

2015

Job Satisfaction and Horizontal Violence in Hospital Staff Registered Nurses: The Mediating Role of Peer Relationships

Christina Purpora

University of San Francisco, cmpurpora@usfca.edu

Mary A. Blegen

Follow this and additional works at: http://repository.usfca.edu/nursing_fac

 Part of the [Nursing Commons](#)

Recommended Citation

Purpora, C. and Blegen, M. A. (2015), Job satisfaction and horizontal violence in hospital staff registered nurses: the mediating role of peer relationships. *Journal of Clinical Nursing*, 24: 2286–2294. doi: 10.1111/jocn.12818

This Article is brought to you for free and open access by the School of Nursing and Health Professions at USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. It has been accepted for inclusion in Nursing and Health Professions Faculty Research and Publications by an authorized administrator of USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. For more information, please contact repository@usfca.edu.

This is the peer reviewed version of the following article: Purpora, C. and Blegen, M. A. (2015), Job satisfaction and horizontal violence in hospital staff registered nurses: the mediating role of peer relationships. *Journal of Clinical Nursing*, 24: 2286–2294, which has been published in final form at <http://dx.doi.org/10.1111/jocn.12818>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Self-Archiving

Version of Record online: MAY 4, 2015

Abstract

Aims and objectives: To describe the association between horizontal violence and job satisfaction in hospital staff registered nurses and the degree to which peer relationships mediates the relationship. Additionally, the association between nurse and work characteristics and job satisfaction were determined.

Background: Horizontal violence is a major predictor of nurses' job satisfaction. Yet, not enough is known about the relationship between these variables. Job satisfaction is an important variable to study because it is a predictor of patient care quality and safety internationally. Peer relationships, a job satisfier for nurses, was identified as a potential mediator in the association between horizontal violence and job satisfaction.

Design: Cross-sectional mediational model testing.

Methods: An anonymous four-part survey of a random sample of 175 hospital staff registered nurses working in California provided the data. Data about: horizontal violence, peer relationships, job satisfaction, and nurse and work characteristics were collected between March and August 2010.

Results: A statistically significant negative relationship was found between horizontal violence and peer relationships, job satisfaction and a statistically significant positive relationship was found between peer relationships and job satisfaction. Peer relationships mediated the association between horizontal violence and job satisfaction. Job satisfaction was reported as higher by nurses who worked in teaching hospitals. There were no statistically significant differences in job satisfaction based on gender, ethnicity, basic registered nurse education, highest degree held, size of hospital, or clinical area.

Conclusions: The results suggest that peer relationships can attenuate the negative relationship between horizontal violence and job satisfaction. This adds to the extant literature on the relationship between horizontal violence and job satisfaction.

Relevance to clinical practice: The findings highlight peer relationships as an important factor when considering effective interventions that foster hospital staff registered nurses' job satisfaction in the presence of horizontal violence.

Summary Box (2 to 3 bullets):

What does this paper contribute to the wider global clinical community?

- It indicates that hospital staff registered nurses' (RNs) peer relationships play a role in the association between horizontal violence and job satisfaction.
- It highlights peer relationships as an important factor when considering effective interventions that foster hospital staff registered nurses' job satisfaction in the presence of horizontal violence.

Key Words: hospital staff RNs, horizontal violence, peer relationships, job satisfaction

INTRODUCTION

Horizontal violence, negative behavior among peers, is a major predictor of nurses' job satisfaction (Budin *et al.* 2013, Spence Laschinger *et al.* 2009). Yet, not enough is known about how horizontal violence impacts job satisfaction. One way to learn more about this association is to identify variables, such as peer relationships, that also may be affecting job satisfaction. Moreover, the complex interactions among these variables are important for further understanding. Job satisfaction is a particularly important variable to examine because it is a predictor, internationally, of patient care quality and safety (Aiken *et al.* 2012, Choi *et al.* 2013). Thus, the purpose of this study was to describe the association between horizontal violence and job satisfaction in hospital staff registered nurses (RNs) and the degree to which peer relationships mediates this relationship by testing a mediational model of the relationships between these variables.

BACKGROUND

The three-variable mediational model was developed for this study from theory and existing research and is illustrated in figure 1.

Horizontal Violence and Job Satisfaction

Negative behavior among nurses, such as backstabbing (complaining to someone about a person), nonverbal innuendo (rolling of the eyes), and verbal affront (snide comments), has many names and definitions in the nursing literature including incivility, horizontal violence, horizontal mobbing, and bullying (Felblinger 2008, Griffin 2004, Johnson & Rea 2009, Topa & Moriano 2013, Walrafen *et al.* 2012). Horizontal violence, a concept drawn from oppression theory, was used in this study because it signifies negative behavior among peers (i.e. staff nurses, the target population in this study) who have the same social standing in a hierarchical

institution (i.e. a hospital) (Freire 2003, Purpora *et al.* 2014). Nurses who feel frustrated in this work setting may participate in horizontal violence in an attempt to release built up pressure. Job stress, characteristic of today's healthcare work environment, has been positively linked to horizontal violence (Topa & Moriano 2013). Horizontal violence has been and still is considered a pervasive problem in hospitals internationally (Budin *et al.* 2013, McKenna *et al.* 2003, Taylor 2001, Topa & Moriano 2013).

Since the 1950s, various authors have defined and described the concept of job satisfaction (Brayfield & Rothe 1951, Conrad *et al.* 1985, Thompson & Phua 2012). Brayfield and Rothe's (1951) definition was used in this study: job satisfaction is a person's attitude toward his or her work. The premise of their definition is the assumption that a person's job satisfaction can be inferred from his or her attitude toward his or her work. A number of studies described factors that influence nurses' job satisfaction. Horizontal violence is one such factor.

Several nurse researchers proposed and described a relationship between horizontal violence and nurses' job satisfaction but findings vary. While two studies found no relationship (Demir & Rodwell 2012, Dunn 2003), many others reported a significant negative association (Budin *et al.* 2013, Spence Laschinger *et al.* 2012, Merecz *et al.* 2009, Spence Laschinger *et al.* 2009). Based on oppression theory and most of previous research, horizontal violence was suggested to be negatively related to hospital staff registered nurses' job satisfaction in this study.

Horizontal Violence and Peer Relationships

Relationships among workers is named and defined in a number of different ways including work group cohesion, group support, co-worker support, social integration, intraprofessional relationships, and peer relationships (Blegen *et al.* 2004, Demir & Rodwell

2012, Duddle & Boughton 2007, McCloskey 1990, Topa & Moriano 2013). In this study, peer relationships was used because it denotes the degree or level of support in relationships with co-workers (i.e. staff nurse peers) (Blegen *et al.* 2004, McCloskey 1990). When peers are supportive, nurses trust other nurses and feel comfortable asking them for help (Blegen *et al.* 2004). Further, they participate together caring for individual patients and openly discuss patient care concerns (Purpora & Blegen 2012a).

A number of nurse investigators proposed and described a relationship between horizontal violence and peer relationships. Findings suggest that horizontal violence negatively impacts nurses' peer relationships (Duddle & Boughton 2007, Taylor 2001). Based on this research, horizontal violence was suggested to be negatively associated with peer relationships in this study.

Peer Relationships and Job Satisfaction

Nurse researchers have posited and described an association between the relationships nurses have with each other at work and their job satisfaction. In several studies, nurses report that their relationships with other nurses is a job satisfier (Blegen *et al.* 2004, Dunn 2003, Dunn *et al.* 2005, Kovner *et al.* 2006, Newman *et al.* 2002). Based on these findings, peer relationships and job satisfaction were suggested to be positively related in the present study.

Peer Relationships as Mediator

Horizontal violence and peer relationships, horizontal violence and job satisfaction, and peer relationships and job satisfaction are associated. Based on findings that nurses' relationships with peers is a job satisfier, the researchers posited that peer relationships could provide insight into the association between horizontal violence and job satisfaction. Therefore, in this study, peer relationships was hypothesized to mediate the relationship between horizontal violence and

job satisfaction. A mediator is a variable that can help explain the relationship between an independent and dependent variable (Baron & Kenny 1986). This study aimed to find an answer to the question “does the significant direct relationship between horizontal violence and job satisfaction become insignificant when the peer relationship variable is controlled?”

METHODS

This study tested a hypothesis from a mediational model of horizontal violence, peer relationships, and job satisfaction: peer relationships mediates the relationship between horizontal violence and job satisfaction and described the association of nurse and work characteristics with job satisfaction.

Design

The data used in this study were taken from a larger cross-sectional study of predictors and consequences of horizontal violence. This study’s purpose was to describe hospital staff registered nurses’ (RNs) work-related perceptions of themselves (oppressed self), nursing as a group (oppressed group), their negative workplace behavior (horizontal violence) and relationships (peer relationships) with other hospital staff RNs, their job satisfaction, and patient care quality and adverse events. Hypotheses from a conceptual model for horizontal violence and the quality and safety of patient care model were tested and supported. Oppressed self and horizontal violence and oppressed group and horizontal violence were positively related and reported elsewhere (Purpora *et al.* 2012b). Horizontal violence was inversely related to peer relationships and quality of care and positively related to errors and adverse events (Purpora *et al.* 2014). Further, when peer relations was added in the analyses, the relationship between horizontal violence and quality of care was less significant but not between horizontal violence

and errors and adverse events. This mediational model testing study describes the relationships among horizontal violence, peer relationships, and job satisfaction.

Sample

The target population was hospital staff RNs. *NQuery* was used to perform an *a priori* power analysis. Using a multiple linear regression model, which included 6 predictors with a squared multiple correlation (R^2) of 0.13, a sample size of 131 would have 80% power to detect an increase in R^2 of 0.05 due to including 1 additional predictor in the model at $\alpha=0.05$. As previously reported, we drew a random sample of 3000 actively licensed registered nurses in California from the state's Board of Registered Nursing's mailing list (Purpora *et al.* 2012b, Purpora *et al.* 2014). Inclusion criteria were: registered nurses working as staff RNs in California hospitals, who agreed to share their views in an anonymous survey.

Data Collection and Ethical Considerations

A university's institutional review board approved this study. The researchers used an anonymous online or paper survey to collect data between March and August 2010. In summary, nurses were contacted up to three times: (1) to invite all 3,000 to participate, (2) to send them an information sheet for the paper or online survey, a paper survey, if chosen, and a \$2 bill as an incentive, and (3) to thank them for participating if they had or to remind them to complete the survey (Purpora *et al.* 2012b, Purpora *et al.* 2014). Survey receipt by researchers indicated consent.

Measures

The researchers used a four-part survey to collect data about: horizontal violence, peer relationships, job satisfaction, and nurse and work characteristics. Scores for the multi-item measures were calculated as the mean of the responses thus keeping the 1-5 scoring for all.

Horizontal violence

Horizontal violence was the independent variable in the model. The Negative Acts Questionnaire-Revised (NAQ-R), a 22 item scale designed to assess bullying in the workplace, measured this variable (Einarsen *et al.* 2009). This questionnaire was used because workplace bullying is considered a form of horizontal violence (Purpora *et al.* 2012b, Simons 2008). In one study in nursing and in this study, the item “being exposed to an unmanageable workload” was taken out of analyses because this item is assumed to reflect work environments in general not necessarily a negative act consistent with horizontal violence (Johnson & Rea 2009). The reliability and validity of the 22 item measure were provided in studies of workers outside of healthcare, Cronbach’s alpha was 0.90 in the UK and 0.92 in the US (Einarsen *et al.* 2009, Lutgen-Sandvik *et al.* 2007). In nursing, internal consistency was 0.89 and 0.88 (Johnson & Rea 2009, Simons 2008). Predictive validity was evident in all four studies when relationships between horizontal violence and different concepts were hypothesized and tested (Einarsen *et al.* 2009, Johnson & Rea 2009, Lutgen-Sandvik *et al.* 2007, Simons 2008). Participants answered by stating how often at work during the last six months they experienced each of the negative acts from peer staff RNs: 1=never to 5=daily. Mean scores ranged from 1 to 5, the higher the score the more often negative acts were experienced at work.

Peer Relationships

Blegen *et al.*’s (2004) four item peer relations subscale of work environment measured peer relationships, the mediator variable in the model. Items included: “I feel comfortable asking nurses on my unit for assistance”, “nurses on my unit do not help one another care for individual patients” (reverse scored), “on my unit, I can openly discuss my opinions about patient care problems with peers”, and “I do not trust the people with whom I work” (reverse scored). Prior

work with the subscale provided evidence of reliability, internal consistency .75, and validity (factor analysis) (Blegen *et al.* 2004). Participants specified their agreement using the following response scale: 1=strongly disagree to 5=strongly agree. Mean scores ranged from 1-5, the higher the score the greater the support in peer relationships.

Job Satisfaction

The dependent variable in the model was job satisfaction. Blegen *et al.* (2004) provided a six item job satisfaction scale drawn from Brayfield and Rothe's Index of Job Satisfaction (Blegen *et al.* 2004). Prior work with the six item scale provided evidence of face validity, content experts and use of the literature, and reliability, Cronbach's Alpha 0.83 (Blegen *et al.* 2004). Items include: "I feel that I am happier in my work than most people", "I am disappointed that I ever took this job" (reverse scored), "each day of work seems like it will never end" (reverse scored), "most of the time, I have to force myself to go to work" (reverse scored), "I am satisfied with my job for the time being", and "I find real enjoyment in my work". Participants indicated their agreement using the following response scale: 1=strongly disagree to 5=strongly agree. Mean scores ranged from 1-5, the higher the mean score the more nurses were satisfied with their job.

Nurse and Work Characteristics

Data were collected about participants' age in years, number of years working as hospital staff nurse, and the average number of hours worked per week (Purpora *et al.* 2012b, Purpora *et al.* 2014). To ascertain nurse characteristics, the researchers collected data about gender, race, basic RN education, and highest degree. Work characteristics included the type and size of hospital and clinical area where participants worked. Options for type of hospital included community based, teaching, and government. Among the 16 clinical area choices were geriatrics,

medical-surgical, emergency, and telemetry and one fill-in the blank marked “other.” Stated clinical areas were categorized to intensive care, non-intensive care, and other. This three group clinical area variable was dummy coded using intensive care for the omitted reference group.

Data Analysis

The statistical Package for the Social Sciences (SPSS) version 20.0 for Windows (2011, SPSS Inc., Chicago, IL) was used for data analyses. Descriptive statistics calculated sample characteristics. Cronbach’s Alpha measured the internal consistency of every scale. Mean scores for the 21 item NAQ-R scale, peer relations subscale, and the job satisfaction scale were calculated. Between group differences in nurse and work characteristics on job satisfaction were calculated. Pearson’s *r* described the association of variables. Multiple regression or structural equation modeling (SEM) can be used for mediational analyses (Frazier *et al.* 2004). A sample size of 200 or more participants is needed to perform SEM analysis (Quintana & Maxwell 1999). The sample size in this study was 175. Baron and Kenny’s (1986) method of testing mediational models was used to guide regression analyses. To establish mediation using this method, three standard multiple regression equations must be calculated (p. 1177): (1) in the first equation, regress the mediator on the independent variable, (2) in the second equation, regress the dependent variable on the independent variable, (3) in the third equation, regress the dependent variable on the independent variable and the mediator variable.

In this study, peer relationships was hypothesized as a mediating variable in the association between horizontal violence (independent variable) and job satisfaction (dependent variable). As outlined in Baron and Kenny’s (1986, p. 1177) work, conditions that must be met in this study to support the study hypothesis were: (1) in the first equation, horizontal violence predicts peer relationships, (2) in the second equation, horizontal violence predicts job

satisfaction and, (3) in the third equation with predictors of horizontal violence and peer relationships, the latter predicts job satisfaction. If these conditions are met, then the effect of horizontal violence on job satisfaction must be less in the third equation than the second. Perfect mediation exists when horizontal violence has no effect when peer relationships is controlled.

Alpha was preset at .05.

RESULTS

Out of the 3000 postcard invitations mailed, 234 nurses answered requesting a survey. The 215 eligible hospital staff nurses received a survey in return. The researchers received 175 completed surveys, 91 online and 84 on paper. Spetz *et al.* (2009) reported in the CA BRN 2008 Survey of Registered Nurses that 13% of RNs are not working, 35.6% do not work in hospitals, and 24.4% work in hospitals but not as staff. These percentages were subtracted from the 3000 leaving 1271 before calculating the response rate. The response rate to this study was 13.8% ($175 \div 1271 = .1377$).

Sample Characteristics

The mean of age of the hospital staff RNs was 46.3 years (SD=12.36). The largest percentage were female (n=159; 91%), Caucasian (n=107; 61%), and their basic RN education was an associate degree (n=71; 41%). They worked in hospitals as an RN for a mean of 16 years (SD=12.18). Most worked on medical-surgical units (n=36; 21%), in 100 to 300 bed hospitals (n=84, 48%), a mean of 35.6 hours per week (SD=9.02), and in community-based hospitals.

Reliability of Measures and Mean Scores

The Cronbach's alpha values for the 21 item NAQ-R (0.92) and job satisfaction scale (0.87) were strong and acceptable for the peer relations subscale (0.76). The mean score for

horizontal violence was 1.52 (SD = .52), peer relationships 4.07 (SD = .87), and job satisfaction 3.93 (SD = .89).

Between Group Differences and Job Satisfaction

Job satisfaction was reported as higher by nurses who worked in teaching hospitals ($p < .05$). There were no statistically significant differences in job satisfaction based on gender, ethnicity, basic RN education, highest degree held, size of hospital, or clinical area.

Correlations

Horizontal violence and peer relationships were inversely related ($r = -.641$; $p < .01$) (Purpora *et al.* 2014). Horizontal violence and job satisfaction were inversely related ($r = -.466$; $p < .01$), and peer relations and job satisfaction were positively related ($r = .614$; $p < .01$). Age, years working as a hospital RN, and average hours worked per week were not correlated with job satisfaction.

Regression Analyses

Equation 1: Horizontal Violence and Peer Relationships

In the first regression equation, horizontal violence negatively influenced peer relationships $\beta = -.641$ ($F(1,172) = 119.92$, $p < .001$), explaining 41.1% of the variance in peer relations (Table 1). In other words, as horizontal violence increased, nurses' peer relationships were less supportive.

Equation 2: Horizontal Violence and Job Satisfaction

In the second regression equation, horizontal violence negatively influenced job satisfaction $\beta = -.462$ ($F(1,172) = 46.63$, $p < .001$), explaining 21.3% of the variance on job satisfaction (Table 1). This means that as horizontal violence increased, nurses' job satisfaction decreased.

Equation 3: Peer Relationships and Job Satisfaction

In the third regression equation, peer relations positively influenced job satisfaction beta .523 ($F(2, 171)=51.11, p < .001$), explaining 16% of the variance on job satisfaction. In other words, as the degree of support in nurses' relationships with their peers increased, so did their job satisfaction. Also in this third equation, which included horizontal violence and peer relationships, horizontal violence added only 0.94% to explained variance in job satisfaction beyond the 16% contributed by peer relationships. With peer relationships present, the proportion of variance in job satisfaction accounted for by horizontal violence was reduced from 21.3% to only 0.94% as derived from equation two and three, and the beta became not significant from $-.462 (p < .001)$, in the second equation, to $-.127 (p = .109)$ in the third (Table 1). This result suggests that peer relationships may help lessen the negative impact that horizontal violence may have on nurses' job satisfaction.

DISCUSSION

This study produced new knowledge about the association between horizontal violence among hospital staff nurses, their relationships with one another, and their job satisfaction. In the following sections, we discuss our findings compared with existing research and identify study limitations.

Horizontal Violence and Job Satisfaction

The researchers found that horizontal violence and job satisfaction were related in the predicted direction. That is, horizontal violence was higher for those who scored lower on job satisfaction. These results provide evidence in support of this study's model as well as the work of previous researchers (Budin *et al.* 2013, Spence Laschinger *et al.* 2009).

Horizontal Violence and Peer Relationships

The hypothesized inverse relationship between horizontal violence and peer relationships in hospital staff nurses was supported. As horizontal violence increased, peer relationships became less supportive. This finding is consistent with previous work and adds to knowledge of the association of these variables in hospital staff RNs (Duddle & Boughton 2007, Taylor 2001, Topa & Moriano 2013).

Peer Relationships and Job Satisfaction

As expected, the hypothesized positive association between peer relationships and job satisfaction was supported. That is, the more support in relationships with peers, the more satisfied hospital staff nurses were with their job. These results provide evidence that support the model for this study as well as previous research that suggests that hospital staff nurses' job satisfaction is affected by relationships with their peers (Blegen *et al* 2004, Dunn 2003, Dunn *et al.* 2005, Kovner *et al.* 2006, Newman *et al.* 2002).

Peer Relationships as Mediator

Peer relationships were hypothesized to be a mediating variable in the association between horizontal violence and job satisfaction in hospital staff nurses. The results of the regression analyses showed that peer relationships mediate this association which became insignificant when peer relationships was controlled for statistically. As Baron and Kenny (1986) point out, "mediators explain how external physical events take on internal psychological significance" (p. 1176). Therefore, peer relationships helps explain the association between horizontal violence and job satisfaction. When hospital staff nurses experience horizontal violence (external physical events), their relationships with one another may greatly buffer the effects (internal psychological significance) which contributes to their job satisfaction.

Baron and Kenny (1986) emphasize that perfect mediation exists when the independent variable has no effect on the dependent variable when the mediator variable is controlled. Given that the relationship between horizontal violence and job satisfaction became insignificant when peer relationships was controlled, peer relationships in this study is a dominant mediator in this association. For hospital staff RNs, peer relationships is a mediator in the relationship of concern in this study. These findings provide a greater understanding of the relationship between horizontal violence and hospital staff RNs job satisfaction.

Limitations

This study produced important information about hospital staff RNs job satisfaction. Nonetheless, it had several limitations. First, the sample size was small, though large enough to surpass the power analysis recommendations. Second, the study sample was representative of the population of RNs working in hospital as staff nurses in California when compared to a recent study of California nurses (Spetz *et al.* 2009). Nonetheless, participants were mostly white and female conceivably skewing results toward this group. Third, the causal direction of effects between variables analyzed in the cross-sectional study cannot be assured. However, the associations between variables were as predicted so there is evidence of predictive validity of the measures.

CONCLUSION

This study has provided us with some understanding of the association between horizontal violence and job satisfaction in hospital staff RNs. Nurses who experienced horizontal violence perceived a lower level of support in relationships with their peers and were less satisfied with their jobs while peer relationships was a dominant mediator between these

variables. Promoting nurses' job satisfaction by fostering supportive relationships between staff RNs could positively impact patient care internationally.

RELEVANCE TO CLINICAL PRACTICE

This study provided new knowledge about the relationship between horizontal violence and job satisfaction. Because horizontal violence is a major predictor of job satisfaction and job satisfaction is a predictor of quality of care and patient safety, it is imperative to determine interventions to boost hospital staff RNs' job satisfaction. These findings highlight peer relationships as an important factor when considering effective interventions that foster hospital staff nurses' job satisfaction in the presence of horizontal violence. A central part of this highlight should be for nurses to identify what constitutes support in their relationships with peers at work. To do this, nurses could ask themselves and each other to define supportive peer relationships and list examples of the features of these relationships. Examples of features might be that nurses trust other nurses and they feel comfortable asking them for help (Blegen *et al.* 2004). Further, they participate together caring for individual patients and openly discuss patient care concerns (Purpora & Blegen 2012a). Once identified, nurses could make the nurse-produced definition and examples of features available in a place at work where nurses gather frequently.

References

- Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M, Bruyneel L, Raffert AM, Griffiths P, Moreno-Casbas MT, Tishelman C, Scott A, Brzostek T, Kinnunen J, Schwendimann R, Heinen M, Zikos D, Sjetne IS, Smith HL, Kutney-Lee A (2012) *Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States BMJ*. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3308724/> (accessed 15 May 2014).
- Baron RM & Kenny DA (1986) The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 51, 1173-1182.
- Blegen MA, Vaughn T, Pepper G, Vojir C, Stratton K, Boyd M & Armstrong G (2004) Patient and staff safety: voluntary reporting. *American Journal of Medical Quality* 19, 67-74.
- Brayfield AH & Rothe HF (1951) An index of job satisfaction. *Journal of Applied Psychology* 35, 307-311.
- Budin WC, Brewer CS, Chao Y & Kovner C (2013) Verbal abuse from nurse colleagues and work environment of early career registered nurses. *Journal of Nursing Scholarship* 45, 308-316.
- Choi JS, Bergquist-Beringer S & Staggs VS (2013) Linking RN workgroup job satisfaction to pressure ulcers among older adults on acute care hospital units. *Research in Nursing & Health* 26, 181-190.
- Conrad KM, Conrad KJ & Parker JE (1985) Job satisfaction among occupational health nurses. *Journal of Community Health Nursing* 2, 161-173.

- Demir D & Rodwell J (2012) Psychosocial antecedents and consequences of workplace aggression for hospital nurses. *Journal of Nursing Scholarship* 44, 36-384.
- Duddle M & Boughton M (2007) Intraprofessional relations in nursing. *Journal of Advanced Nursing* 59, 29-37.
- Dunn H (2003) Horizontal violence among nurses in the operating room. *Association of periOperative Registered Nurses (AORN) Journal* 78, 977-988.
- Dunn S, Wilson B & Esterman A (2005) Perceptions of working as a nurse in an acute care setting. *Journal of Nursing Management* 13, 22-31.
- Einarsen S, Hoel H & Notelaers G (2009) Measuring exposure to bullying and harassment at work: validity, factor structure and psychometric properties of the negative acts questionnaire-revised. *Work & Stress* 23, 24-44.
- Felblinger DM (2008) Incivility and bullying in the workplace and nurses' shame responses. *Journal of Obstetric, Gynecologic, and Neonatal Nursing (JOGNN)* 37, 234-242.
- Freire P (2003) *Pedagogy of the oppressed*, 30th anniversary edn. The Continuum International Publishing Group, New York, NY.
- Frazier PA, Tix AP & Barron KE (2004) Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology* 51, 115-134.
- Griffin M (2004) Teaching cognitive rehearsal as a shield for lateral violence: an intervention for newly licensed nurses. *The Journal of Continuing Education in Nursing* 35, 257-263.
- Johnson SL & Rea RE (2009) Workplace bullying concerns for nurse leaders. *Journal of Nursing Administration* 39, 84-90.
- Kovner C, Brewer C, Wu YW, Cheng Y & Suzuki M (2006) Factors associated with work satisfaction of registered nurses. *Journal of Nursing Scholarship* 38, 71-79.

- Lutgen-Sandvik P, Tracy SJ & Alberts JK (2007) Burned by bullying in the American workplace: prevalence, perception, degree and impact. *Journal of Management Studies* 44, 837-862.
- McCloskey JC (1990) Two requirements for job contentment: autonomy and social integration. *Journal of Nursing Scholarship* 22, 140-143.
- McKenna BG, Smith NA, Poole SJ & Coverdale JH (2003) Horizontal violence: experiences of registered nurses in their first year of practice. *Journal of Advanced Nursing* 42, 90-96.
- Merecz D, Drabek M & Moscicka A (2009) Aggression at the workplace-psychological consequences of abusive encounter with coworkers and clients. *International Journal of Occupational Medicine and Environmental Health* 22, 243-260.
- Newman K, Maylor U & Chansarkar B (2002) The nurse satisfaction, service quality and nurse retention chain; implications for management of recruitment and retention. *Journal of Management in Medicine* 16, 80-88.
- Purpora C, Blegen MA (2012a) *Horizontal violence and the quality and safety of patient care: a conceptual model*. Nursing Research and Practice. Available at: <http://www.hindawi.com/journals/nrp/2012/306948/> (accessed 17 May 2014).
- Purpora C, Blegen MA, Stotts NA (2012b) Horizontal violence between hospital staff nurses related to oppressed self or oppressed group. *Journal of Professional Nursing* 28, 306-314.
- Purpora C, Blegen MA, Stotts NA (2014) Hospital staff registered nurses' perception of horizontal violence, peer relationships, and the quality and safety of patient care. *Work: A Journal of Prevention, Assessment and Rehabilitation*. doi 10.3233/WOR-141892

- Quintana SM & Maxwell SE (1999) Implications of recent developments in structural equation modeling for counseling psychology. *The Counseling Psychologist* 27, 485-527.
- Simons S (2008) Workplace bullying experienced by Massachusetts registered nurses and the relationship to intention to leave the organization. *Advances in Nursing Science* 31, E48-E59.
- Spence Laschinger HK, Leiter M, Day A & Gilin D (2009) Workplace empowerment, incivility, and burnout: impact on staff nurse recruitment and retention outcomes. *Journal of Nursing Management* 17, 302-311.
- Spence Laschinger HK, Wong CA & Grau AL (2012) The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout and retention outcomes: a cross-sectional study. *International Journal of Nursing Studies* 49, 1266-1276.
- Spetz J, Keane D & Herrera C (2009) California board of registered nursing 2008 survey of registered nursing. University of California, San Francisco School of Nursing and Center for the Health Professions, San Francisco.
- Taylor B (2001) Identifying and transforming dysfunctional nurse-nurse relationships through reflective practice and action research. *International Journal of Nursing Practice* 7, 406-413.
- Thompson ER & Phua FTT (2012) A brief index of affective job satisfaction. *Group and Organization Management* 37, 275-307.
- Topa G & Moriano JA (2013) Stress and nurses' horizontal mobbing: moderating effects of group identity and group support. *Nursing Outlook* 61, E25-E31.

Walrafen N, Brewer MK & Mulvenon C (2012) Sadly caught up in the moment: an exploration of horizontal violence. *Nursing Economics* 30, 6-12, 49.

Table 1

Summary of Standard Multiple Regression Analyses (n=174)

Independent Variable	Dependent Variable	Beta standardized	(df) F	p	R ² /sr ²
Equation 1:					
Horizontal Violence	Peer Relationships	-.641	(1,172)=119.92	<.001	41.1%*
Equation 2:					
Horizontal Violence	Job Satisfaction	-.462	(1,172)=46.63	<.001	21.3%*
Equation 3:					
Peer Relationships	Job Satisfaction	.523	(2, 171)=51.11	<.001	16.0%**
Horizontal Violence	Job Satisfaction	-.127		.109	0.94%**

*R², **squared semi-partial coefficient (sr²)

Figure 1. A Mediation Model of Peer Relationships' Effect on the Association of Horizontal Violence and Job Satisfaction

