THE INFLUENCE OF NURSE LEADERS ON THE PRESENCE OF HORIZONTAL VIOLENCE ON STAFF NURSES

by

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Abstract

Horizontal violence is a reality for many staff nurses; it has been recognized as an issue across the nursing profession for more than three decades, and yet there is very little interventional research on how nurse leaders can, and should, address the problem. This study has assessed the research evidence obtained using the Rapid Evidence Analysis (REA) method. What can be concluded from this analysis is that leaders should use tools such as authentic leadership, education of horizontal violence and cognitive behavioral rehearsal training to influence the presence of horizontal violence among staff nurses. Due to the limited number of studies, and methodologies used in those studies, further interventional research is needed to strengthen the science.
Preface

This REA study was conducted by the author. The literature search was conducted by the author with guidance provided by Lee Ann Bryant, UBC Reference Librarian. The research analysis and conclusions were made by the author independently.
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Chapter 1: Introduction

1.1 Background

Horizontal nurse violence, lateral nurse violence, or bullying; whatever name it is given, it is the core of an unhealthy work environment. Although this subject has been discussed throughout the nursing profession since the early 1980s (Kohnke, 1981; Duldt, 1981, Roberts, 1983; Cox, 1987) the problem of horizontal violence among staff nurses has not only endured, but has grown as a nursing problem. “The cliché of “nurses eat their young” persists”. (Bailey 2013) Interestingly though, the problem of horizontal nurse violence has not been ignored, but has been addressed in numerous ways, at numerous levels: The Code of Ethics for Nurses specifically addresses the issue in provision 1.5 (ANA, 2001); the Center for American Nurses released a position statement in 2008 titled “Lateral Violence and Bullying in the Workplace”; The Joint Commission in the US the same year issued a Sentinel Alert, entitled “Stop bad behavior among healthcare professionals” and required accredited healthcare agencies and hospitals to put into place zero-tolerance policies. (Bailey 2013, Joint Commission 2008). If policies have been written, education has been done, and ethics addressed, why then, does horizontal nurse violence persist among staff nurses?

There are several theories as to why horizontal violence occurs and is thriving within the nursing profession, starting with Friere’s theory of oppression (1971). “Supporters of Friere’s model believe that nurses are a traditionally oppressed group that has been rendered powerless by the medical establishment.” (Coursey, et al. 2013, p. 102). Sheridan-Leos (2008) attribute the theory of the “Oppressed group model” to Roberts (1983) who hypothesized that the root of nurses’ oppressed group behavior may be their actual or perceived status in relation to
physicians. The nursing profession is composed of mostly women, who report to a primarily male, medical establishment and administration. “Nurses exhibiting lateral violence believe it is a safer manifestation of stress. The nurse committing the lateral violence is unable to effectively confront the oppressors, so the anger is directed at a safer person…” (Sheridan-Leos 2008 p. 399). Conversely, Witt (2013) notes “…some studies have suggested in fact, nurses who are most likely to display hostile behaviors to others are popular and influential individuals and are often the “informal leaders” in a unit.” (p. 1) Another theory, the theory of “Reciprocal Determinism” (Bandura, Ross & Ross 1969) hypothesizes that the true cause of horizontal violence among staff nurses is due to individuals’ tendency to socially identify with those around them. “The… individuals tend to emulate the behaviors of the group members they most intimately engage with as a way to be accepted by them.” (Walfaren, Brewer, Mulvenon, 2012 p. 7). Whatever the theory or cause, horizontal nurse violence remains present in and among staff nurses.

1.2 Relevance to Practice

As a nurse manager of a 24 bed maternity unit, supervising 80 RNs, covering labor and delivery, postpartum, and a level 2 special care nursery, I am aware that horizontal violence is occurring on and within the unit I manage. I believe that the horizontal violence occurring in the unit, is because of the inability of previous leadership to deal with these very issues; I am the ninth manager in twelve years for this particular unit. Bartholomew (2006) explores this very concept:

Like the child of an alcoholic parent, a nurse sees his or her invisibility as a means of staying out of harm’s way and out of the spotlight. Unnecessary attention puts the entire
group in danger- it doesn’t matter if this attention is good for the group. Thus a manager who excels, complains, dresses differently etc., is immediately perceived as a threat at the most primal level because she is standing up to the dominant group. Her actions run the risk of retaliation by the dominant group against the entire subordinate group. To prevent this from happening, the subordinate group immediately demonstrates behaviors that will cause that nurse to leave the group. Gossiping, backstabbing, ignoring etc., are all means towards this end. These behaviors, designed to extricate the nurse from the group are unconsciously considered vital to the survival of the group. (pg 35-36)

In the absence of effective nurse leadership, informal leaders began to rise, and a sub-culture of horizontal violence in this unit developed.

I have personally seen examples of this violence, including, eye rolling, ignoring/isolating, rude comments, name calling, gossip and even yelling. RNs on the unit no longer see these behaviors as unacceptable, rather they have been normalized. (Sheridan-Leos, 2008; Longo & Sherman, 2007; Bartholomew 2006) An example of this was a nurse “huffing at report” because she didn’t like how assignments were allotted; when I asked the charge nurse about the incident after report, her answer was, “I didn’t notice, but she’s like that- always has been and always will be.” Whether the nurses see the problem or not, it manifests itself in increased sick time, turnover, decreased productivity, and can ultimately impact patient safety. (Corsey et al, 2013; Witt, 2013; Warafen et. al 2012; Pontus, 2011; Major et. al, 2013; Becher &Visovsky, 2012; Bailey, 2013; Embree & White, 2010; Bartholomew, 2006) Each of these outcomes is present in the unit for which I am responsible.
1.2.1 Research Question

Based on the evidence that horizontal violence is occurring in the unit I manage, the impact question then posed is: “How do leaders influence the presence of horizontal violence among nursing staff?”

In PICO format (REA Toolkit 2009) the question may be posed in the following manner:

P (Problem): Presence of horizontal violence among nursing staff
I (Intervention): Effective leadership
C (Comparison): Ineffective leadership
O (Outcome): Decreased horizontal violence among nursing staff
Chapter 2: Methods

2.1 Methods

The literature search for this REA study was conducted between April 18th 2013 and July 04th inclusive. The search was conducted by the author using the University of British Columbia (UBC) Library with guidance provided by the university medical librarian. The CINAHL and MEDLINE databases, both on Ebscohost, were chosen as the core tools for a relevant, comprehensive search; the medical librarian was utilized as a resource to ensure the search was thorough and could be replicated. This REA was conducted using the prescriptive methods as outlined by the Government Social Research Service (GSRS) out of the United Kingdom (2009), and the Rapid Evidence Assessment Thesis Option, paper out of UBC (Garret, 2012). Both papers emphasize that the purpose of the REA research method is to search, analyze and implement evidence based practice thoughtfully, purposefully and rapidly. Utilizing the REA method will allow for a quick turn-around of evidence and operational application for use within my unit. “… health policy makers, clinicians and clients cannot always wait the year or so required for a full systematic review to deliver its findings, and this has led to the development of rapid evidence assessments (REAs) that can provide quick summaries of what is already known about a topic or intervention.” (Bernie Garrett, 2012 p.1). The REA method is an effective way to systematically review the literature and affect change as quickly as possible.
2.1.1 Inclusion/Exclusion Criteria

The following inclusion/exclusion criteria are based on recommendations from the REA toolkit. The REA question and underpinning conceptual framework determine what studies should be included. The ‘inclusion’ criteria specify which studies are to be included and excluded in the REA together with justification for these decisions. They, therefore define the studies that the search strategy is attempting to locate. This is similar to the process by which the authors of primary research define the samples and population they intend to study and draw conclusions about (GSRS, 2009).

Articles to be included in this study met the following inclusion criteria:

- Research Article- All methods. Included due to the limited number of research articles available.
- Date range of 01/01/13-12/31/13. Included for recent and relevant research.
- English language. Included for ease of research and availability of research articles.
- Article must be accessible online. Included for ease of research and rapid availability of research articles.
- Article must include an intervention used to influence horizontal violence. To allow for analysis of efficacy of the intervention.
- The intervention must pertain to staff nurses. Included as this is the population targeted for the implementation of an evidenced based intervention meant to influence the presence of horizontal violence on staff nurses.
- The research must have implications for leadership. Included as the purpose of this REA is to establish which interventions may be implemented by leadership to influence the presence of horizontal violence on staff nurses.
Inclusion criteria were set to facilitate rapid data collection and to include those studies that would help answer the research question. All articles that did not meet all of the inclusion parameters as noted were excluded.

2.2 Research

The literature search was conducted with the assistance of the university medical librarian to identify all relevant search terms and databases. Key search terms were also derived and applied during the search of the literature. Key terms included: Lateral violence, horizontal violence, bullying, workplace violence, leadership, nurs*, manag*, admin*, leader*, violence, disruptive behavior, conflict, intraprofessional, interprofessional and work. Through the literature search over 900 article titles were reviewed; from those titles, over 200 abstracts were appraised. Of those abstracts, 156 articles were scanned; 73 were discarded, 83 were short-listed and were read in-depth, and of those articles 10 were selected for this REA, using the inclusion/exclusion criteria. Selected articles were also reviewed for any further applicable research. The selected articles were reduced to nine in number for the final evidence analysis. Those articles that remained included the key parameters of nursing, leadership, the issue of horizontal violence and a tested intervention. It is also worth noting that the literature review was completed by the author independently without a secondary researcher to verify inclusion of all relevant studies. At the author’s conclusion of the literature search however, confidence was reached due to the saturation of included articles; the same articles were identified repeatedly from all sources utilized. The nine studies that met inclusion criteria and are included in this REA can be found in Appendix A. The articles are summarized in matrix format according to authorship, publication year, research design, recruitment strategies, data collection strategies,
ethics, data analysis and key findings. The ratings from the two REA tools are also included in the article matrix.

2.2.1 Quality of Evidence Tools

The tools utilized for analysis of the selected articles included the Maryland Scale of Scientific Methods (see Table 1) and the GSRS Weight of Evidence Criteria (See Table 2) as well as questions based on the Critical Appraisal Skills Programme (CASP) (2006). Each of these tools was recommended for use by the REA toolkit (2009). The Maryland Scale of Scientific Methods was developed in 1997 by Sherman et al. to systematically review more than 500 “…scientific evaluations of crime prevention practices.” (p.1). The REA toolkit asserts that “Although developed for the criminology field it has wider application; the five levels of methodological quality are generic and so can be applied to other areas of social science.” (p. 2). The GSRS Weight of Evidence Criteria was developed by the Evidence for Policy and Practice Information and Coordinating center (EPPI) out of the University of London.

The EPPI-Centre organises the three dimensions of quality and relevance into a framework called ‘Weight of Evidence’ (WoE). Each study is weighted according to dimensions A, B and C in conjunction with each other. These judgements are combined into dimension D which signifies the overall WoE judgement. Then either the findings of lower quality studies are excluded, or given less weight in the synthesis (REA Toolkit 2009, p. 3).

The GSRS WoE is comprised of three levels of weighting comprised of low, medium and high trustworthiness in relation to the article being appraised. (See Table C2). The CASP tool is “…a framework of ten questions developed by Glasgow University to appraise the quality of studies that use a qualitative methodology. This is primarily aimed at the health field but the questions apply to other subject areas” (REA Toolkit 2009 p. 3). The questions used to assess the
qualitative studies used in this REA were based on the CASP tool, including: Author, year, design, appropriateness of the design, the recruitment strategy, data collection, ethics, analysis of data, statement of findings, and whether the research is of value. For those mixed methods studies included in the REA all previously indicated tools were applied as appropriate.

2.3 Research Analysis

Because of the limited number of studies utilizing interventions, all studies, regardless of methodology, were included, to provide a more robust sample. Studies included: Four quantitative, two qualitative and three mixed method studies, all of varying degrees of value. The quantitative articles were rated using the Maryland Scale of Scientific Methods (see Table 1) and the GSRS Weight of Evidence Criteria (See Table 2); while the qualitative studies were analyzed using questions based on the Critical Appraisal Skills Programme (CASP) (2006); and the mixed method articles were appraised using all three tools as described in the previous sub-section (2.2.1). All three tools were obtained through the REA toolkit as previously described. See Appendix B for rating tables of each study article.
Chapter 3: Findings

3.1 Findings

The PICO question addressed in this REA was: “How do leaders influence the presence of horizontal violence among nursing staff?” The REA revealed that this is topic is clearly an area of research interest, and that more rigorous research is required to answer the REA question. The following chapter will provide an overview of key findings from the quantitative, qualitative and mixed methods studies. Descriptions will be provided of the evidence and how it was weighted using the rating scales from the REA toolkit (2009).

3.1.1 Quality of Evidence for the Quantitative Articles

Chipps and McRury (2012) completed a pilot study with a quasi-experimental, pre and post-test design to study the effects of a 3 month educational program addressing workplace bullying. The participants consisted of a cohort of 16 staff (only 63% of those staff were RNs) from two Rehabilitation nursing units. In the evaluation of the quality of evidence the research was limited by convenience sample, volunteer participants, and small sample size. The results of the research of those staff who participated in a 3 month educational program which focused on effective communication, found both bullying frequency and intensity increased post-educational intervention. The research scored only 3of 9 on the GSRS scale, for low trustworthiness in each of the three quality dimensions and was weighted as a 2 on the Maryland scale because of the pre-post-test design.

Ceravolo et al. (2012) focused on a quality improvement project which was completed over three years and 203 educational workshops reaching over 4000 nurses “…designed to enhance assertive communication skills and raise awareness about the impact of lateral violence
behavior.” (p. 601). Following the workshop series “…76% of nurses were still experiencing verbal abuse…” (p. 604). The results showed a decline in verbal abuse of 14% post intervention, as they were 90% pre-intervention, however the rate remained unacceptably high at 74%. It should also be noted that in the Ceravolo et al. study (2012), that the educational content was modified in 2009, to include Team STEPPs curriculum, so that those participants provided education after that time received different education than those previous participants. Ceravolo et al. (2012) used pre and post-surveys adapted from the Verbal Abuse Survey written by Cox et al. in 2007. Based on the evaluation of the research the author has evaluated the study with a GSRS rating of 6 with medium trustworthiness being awarded in all three areas. The Maryland scale was graded as a 2 because of the pre-post survey design.

Stagg et al. (2011) explored the use of a cognitive rehearsal program to decrease horizontal violence in the hospital setting; this was comprised of a two hour cognitive rehearsal training program. Stagg et al. described in their research how their cognitive rehearsal program was based on the Griffin study (2004). This was the only study included in this REA which built upon previous horizontal violence interventional research. Stagg et al. utilized cue cards as Griffin did, although modified, and both studies utilized the same pre and post-tests. Stagg et al., however did not attempt to replicate the Griffin study, rather a different cohort was utilized; medical surgical nurses versus newly graduated nurses. Stagg et al. also differed in their research methodology by using a quasi-experimental study design. Stagg et al. had a limited cohort of 62 RNs, with only 20 of the RNs completing the survey. The attempt by Stagg et al. to build on the science by utilizing previously used tools is of benefit to this study, but the small convenience sample size, and the unclear results post intervention led to the GSRS score of 6/9 while the Maryland scale was scored as a 2 because of the pre and post-test design.
Laschinger et al. (2012) tested a model of authentic leadership in a cross-sectional design, among newly graduated nurses (with less than 2 years of experience) in hospitals located in Ontario Canada. Laschinger et al. explored the influence of authentic leadership on newly graduated nurses’ experiences of workplace bullying. Questionnaires used in this research study included: Authentic Leadership Questionnaire, Negative Acts Questionnaire-Revised, Maslach Burnout Inventory-General Survey, Job Satisfaction scale and the Turnover Intention scale. The tools used for data analysis included the Statistical Package for Social Science (version 16.0) and the Analysis of Moment Structures (version 17.0). This study’s methods of data collection and analysis were clearly documented, limitations of the study design and cohort of newly graduated nurses was also addressed. “To our knowledge this study is the first to empirically link authentic leadership to new graduate nurses’ workplace bullying experiences.” (p. 1273). Based on the GSRS Weight of Evidence this research received a score of 9/9 showing high trustworthiness in each of the three dimensions. On the Maryland scale this research scored a 1 because of the cross sectional study design.

3.1.2 Quality of Evidence for the Qualitative Articles

DiMarino (2011) used a narrative descriptive case study to discuss the strategies used to eliminate lateral violence by the ambulatory surgery center in which she is a leader. In this paper Dimarino promotes education as a defense against lateral violence, and mentions yearly in-service programs but specifics about in-service content is not provided in the article. Dimarino also advocates the use of a code of conduct, including both a copy of the center’s code and the policy and procedure of same which are embedded in the paper. Outside of the policy and procedure included there is no data provided in this paper. Dimarino shows no measured outcomes outside
of, “In 2010 we experienced no staff turnover, and there were no reported instances of lateral violence in the organization.” (p. 587). This study has an unclear methodology, with no ethics discussion and no data presented or analyzed except for one observation which may or may not be related to the surgery center’s strategies for eliminating lateral violence; this study could not be reproduced. This research paper is unreliable with no real data presented.

St. Pierre (2012) approached the issue of horizontal violence among staff nurses from a different perspective; from that of the manager. St Pierre explored the strategies that nurse managers/senior leadership used to respond to horizontal violence. St Pierre used a critical ethnography design to approach the issue. Ethics was obtained from three different ethics boards. Individual interviews, a review of organizational documents and observation were the studied components included in this research. Data analysis was described as “ongoing” and consisted of “…codification, categorization, co-linkage and integration”. (p. 249) Strategies were compiled into a flow chart as a summary of potential methods used by managers to address the horizontal violence. St. Pierre reflects on those actions or interventions already being undertaken by managers, as discovered in her study findings, and are identified as: of primary, secondary and tertiary means of preventing or dealing with horizontal violence. “Primary prevention” which “…consists of interventions directed at preventing the initial occurrence of a disorder”; “Secondary prevention” which “…aims at early detection and intervention.” and “Tertiary prevention is described as the limitation of disability and rehabilitation.”(p. 256, 257) Based on the detail provided in this research paper the author finds that the study is valuable as it provided leaders’ perspectives of the influence they have over horizontal violence among staff nurses, and the strategies used to manage the issue.
3.1.3 Quality of Evidence for the Mixed Methods Articles

Griffin (2004) is the most distant article (chronologically) included in this REA, and as previously addressed this study was used as a basis for the work of Stagg et al. in 2011. Griffin used an exploratory-descriptive design with an applied intervention in her study. Griffin sought to use cognitive rehearsal techniques with newly graduated nurses as an intervention “...as a shield from the negative effects of lateral violence...” (p.257). Griffin studied a small convenience cohort of 26 newly licensed nurses from a tertiary acute care hospital in Boston. Griffin does identify that ethics approval was obtained. An educational program was provided in orientation to make the nurses aware of horizontal violence, cognitive behavioral rehearsal techniques were taught to address the top 10 forms of horizontal violence, and cue cards to attach to ID badges were provided as reminders to the nurses. One year later videotaped focus groups were conducted with the participants and themes were identified from those focus groups. The analysis of the data is not presented in this study, however, percentages of responses are provided. There is no clear methodology identified for coding of focus group responses. Griffin does provide a statement identifying that further research is needed; that the education of cognitive rehearsal techniques as a means of reducing horizontal violence remains unclear. Based on review of the research the author believes the study has value; the GSRS Weight of Evidence is scored as a 5/9 because it is unclear if the study findings can be trusted in answering the research question. The study received a scored a 1/3 for low trustworthiness, while the other two dimensions scored a moderate trustworthiness. The Maryland scale scored this study at a 1.

Latham et al. (2008) focused their research on a mentoring project/program to improve the work environment of staff nurses. This project was comprised of 92 Mentor-mentee teams, (171 RNs) from two partnered hospitals, who applied and were chosen to participate in the
program. The program was multifaceted and included a web page, two education days, mentor support, and a mentor survey which is included in the paper. Although the project was aimed at improving the workplace environment this study does not clearly call out horizontal violence though it does allude to it: “…data began to show that informal leaders who had been identified as negatively influencing the unit were being replaced with mentors who had a positive, caring effect on the work environment of the units” (p. 35). Nine different instruments were used to collect mentor/mentee data however the results are not provided in this paper. Six different comments were included with the copy of the mentor survey from nurses regarding the program, but the author does not make clear whether these are random comments or representative of the mentor group as a whole. Ethics approvals were not discussed or explored by the authors. The implications of this research indicate that mentoring may be helpful in improving the work environment for nurses as part of a systematic approach. On the GSRS weight of Evidence this research study scored 3/9 for low trustworthiness and 2/5 on the Maryland scale because of the study design.

Barrett et al. (2009) explored the concept of a team building intervention to influence the presence of horizontal violence among staff nurses. The study design was a quasi-experimental pre-post intervention that included mixed methods. It is unclear as to how many RNs participated in this study although 6-8 RNs from four different units participated in the qualitative aspect leading to a presumed cohort sample size of 24-32 participants. As part of the team building intervention each unit was provided with manager-chosen “champions”. These champions were chosen because they “…represented informal leaders as well as “bulliers” and potential “victims”; volunteers were also solicited” (p.345). Champions were provided with two-2 hour sessions which were tailored for each unit; champions were expected to then create cohesive
work environments in their units. It is unclear which measures were explored for the qualitative aspect of this study. For the quantitative aspect of the study 145 surveys were provided to unit members with 59 returned surveys pre-intervention and 45 surveys returned post-intervention. Three different scales were identified for data analysis including the Group Cohesion Scale as well as one subscale of the Job Enjoyment Measure, and one subscale from the Adapted Index of Job Enjoyment Scale. Surveys of staff nurses pre and post-intervention showed that RN to RN interaction scores improved on all four units, and the Group Cohesion Scale also saw a significant rise (540-612, p = 0.037). What the authors determined through the team building intervention that “This project validated the literature related to characteristics of effective nurse managers and the leadership role in group cohesion initiatives. The common denominator in units experiencing successful cultural change was the intentional presence of the nurse manager” (p.348). Barrett et al. discussed the limitations of the study including the manager selection of champions, limited stipend monies, and the selection of which units were chosen to participate in the study. This study is of value to these REA findings and based on the GSRS Weight of Evidence scale this study was 7/9 with a high trustworthiness score given for the relevance of this study. The Maryland scale was scored 2/5.

Using the Maryland scale, not one of the articles can be considered weighted high enough on the 1-5 scale to conclusively demonstrate the intervention was the cause for change. “Sherman and colleagues (1997) argued that only studies with a robust comparison group design can provide evidence that a programme has caused the reported impact. This equates to level three and above in the Maryland Scale” (REA Toolkit 2009 p. 1) Not one of the research studies included in this REA used a comparison group. Using the GSRS Weight of Evidence tool, only Laschinger et al. (2012) was “high trustworthiness” in all three categories of analysis. In the case
of the Chipps and McRury study (2012) the study ranked “low trustworthiness” in each of the three categories in the WoE analysis. Latham et al. (2008), Ceravolo et al. (2012), Stagg et al. (2011) all ranked 6/9 while Barrett et al. (2009) scored 7/9 and Griffin (2004) scored 5/9. In terms of the 2011 qualitative study by DiMarino, it had little to no research value as no real data was presented, however the St. Pierre study was of value as it presented leaders’ perspectives on their influence over horizontal violence and was clearly articulated as to methods.

Although the nursing literature has identified and provided evidence that horizontal violence exists among staff nurses, for more than three decades, the research regarding interventions and the ability for leadership to influence the impact of horizontal violence on staff nurses is relatively sparse. Many of the articles reviewed for this REA referenced potential interventions, and opinions on what may work, but research regarding interventions with outcome measures was not completed. In this literature review only 9 studies were found to have studied interventions in relation to horizontal violence, staff nurses and leadership.

3.1.4 Key Interventions

Upon review of the nine articles included in this REA particular interventions were repeatedly cited as successful approaches for management of horizontal violence. These interventions include the use of cognitive rehearsal, education, leadership as an instrument and the use of a code of conduct. Each of these interventions will be described in more detail.

3.1.4.1 Cognitive Rehearsal

Griffin (2004) and Stagg et al. (2011) used cognitive rehearsal training with newly graduated nurses and medical-surgical nurses respectively. This intervention included education related to the presence of horizontal violence in the workplace and cognitive rehearsal techniques.
for managing it more successfully. Cue cards were provided to the nurses as reminders to help them remember the appropriate ways to respond to horizontal violence.

Despite study limitations both studies reported that the cognitive rehearsal trainings yielded positive outcomes for nurses. Neither author, however, could confidently conclude whether the cognitive behavior rehearsal intervention or if raised awareness of lateral violence better prepared nurses for the impact of horizontal violence.

3.1.4.2 Leadership

Both Laschinger et al. (2012) and St. Pierre (2012) discussed the role of leadership with respect to management of horizontal violence. Laschinger et al. explored the influence of authentic leadership on newly graduated nurses’ experiences of workplace bullying. Laschinger et al. used the definition of authentic leadership from Avolio et al. (2004) “Authentic leadership is a positive relationship-focused leadership style that emphasizes self-awareness, honesty, and transparency, behavioral integrity, and consistency” (2012 p. 1267). St Pierre, conversely, explored leaders’ responses to horizontal violence; “The goal of the study was to broaden the understanding of intraprofessional and interprofessional aggression from the perspective of nursing managers” (2012 p. 249). While both Laschinger et al., and St. Pierre approached the issue from different perspectives, both concluded that leaders play a part in mitigating the impact of horizontal violence. “The results suggest that efforts should be made to assist nurse managers in developing and implementing authentic leadership practices as part of a strategy for eliminating workplace bullying and burnout in nursing environments” (Laschinger et al., 2012 p. 1274).
3.1.4.3 Education

Dimarino (2011) and Chipps and McRury (2012) and Ceravelo et al.,(2012) all approached the impact of horizontal violence through education, although they too have no clear standardized documented approaches or outcomes. Chipps and McRury had a small convenience sample (16) of nurses who participated in a 3 month educational program that focused on effective communication. Bullying frequency and intensity increased post-educational intervention, although not significantly. (p=.13). Dimarino promoted education as a defense against lateral violence, but specifics about inservice content was not provided in their article. Ceravolo et al. completed their quality improvement project over three years and 203 educational workshops reaching over 4000 nurses. They found a 14% decrease in the occurrence of verbal abuse post-intervention. Despite cohort challenges, lack of data, or unsatisfactory outcomes, all authors recommended educational initiatives to help influence the impact of horizontal violence.

3.1.4.4 Team Building

Barrett et al., (2009) chose to influence lateral violence through lateral violence training and a team-building intervention, over a six month span in four nursing units, within a Magnet accredited hospital. Team building was facilitated through the use of unit based champions who were given education and were then sent out to foster cohesive work environments in their units. Surveys of staff nurses pre and post intervention showed that RN to RN interaction scores improved on all four units. Barrett et al. also found that the units with the most engaged leaders had the most positive change.
3.1.4.5 **Mentoring**

Mentoring was the intervention used by Latham et al. (2008). Mentor-Mentee teams were paired up through a three-year hospital-based initiative. Key to their mentoring intervention was cultural awareness (through education), creation of a Workplace Environment Board and two hospital-based liaisons who championed the project along with the mentor-mentee teams. This mentoring program was reported as successful by the authors including “…improvements in hospital wide data of patient and nurse satisfaction, nurse vacancy and retention rates…these changes could not be attributed solely to this project” (p. 37).

3.1.4.6 **Code of Conduct**

Barrett et al (2009), Stagg et al., (2011), Dimarino (2011) and Ceravelo et al. (2012) all recommended the use of a code of conduct or a workplace violence policy to help influence the impact of horizontal violence among staff nurses. Dimarino (2011) was the only author to discuss the use of the code of conduct and policy in any depth. The other authors mentioned the use of policy or codes but did not include them in their research.

3.2 **Implications for Leadership**

The REA revealed that the key interventions summarized in the previous section are based on moderate quality of evidence. None of the quantitative interventions scored above a three on the Maryland scale with the average score of all articles being a 2/5. The only quantitative research article which scored consistently high on the GSRS scale was the Laschinger et al. study (2012), which was applied to new graduate nurses only; the average
GSRS Weight of Evidence scale was 6/9. Of the two qualitative studies only St. Pierre (2012) was noted to have value as a research study, while the Dimarino (2011) study was a narrative case report and was scored as “unclear value” using the analysis of the research based on the CASP Checklist (2013).

Although each of the studies reviewed was limited in some way, upon analysis of the research evidence, there are ways in which leaders may influence the presence of horizontal violence among staff nurses. The two studies with lowest quality of evidence scores were the Dimarino (2011) study that focused on applied interventions and code of conduct and the Chipps and McRury (2012) study that focused on an education intervention. Griffin’s (2004) study that used cognitive behavioral rehearsal training with newly licensed nurses was scored as moderate evidence. Stagg et al. (2011) also focused their study on cognitive behavioral rehearsal training and this study too was scored as moderate. Although the results were indeterminate in the Griffin (2004) and Stagg et al. (2011) studies, after cognitive rehearsal training and education interventions, lateral violence awareness increased. Ceravolo et al. (2012) used an educational intervention and Latham et al. (2008) used mentoring to help influence horizontal violence: Each of the studies was of moderate evidence with a rating of 2 on the Maryland scale. Barrett et al. (2009) focused their study on a team building intervention, and although limited by unclear methodology for the qualitative component of this mixed methods (2/5 on the Maryland scale) the quantitative component ranked more highly with a 7/9 on the GSRS scale. What was also key to this study was the implication that engaged nurse managers positively impacted group cohesion. Laschinger et al., (2012) was the study that had the strongest weight of evidence with a score of 9/9, which showed a direct correlation to improved work environments as identified by
newly graduated nurses with an authentic leadership presence. Leaders and leadership are integral to each of the most highly rated REA studies.

Based on the analysis of the research in this REA, the evidence indicates the best way to influence the impact of horizontal violence is to be an engaged, authentic leader. It may also be of value to provide cognitive based training and educational support to staff nurses and leadership formalized mentorship opportunities, and enforcement of a unit-based code of conduct. These strategies, in combination, may raise the awareness of horizontal violence and lead to a healthier work environment for staff nurses.
Chapter 4: Conclusions

This REA research has been limited in several ways including: The very nature of the research study undertaken, including methods and design of the REA; the REA research was conducted by the author independently with all article inclusions and weighting being done without verification of results by another researcher; and the limited number of interventional research that has been completed in the past ten years regarding horizontal nurse violence and the influence that nurse leaders may have on the presence of that violence.

Staff nurses deserve the right to work in a professional environment where they feel safe, both physically and emotionally. Nurses themselves must recognize the part they play in perpetrating horizontal violence, through acts they perform, or idly stand by while they happen. As leaders it is our responsibility to ensure that the staff is educated about horizontal violence, so that it is easily recognizable, and help create a culture where horizontal violence is no longer tolerated.

Hospital-wide policies and procedures for dealing with horizontal violence are important resources for nurse leaders. Having clear guidelines and boundaries around the issue of horizontal violence brings the issue to the forefront and creates professional expectations for both staff nurses and leaders alike. In the absence of hospital-specific policies the Code of Ethics for nurses by the ANA (2001) is a potential resource.

The purpose of this REA was to evaluate the research to determine how leaders can influence the presence of horizontal violence on staff nurses. After review of the available research the author concludes that specific leadership styles, particularly authentic leadership, may be able to diminish horizontal violence in nurses’ workplace. Other strategies such as education, cognitive behavioral rehearsal training, team building, mentoring and the
implementation of a code of conduct may augment the positive influence of authentic nurse leaders. The author will recommend these interventions to her organization’s senior executive team for piloting and evaluation due to the synergy that may result from using multiple strategies to decrease the presence of horizontal violence among staff nurses.

Completion of this REA has highlighted the need for further research in this arena. After 30 years of recognizing that horizontal violence exists among staff nurses, there is very little interventional research that has been completed to support concrete applications. It is imperative that research continue in this emerging field of nursing science.


Government Social Research Service (GSRS), 2009. Rapid Evidence Assessment Toolkit


Hippeli, F. (2009). Nursing: Does It Still Eat Its Young or Have we Progressed Beyond This?


## Appendices

### Appendix A  Article Matrix

<table>
<thead>
<tr>
<th>Author, Title, Journal</th>
<th>Year</th>
<th>Purpose</th>
<th>Research Design</th>
<th>Cohort</th>
<th>Intervention</th>
<th>Outcome</th>
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</thead>
<tbody>
<tr>
<td>Griffin, Martha Teaching Cognitive Rehearsal as a shield for Lateral Violence: An Intervention for Newly Licensed Nurse The Journal of Continuing Education in Nursing</td>
<td>2004</td>
<td>To educate newly licensed nurses about lateral violence, and then provide them with cognitive rehearsal techniques to provide them with a level of defense against lateral violence.</td>
<td>Exploratory descriptive study</td>
<td>26 newly licensed staff nurses in an acute care tertiary hospital in Boston Massachusetts</td>
<td>*Education of newly licensed RNs regarding lateral violence *Education of cognitive rehearsal techniques</td>
<td>“Knowledge of lateral violence in nursing appeared to allow the newly licensed nurses to depersonalize it, thus allowing them to ask questions and continue to learn. The learned cognitive responses helped them confront the lateral violence offender… Overall the retention rate in this study population was positively affected.” (p.257)</td>
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<tr>
<td>Author, Title, Journal</td>
<td>Year</td>
<td>Purpose</td>
<td>Research Design</td>
<td>Cohort</td>
<td>Intervention</td>
<td>Outcome</td>
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<tr>
<td>Latham C.L, Hogan M., Ringl K. Nurses Supporting Nurses Creating a Mentoring Program for Staff Nurses to improve the Workforce Environment Nursing Administration Quarterly</td>
<td>2008</td>
<td>“A 3-year academic hospital partnership developed and used a RN mentor and advocacy program to improve the RN work environment and selected patient outcomes.” (p.27)</td>
<td>Descriptive survey design</td>
<td>92 mentor-mentee teams</td>
<td>*Establishment of a Workforce Environment Governance Board *Mentoring Program, utilizing mentor/mentee partnerships</td>
<td>“Mentors became more engaged not only in supporting fellow nurses but also in enhancing the overall work environment for RNs…Overall the mentors prevented 24 RNs from leaving the 2 hospitals…RN leadership on several units began to change from mostly unsupportive to more supportive informal leaders who were enjoyable to work with while they influenced patient care change and improvements on their unit.” (p.37-38)</td>
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<tr>
<td>Author, Title, Journal</td>
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<td>Research Design</td>
<td>Cohort</td>
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<tr>
<td>Barrett A., Piatek C., Korber S., Padula C. Lessons Learned from a Lateral Violence and Team-Building Intervention Nursing Administration Quarterly</td>
<td>2009</td>
<td>Three-fold: 1) Identify and improve baseline levels of nurse satisfaction and group cohesion through planned unit based interventions 2) Determine the effect of a team building intervention on factors that impact cohesive team functioning 3) Determine the effect of lateral violence training and communication style differences in improving team cohesion</td>
<td>Process improvement project “This project included both qualitative and quantitative components. A pre-post design was employed with a targeted intervention that focused on team building. The qualitative component focused on the impact of the intervention on overall group dynamics and processes on units.” (p.345)</td>
<td>*Qualitative: Intervention group Unclear-24-32 staff RNs (6-8 RNs from four different units) *Quantitative: Surveys were provided to 145 RNs. Returned surveys were: Preintervention: 59 Postintervention:45</td>
<td>*Qualitative: Two 2-hour group sessions from which “champions” were sent back to units to promote cohesive work environments *Quantitative: Pre-post design study using the “How well are we working together?” tool; GCS scale to measure cohesion; NDNQI Adapted index of Job Enjoyment; NDNQI adapted index of Work Satisfaction</td>
<td>*Quantitative: The GCS cohesion score was significantly lower (540) than the postscore (612) P=0.37 *The difference between the pre and post mean scores of “How well are working together” were not significantly different *Qualitative: “The lack of cohesion on units was confirmed. “The unit with the manager who was most engaged and clearly articulated expectations had the greatest improvement.” (p. 348) *“This project validated the literature related to characteristics of effective nurse managers and the leadership role in group cohesion initiatives” (p.348)</td>
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<td>Author, Title, Journal</td>
<td>Year</td>
<td>Purpose</td>
<td>Research Design</td>
<td>Cohort</td>
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<tr>
<td>Stagg S.J., Sheridan D., Jones R.A., Speroni K.G. Evaluation of a Workplace Bullying Cognitive Rehearsal Program in a Hospital Setting The Journal of Continuing Education in Nursing</td>
<td>2011</td>
<td>Twofold: 1) To determine the frequency of workplace bullying among med surg nurses 2) Evaluate the effectiveness of a training program on cognitive rehearsal of responses to common bullying behaviors</td>
<td>*Descriptive, quasi-experimental study with three components: pilot survey testing, survey administration and an intervention with a pretest and posttest study design. *The testing of the cognitive rehearsal training program was based on Griffin’s study (2004) using the identical pre and post-tests.</td>
<td>*62 medical and surgical staff nurses *20 nurses completed the survey</td>
<td>*A three part internet based survey as well as pre and post cognitive rehearsal training program surveys. *A 2 hour Cognitive rehearsal training program</td>
<td>*“Attendance at a cognitive rehearsal training program increased awareness of bullying behaviors and knowledge of workplace bullying management.” (p. 401) *Recommendation of a zero tolerance bullying policy *Whether the training program has decreased workplace bullying has yet to be determined.</td>
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<tr>
<td>Author, Title, Journal</td>
<td>Year</td>
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<td>Research Design</td>
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<tr>
<td>Dimarino T.J. Eliminating Lateral Violence in the Ambulatory Setting: One Center’s Strategies</td>
<td>2011</td>
<td>To implement interventions to combat lateral violence in an ambulatory surgery center</td>
<td>Qualitative, descriptive, subjective review of one center’s strategies to combat lateral violence.</td>
<td>*Unknown number of staff nurses; one ambulatory surgical center’s nursing staff.</td>
<td>Education of directors, managers and staff nurses about what lateral violence is. Leadership developed and instituted a code of conduct. A code of conduct is signed by all new staff members and they pledge to adhere to the standards. Managers, nurse leaders and staff nurses are held accountable for their behaviors.</td>
<td>In 2010 there was no staff turnover and no reported instances of lateral violence in the organization.</td>
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<td>Author, Title, Journal</td>
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<tr>
<td>Chipps M. C., McRury M. The Development of an Educational Intervention to Address Workplace Bullying Journal for Nurses in Staff Development</td>
<td>2012</td>
<td>Examine the effect of an educational program provided to nursing staff on workplace bullying.</td>
<td>*Quasi-experimental pilot study using a pre-test and post test comparison.</td>
<td>*A convenience sample of 16 staff members on two rehabilitation units. 63% were RNs 37% were LPNs or RCAs</td>
<td>*An educational program based on Einarsen’s theoretical framework on predisposing factors for workplace bullying.</td>
<td>*Pre-intervention 37% of respondents identified as experiencing bullying at least weekly. This decreased to 6% post intervention.</td>
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<td>*The Negative Acts Questionnaire Revised (NAQ-R) survey was used.</td>
<td>*All staff members on the rehab units were mandated to attend the educational program; the convenience sample was taken from this staff group.</td>
<td>*Bullying behaviors, root causes of bullying, and consequences of bullying were taught.</td>
<td>*Post intervention the number of negative acts increased from 13% to 25%. Which was contrary to the hypothesis that the negative acts would decrease after an extensive education program.</td>
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<td>*Nursing unit members developed a common vision and values promoting team communication.</td>
<td>*Overall job satisfaction was high and remained unchanged post intervention (81%)</td>
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<td>*A zero tolerance policy on workplace bullying was developed.</td>
<td>*A learning community was established</td>
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<td>Author, Title, Journal</td>
<td>Year</td>
<td>Purpose</td>
<td>Research Design</td>
<td>Cohort</td>
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<tr>
<td>Spence Laschinger H.K., Wong C.A, Grau A.L., The influence of authentic leadership on newly graduated nurses’ experiences of workplace bullying, burnout and retention outcomes: A cross-sectional study</td>
<td>2012</td>
<td>To test a model linking authentic leadership to new graduate nurses’ experiences of workplace bullying and burnout, job satisfaction and intention to leave their jobs.</td>
<td>A cross sectional survey design</td>
<td>342 graduate nurses with less than 2 years experience working in acute care hospitals in Ontario Canada</td>
<td>*Authentic Leadership *Standardized questionnaires were used: The Authentic Leadership Questionnaire Negative Acts Questionnaire revised Maslach Burnout Inventory General Survey</td>
<td>“Authentic leadership was an important factor influencing nursing retention outcomes by decreasing the likelihood of bullying and burnout, thereby improving new nurses’ job satisfaction and lowering turnover intentions.” (p. 1273)</td>
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<tr>
<td>Author, Title, Journal</td>
<td>Year</td>
<td>Purpose</td>
<td>Research Design</td>
<td>Cohort</td>
<td>Intervention</td>
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<tr>
<td>Ceravolo D.J., Schwartz D.G., Foltz-Ramos K.M., Castner J. Strengthening communication to overcome lateral violence Journal of Nursing Management</td>
<td>2012</td>
<td>To reduce nurse to nurse lateral violence and create a more respectful workplace culture through a series of workshops.</td>
<td><em>Quality Improvement Project</em>  <em>Pre and post intervention web based surveys</em>  <em>Survey questions were adapted from the Verbal Abuse Survey</em></td>
<td>Over 3 years 203 workshops were provided to over 4000 practicing Nurses</td>
<td><em>60-90 minute workshops were provided to enhance assertive communication skills and raise awareness of the impact of lateral violence behavior.</em>  <em>Surveys were conducted before and after the program to measure the outcomes of the project.</em>  <em>Surveys were web based and were adapted from the Verbal Abuse Survey.</em>  <strong>&quot;After 2009 the conflict resolution and lateral violence content of the workshop was assimilated with the Team STEPPS curriculum.” (p. 602)</strong></td>
<td><em>Verbal abuse decreased from 90% of respondents to 76%.</em>  <em>Nurse turnover and vacancy rates (8.9%) decreased to 3% and 6% respectively.</em>  <em>Ceravolo et al., state: “Nursing leadership can effect organizational change to lesson lateral violence and enhance a healthy workplace culture by replicating our intervention or components of our workshops.” p. 599</em></td>
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<tr>
<td>Author, Title, Journal</td>
<td>Year</td>
<td>Purpose</td>
<td>Research Design</td>
<td>Cohort</td>
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<tr>
<td>St –Pierre I. How Nursing Managers Respond to Intraprofessional Aggression. Novel Strategies to an Ongoing Challenge The Health Care Manager</td>
<td>2012</td>
<td>“The goal of the study was to broaden the understanding of intraprofessional and interprofessional aggression from the perspective of nursing managers.” (p.249)</td>
<td>23 semi-structured interviews</td>
<td>23 participants including 12 frontline managers, 7 directors, 2 senior managers and two people working in human resources</td>
<td>*Primary prevention: training, orientation, code of conduct and policies&lt;br&gt;*Secondary prevention: Managing low intensity levels of aggression; informal discussions, interviews and debriefing. Using the disciplinary process as needed to prevent escalation.&lt;br&gt;*Tertiary prevention: Medium to high levels of aggression; suspending or terminating employment of the perpetrator and support and counseling for the victim.</td>
<td>“…findings identified that managers dealing with workplace aggression can be difficult and time consuming for nursing managers…managers were more comfortable responding to instances of workplace aggression when it involved employees they were managing…The type of aggression played a role in the choice of action taken.” (p. 257)</td>
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</table>
### Appendix B  Article Analysis

#### B.1  Qualitative Article Analysis

**Analysis of Research Based on the CASP Qualitative Research Checklist (2013)**

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Design</th>
<th>Design appropriate?</th>
<th>Recruitment Strategy</th>
<th>Data Collection</th>
<th>Ethics</th>
<th>Analysis of Data</th>
<th>Statement of Findings</th>
<th>Research of Value?</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiMarino</td>
<td>2011</td>
<td>Narrative Descriptive Case Study</td>
<td>Unclear of methodology</td>
<td>Unclear. All staff in the ambulatory surgical center</td>
<td>Unclear as to methodology</td>
<td>Not discussed</td>
<td>Unclear as to methodology</td>
<td>Present, but vague.</td>
<td>Little to no value. No real data presented; no exploration of confounding variables.</td>
</tr>
<tr>
<td>St-Pierre</td>
<td>2012</td>
<td>Critical ethnography.</td>
<td>Yes</td>
<td>Clear; presentations at management meetings. 23 participants</td>
<td>Individual interviews, review of organizational documents and observation of environment</td>
<td>Approved by three ethics boards</td>
<td>Grounded theory: Codification, categorization, co-linkage, integration</td>
<td>Present</td>
<td>Valuable: Leaders’ perspectives of influence over intra-professional aggression.</td>
</tr>
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</table>
## B.2 Quantitative Analysis

**Critical Research Analysis Using the GSRS Weight of Evidence and the Maryland Scale of Increasing Methodological Quality**

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Study Design</th>
<th>Cohort</th>
<th>Intervention</th>
<th>Instrument</th>
<th>GSRS (3-9)</th>
<th>Maryland (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stagg et al.</td>
<td>2011</td>
<td>Descriptive, quasi-experimental, pre-test and posttest design</td>
<td>62 Medical Surgical RNs</td>
<td>2 hour cognitive rehearsal training program</td>
<td>*Workplace Bullying Inventory (WBI)</td>
<td>6</td>
<td>2</td>
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<td></td>
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<td>*Pre and post-tests were identical to Griffin’s (2004)</td>
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<tr>
<td>Laschinger et al.</td>
<td>2012</td>
<td>Cross sectional survey design to test a model of authentic leadership and its’ effect on new graduates’ workplace experience</td>
<td>342 new graduate nurses</td>
<td>Authentic leadership practices</td>
<td>*Authentic Leadership Questionnaire</td>
<td>9</td>
<td>1</td>
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<td></td>
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<td>*Negative Acts Questionnaire-Revised</td>
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<td>*Maslach Burnout Inventory-General Survey</td>
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<td>*Job satisfaction scale</td>
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<td></td>
<td>*Turnover Intention Scale</td>
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</tr>
<tr>
<td>Ceravolo et al.</td>
<td>2012</td>
<td>Quality improvement project</td>
<td>Over 4000 practicing nurses</td>
<td>60-90 minute workshops on communication and on the impact of lateral violence</td>
<td>*Pre and post surveys were adapted from the Verbal Abuse Survey (Cox et al., 2007)</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Chipps, McRury</td>
<td>2012</td>
<td>Pilot study, quasi-experimental, pre-test and posttest design</td>
<td>16 staff nurses</td>
<td>3 month educational program based on Einarsen’s (2000) theoretical framework on predisposing factors for workplace bullying</td>
<td>*Negative Acts Questionnaire-Revised</td>
<td>3</td>
<td>2</td>
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</table>
### B.3 Mixed Methods Analysis

Critical analysis of the research based on the CASP Qualitative Research Questionnaire, the GSRS Weight of Evidence Criteria and the Maryland Scale of Increasing Methodological Quality

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Design</th>
<th>Design appropriate?</th>
<th>Recruitment Strategy</th>
<th>Data Collection</th>
<th>Ethics Analysis of Data</th>
<th>Statement of Findings</th>
<th>Research of Value?</th>
<th>GSRS 3-9</th>
<th>Maryland 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Griffin</td>
<td>2004</td>
<td>Exploratory design with an applied intervention</td>
<td>Yes</td>
<td>Newly graduated nurses hired for their first position at a tertiary care hospital in Boston</td>
<td>Video-taped focus groups using 6 open ended questions</td>
<td><em>Approved by the review board of the hospital</em> &lt;br&gt;<em>Consent obtained</em></td>
<td>Not identified percentages of responses given.</td>
<td>Present</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Latham et al.</td>
<td>2008</td>
<td>Mentor-Mentee project over 3 years</td>
<td>Yes</td>
<td>Described: Volunteers applied to be considered for the project</td>
<td>Mentor-Mentee data; 9 instruments used</td>
<td><em>Instruments discussed but results not provided in detail.</em> &lt;br&gt;<em>Mean data of Mentor survey</em></td>
<td>Present</td>
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<td>Author</td>
<td>Year</td>
<td>Design</td>
<td>Design appropriate?</td>
<td>Recruitment Strategy</td>
<td>Data Collection</td>
<td>Ethics</td>
<td>Analysis of Data</td>
<td>Statement of Findings</td>
<td>Research of Value?</td>
<td>GSRS</td>
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<tr>
<td>Barrett et al.</td>
<td>2009</td>
<td>Quasi-experimental pre-post intervention design</td>
<td>Yes</td>
<td>*Manager selection of unit champions *Information placed in staff nurses mailboxes *Participation was voluntary and anonymous</td>
<td>Surveys: *How Well are we working together *Group Cohesion scale *NDNQI Unclear for Qualitative part of the study</td>
<td>*Approved by the “Life-span Institutional Review Board.”</td>
<td>Discussed. *Sigma-Stat for quantitative data *Narrative report for qualitative data.</td>
<td>Present</td>
<td>Yes *Effective leaders have a positive influence on the work environment of staff nurses. *Group cohesion work can decrease lateral violence</td>
<td>7</td>
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### Appendix C

#### Table C.1 Maryland scale

<table>
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<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Observed correlation between an intervention and outcomes at a single point in time. A study that only measured the impact of the service using a questionnaire at the end of the intervention would fall into this level.</td>
</tr>
<tr>
<td>2</td>
<td>Temporal sequence between the intervention and the outcome clearly observed; or the presence of a comparison group that cannot be demonstrated to be comparable. A study that measured the outcomes of people who used a service before it was set up and after it finished would fit into this level.</td>
</tr>
<tr>
<td>3</td>
<td>A comparison between two or more comparable units of analysis, one with and one without the intervention. A matched-area design using two locations in the UK would fit into this category if the individuals in the research and the areas themselves were comparable.</td>
</tr>
<tr>
<td>4</td>
<td>Comparison between multiple units with and without the intervention, controlling for other factors or using comparison units that evidence only minor differences. A method such as propensity score matching, that used statistical techniques to ensure that the programme and comparison groups were similar would fall into this category.</td>
</tr>
<tr>
<td>5</td>
<td>Random assignment and analysis of comparable units to intervention and control groups. A well conducted Randomised Controlled Trial fits into this category.</td>
</tr>
</tbody>
</table>

Maryland scale
### Table C.2 GSRS Weight of Evidence Scale

<table>
<thead>
<tr>
<th>Weight of evidence A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)?</th>
<th>High trustworthiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>In some studies it is difficult to distinguish between the findings of the study and the conclusions. In those cases, please code the trustworthiness of these combined results/conclusions.</td>
<td>Medium trustworthiness</td>
</tr>
<tr>
<td>Low trustworthiness</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight of evidence B: Appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review.</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight of evidence C: Relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question, or sub-questions, of this specific systematic review.</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight of evidence D: Overall weight of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking into account quality of execution, appropriateness of design and relevance of focus, what is the overall weight of evidence this study provides to answer the question of this specific systematic review?</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Low</td>
</tr>
</tbody>
</table>

### GSRS Weight of Evidence Scale