies are detailed.	1	2	3	4	5	6
73. In my unit, violence prevention procedures are detailed.	1	2	3	4	5	6
74. In my unit, there is training on violence prevention policies and procedures.	1	2	3	4	5	6
75. In my unit in order to get the work done, one must ignore some violence prevention policies.	1	2	3	4	5	6
76. In my unit, whenever pressure builds up, the preference is to do the job as fast as possible, even if that means compromising violence prevention.	1	2	3	4	5	6
77. In my unit, human resource shortage undermines violence prevention standards.	1	2	3	4	5	6
78. In my unit, violence prevention policies and procedures are ignored.	1	2	3	4	5	6
79. I often think of leaving this hospital.	1	2	3	4	5	6
80. It is very possible that I will look for a new job next year.	1	2	3	4	5	6
81. Recently, I often think of changing my current job.	1	2	3	4	5	6
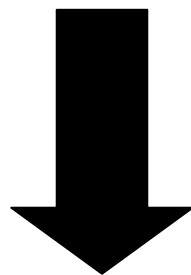
OVER
(Continued on Back)

Background Items

82. Your gender _____Male   _____Female

83. Your age _____ years

84. Have you completed the *CPI (*Crisis Prevention Institute, Inc.*)* training?
☐ *Yes*;   ☐ *No*

85. Your job type:
☐ *(LPN) Licensed Practical Nurse*;   ☐ *(ARN) Associate Registered Nurse*;
☐ *(BRN) Bachelor Registered Nurse*;   ☐ *(MRN) Master Registered Nurse*;
☐ *(ARNP) Nurse Practitioner*;   ☐ *Other (please Specify):*
_____

86. Which area are you primarily working at?
☐ *Direct patient care*;   ☐ *Indirect patient care*

87. How many hours do you work per week? _____ hours

88. How long have you been working as a nurse?
_____ years_____ months

89. Your primary department/unit/area is _____.
☐ *Outpatient department*   ☐ *Medical/surgical*   ☐ *Psychiatric/behavioral*
☐ *Telemetry*   ☐ *Obstetrics*   ☐ *Gynaecology*
☐ *Procedural diagnostic*   ☐ *Neuro-intensive care unit* ☐ *Progressive care unit*
☐ *Coronary care unit*   ☐ *Intensive care unit*   ☐ *Emergency*
☐ *Operating/recovery room* ☐ *Nursery*   ☐ *Rehabilitation*
☐ *Occupational health*   ☐ *Float*   ☐ *Other (please specify)* _____

90. How much are you interested in this research topic (workplace violence and injuries)?
☐ *Not at all*;   ☐ *To a slight extent*;   ☐ *To some extent*;
☐ *To a large extent*; ☐ *To a great extent*

About the Author

Liu-Qin Yang was born and raised in Fujian Province, Mainland China. She graduated with her Bachelor of Science in Psychology, Bachelor of Art in English Language and Literature in 2001, and Master of Arts in Industrial and Organizational Psychology in 2004, all from Beijing Normal University, Mainland China. In that Fall, she attended the University of South Florida to pursue her doctoral degree in Industrial and Organizational Psychology. During her graduate career, she developed interests in and conducted research on economic psychology, person-environment fit, cross-cultural psychology, occupational stress, quantitative methodology, workplace aggression and safety. In addition, she also worked as a consultant and manager of consulting projects for the public and private sector, as part of her graduate career in China. Starting from this Fall, Liu-Qin Yang will work as an assistant professor at Portland State University.