Generalized Workplace Harassment and Physical Health Outcomes in Nurses in the Philippines

Staci Kvak

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

Master of Public Health

University of Washington
2017

Committee:
Butch De Castro
Noah Sexias

Program Authorized to Offer Degree:
Department of Environmental and Occupational Health Sciences
University of Washington

Abstract

Generalized Workplace Harassment and Physical Health Outcomes in Nurses in the Philippines

Staci Kvak

Chair of the Supervisory Committee:
Noah Sexias, PhD, MS
Professor, Env. and Occ. Health Sciences

Background: Harassment is a problem in the modern workplace. Nurses experience harassment at higher rates than average. Nurses are exposed to multiple types of harassment in the workplace. One type of harassment, known as generalized workplace harassment (GWH), which involves 5 dimensions not based on legally protected characteristics: verbal, physical and disrespectful aggression, isolation/exclusion, and threats/bribes, is associated with negative health effects. However, there is limited research on GWH and physical health effects on nurses, especially in non-western nations. In the Philippines, there are more nurses and midwives than any other health profession, and they are a potentially vulnerable population. This research aims to examine associations between GWH and measures of physical health on nurses in the Philippines. Methods: Data were collected from a cross-sectional sample of nurses (N=567) attending voluntary continuing education courses in the Philippines through a self-administered survey. Results: GWH was found to be associated with studied physical health outcomes- self-rated health and number of days physical health was not good in the last 30 days. All models were found to be significant except for one, which included self-rated health as the outcome and adjusting for all control variables. Conclusions: GWH and physical health are associated. Nurses in the Philippines experience GWH, and more research is needed to understand the full extent of the problem.
INTRODUCTION

Workplace harassment is a recognized problem in the modern workplace (OSHA, 2015; Khubchandani & Price, 2015). It is defined by multiple terms, which include workplace aggression, bullying, nonphysical aggression, workplace abuse, emotional abuse and many others (Crawshaw, 2009; Khubchandani & Price, 2015).

Harassment is not considered illegal in the US, except when it violates Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967, and the Americans with Disabilities Act of 1990, which protect against harassment based on personal characteristics such as color, race, or sex (Khubchandani & Price, 2015; US Equal Employment Opportunity Commission (EEOC), n.d.). This limited definition of discrimination does not take into account other types of workplace harassment.

Workplace harassment occurs frequently in the healthcare industry (LaMar et. al, 1998; OSHA, 2015) and has been recognized as a significant issue for nurses (Quine, 2001; Trepanier, 2013). One Canadian study found that of all worker compensation claims, nurses filed the sixth most claims of any profession (Boyd, 1995). A quantitative review by Spector et. al. found that nurses exposure rates to physical violence was 36.4% with a physical injury rate of 32.7%, sexual harassment 25%, non-physical 66.9%, and bullying 39.7% (2014). Spector also found that these rates vary depending on region of the world research was conducted, and who perpetrated the violence (2014). A study by Quine found that almost 50% of nurses surveyed had been the recipient of one or more types of bullying (considered a type of harassment), while others in the same agency experienced bullying at a lesser rate of about 33% (2001).

One construct of harassment that has not been studied in the nursing population specifically is known as generalized workplace harassment (GWH). GWH has been defined as “any negative workplace interpersonal interaction that affects the terms, conditions, or employment decisions related to an individual's job, or creates an intimidating, hostile, or offensive working environment, but is not based on any legally protected characteristic (Rospenda &
Legally protected characteristic examples include those mentioned in Title VII, ADA, and ADEA above. GWH involves five dimensions—aggression that is verbal, physical, or disrespectful, isolation or exclusion, and threats or bribes (Rospenda & Richman, 2004; McGinley, Richman, & Rospenda, 2011).

GWH has been well characterized in literature with established negative health effects on populations outside of nursing (McGinley, Richman, & Rospenda, 2011; Richman et al., 1999; Rospenda & Richman, 2004; Rosenda, Richman, & Shannon, 2009). Negative health effects associated with GWH have been reported as problem drinking (McGinley, Richman, & Rospenda, 2011), increased odds of illness, injury or assault (Rospenda et. al., 2005), physical symptoms and illness (Bowling & Beehr, 2006), and negative mental health effects including overall mental health (Bowling & Beehr, 2006; Raver & Nishii, 2010; Rospenda & Richman, 2004), among others (Bowling & Beehr, 2006; Richman et al., 1999; Rospenda & Richman, 2004). Of the studies completed, most have focused on negative mental health outcomes, finding associations between GWH and reduced morale (Cox, 1991), decreased job satisfaction (Keasley et al., 1994; O’Farrel & Harlan, 1982), depression, anxiety, hostility (Bjorkqvist, 1994), and decreases in psychological well-being (Mikkelsen & Einarsen, 2002). Fewer studies have focused on physical health outcomes. Studies completed have shown increased somatic symptoms (Mikkelsen & Einarsen, 2002) increased odds of illness, injury or assault (Rospenda et. al., 2005), physical symptoms and illness (Bowling & Beehr, 2006), and increased number of missed days from work (Hoobler et. al., 2010).

Studies conducting GWH research have all been conducted in Western nations, the US most notably, and within populations such as university employees in varied positions and national surveys (Shannon, Rosenda, & Richman, 2007; Rosenda, Richman and Shannon, 2009; Brisebois, 2010). These studies have largely looked at GWH in combination with ethnic or sexual harassment (Hobbler et. al., 2010; McGinely et. al., 2011; Rosenda et. al., 2005; Raver & Nishii, 2010; Bowling & Beehr, 2006). These factors limit previous studies abilities to apply findings to specific populations, or look at associations between GWH and outcomes, outside of other types of harassment.

Nurses would be an ideal population to study associations of GWH due to the aforementioned experiences and potential exposure to harassment in the workplace. Potential perpetrators of harassment against nurses could include patients, co-workers, intruders, and patient families (OSHA, 2015; Spector, Zhou & Che, 2014). For example, co-
workers and supervisors have bullied nurses with negative consequences such as decreasing morale and job satisfaction and increasing work absences and work-related injuries (Murray, 2009). Another study found that most physical and non-physical violence against nurses was committed by patients, and their families or friends (Spector et. al., 2014). Though these acts may not be specifically considered GWH, they do contain some aspect of GWH—physical assault, disrespect, isolation/exclusion, and further the argument for GWH importance in this population.

The Philippines is an example of one non-Western country where little information was available on GWH, including in the nursing population. A literature search found only one other study by Fujishiro. et. al., which focused on associations of workplace aggression with work-related well-being of nurses in the Philippines (2011). Findings indicated that verbal abuse and physical assault were associated with nurse’s health status and work-related health problems, including work-related injuries, missing work, and poor self-rated health (Fujishiro et al., 2011). This is different from GWH in that it does not differentiate between abuses experienced due to protected legal characteristics. It is an important difference because this differentiation could give clues to the true strength of association between GWH and health outcomes not related to those other types of harassment that are based on protected characteristics.

GWH in nurses in the Philippines is an important knowledge gap since there are more nurses and midwives in the Philippines than any other health profession (WHO, 2011). Not only is it the largest health profession, but also the number of nurses-to-population ratio has grown from 0.31 per 1000 persons in 1993 to 4.43 per 1000 in 2000 (WHO, 2011). Having a large population of nurses that continues to grow, and high rates of unemployment for nurses and all professions in the Philippines, there is potential for increasing harassment. The current rate of unemployment in the Philippines is 6.6% in January 2017, up from 5.7% in 2016 (PSA, 2017). Pradilla, the Officer-in-Charge of Professional Regulation Commission stated that the Philippines have only 60,000 nursing positions and a surplus of 400,000 nurses (Pring & Rocco, 2012). In 2008, it was estimated that over 150,000 Philippian nurses were unemployed (Pring & Rocco, 2012). The Alliance of Healthcare Workers, INC in the Philippines has stated that nurses face several challenges when looking for positions, which includes: below minimum wage pay, lack of benefits, and job insecurity (Ebesate, 2008). Pring & Roco note the phenomenon of volunteer nurses (2012). Graduate nurses who are unable to find positions have begun to volunteer at hospitals and pay a fee in order to gain
work experience in the hopes of finding a job (Pring & Roco, 2012). Noting these issues, we reason that nurses in the Philippines may be more likely to experience and accept GWH, which could lead to greater experiences of the potential negative health outcomes associated with GWH.

In summary, previous studies on GWH have focused on mental health outcomes and little is known about physical health outcomes. Associations between GWH and physical health are not well understood, which is especially important for the nurses and institutions affected. For example, high rates of unemployment in the Philippines may mean an individual nurse is the only financial contributor to a household. Missing days due to poor physical health could increase economic hardship. Another example is that unexpected time off due to poor physical health may lead to staff shortages at workplaces.

This study aimed to investigate how GWH and physical health outcomes are associated by examining (1) self-rated health and (2) number of days physical health including physical illness and injury in the last 30 days was not good in nurses in the Philippines.

METHODS

Participants Data was collected from a longitudinal cohort study of nurses in the Philippines. Participants were recruited from nurses during in-person continuing education classes offered at an international nurse-recruiting agency, or through the Philippine Nurses Association (both located in Manila). A total of 621 participants (68.3% response rate) consented to be in the larger study. Data for this analysis was restricted to baseline surveys only (GWH was measured only at baseline), and, was restricted to those participants completing the all GWH scale items (N=567).

Data Collection At the conclusion of these continuing education sessions, consenting participants completed a self-administered survey in English, which is frequently used in the Philippines in educational and professional settings. Baseline data (for the larger longitudinal study) was collected between May and December 2008. Approval for this study protocol was obtained from the Human Subjects Division at the University of Washington.
Measures

Independent variable. Participants responded to the 29-item GWH scale. This scale has been used in previous studies, and has been validated (Rospenda & Richman, 2004; McGinley et. al., 2011). The scale is used to measure interpersonal harassment not based on characteristics such as gender or other social status characteristics that are legally protected (Rospenda & Richman, 2004). It assesses five different dimensions: verbal aggression (9 items: e.g. swore at you), disrespect (9 items: e.g. talked down to you), isolation/exclusion (5 items: e.g. turned others in your work environment against you), threats/bribes (3 items: e.g. offered you a subtle or obvious bribe to do something that you did not agree with), and physical aggression (3 items: e.g. threw something at you) (Rospenda & Richman, 2004; McGinley et. al, 2011). Developers of the scale suggested using the overall total score (possible range: 0 - 87; scored: 0=never; 1= once; 2= more than once), rather than breaking it into subscales as was attempted in previous studies, because the stability of sub-scale factors have been questionable across various study samples.

Outcome variables. Two one-item subjective, self-report indicators of physical health status were examined. The first, self-rated health (SRH), asked “How would you rate your current physical health compared to other people your age?” (0=poor, 5 =excellent). Scores were dichotomized into a binary variable (0=poor/fair; 1= good/very good/excellent). SRH has previously been established in other studies (Idler & Angel, 1990; Idler & Benyamini, 1997). The second was an item from the Centers for Disease Control and Prevention’s Healthy Days Measures (HDM), which is used to assess health-related quality of life. The HDM item asked, “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” (response: number of days)(CDC, 2016).

Demographics. Sample characteristics measured included: age (in years), sex (male=0; female=1), and partner status (0= separated/divorced/widowed/never married, 1= married/living with partner). Work characteristics were measured as follows: currently working as a nurse (0=no; 1=yes), work setting (0= outpatient; 1= inpatient), and time spent in-patient care activities (0=≤50%; 1=>50%).

Additional Confounders. The following constructs were also controlled for: safety in the workplace (0=not at all safe/somewhat safe; 1=moderately safe/very safe) and job satisfaction (0=not at all satisfied/a little satisfied;
somewhat satisfied, very much satisfied). These constructs were deemed important because of the potential for job satisfaction and feelings of safety to affect how one perceived actions against them in the workplace. Furthermore, supervisor and co-worker social support was assessed with 4 items each (0=not at all; 1=A little; 2=somewhat; 3=very much) and then separately averaged. The supervisor and co-worker items asked: how much does your supervisor/do other people at work go out of his/her way to do things to make your work life easier for you, how easy it is to talk with your supervisor/other people at work, how much can your supervisor/other people at work be relied on when things get tough at work, how much is your supervisor/are other people at work willing to listen to your personal problems (CDC, 2014).

ANALYSIS

Statistical software R (version 3.3.2) was used for data analysis. Demographic data was calculated unadjusted, using mean and standard deviation for continuous measures (age), and counts with frequencies for binary measures (sex, marital status, working as a nurse, work setting, and time spent in patient care).

Bivariate associations were assessed to help confirm appropriateness of variables included for subsequent regression modeling. Spearman correlation estimates were used because it does not assume linearity, and can calculate correlations between continuous and categorical variables.

Regression modeling was used for the two outcomes of interest. GWH was the predictor of interest in all models. Logistic regression was used for regression analyses involving SRH as a dichotomized variable, while linear regression was used for HDM. SRH model 1 and HDM model 1, included only demographic (age, sex, marital status) and work characteristics (work setting, working as a nurse, time spent in direct patient care) as covariates. SRH model 2 and HDM model 2 also included the additional confounders (feelings of safety in the workplace, job satisfaction, and supervisor and coworker support). All calculated regression’s p-values, confidence intervals, and beta coefficients used robust standard errors.

RESULTS

Table 1 displays unadjusted study sample characteristics. The average age of nurses in the study was 25.6
years (sd: 7.03). 74% were female, 17% were married or living with a partner, 34% were currently working as a nurse, and 53% had or did work primarily in an inpatient setting with 58% spending more than 50% of their time in direct patient care activities.

Table 2 shows bivariate correlations. Correlations between GWH and every other variable were found to be statistically significant, except for work setting. Work setting was kept in the model because some types of inpatient settings such as psychiatric hospitals and correctional facilities may be more prone to experiences of harassment.

Table 3 presents regression results for each of the outcomes of interest (SRH and HDM). GWH was associated with SRH and HDM, though one model in regression analysis showed that the association between GWH and SRH was no longer statistically significant when including all control variables. All other models were statistically significant (p<0.05). In model 1 when comparing groups that differ in GWH score by 1 point, we expect the odds of rating SRH as good/very good/excellent to be 4% lower in the group with a higher GWH score (95% CI: 1% lower to 6% lower). Furthermore, and potentially more practically applicable in model 1, when comparing groups that GWH scores differ by 11.14 points, which is the observed SD of GWH, we expect the odds of rating SRH as good/very good/excellent to be 34% lower in the group with higher GWH scores (95% CI: 12% lower to 51% lower). After further controlling for additional confounders in model 2, the odds of rating SRH as good/very good/excellent was estimated to be 26% lower in the group with higher GWH (95% CI: 7% higher to 48% higher). In model 3 when comparing groups that differ in GWH score by 11.14 points, we expect the reported number of days of those reporting physical health as not good in the last 30 days to be 0.7 days higher in the group with higher GWH scores (95% CI: 0.1-1.2). After further controlling for additional confounders in model 4, we expect the reported number of days of those reporting physical health as not good in the last 30 days to be 0.5 days higher in the group with higher GWH scores (95% CI: 0.001-1.04).

**DISCUSSION**

We found that our predictor of interest, GWH, was associated with our physical health outcomes, SRH and HDM in nurses in the Philippines.
Relevance of Findings

Findings from this study indicate the relevance and impact of GWH on physical health. Our results show that higher levels of GWH are associated with a lower level of SRH and increased HDM. There have been limited studies in the past related to GWH and physical health outcomes. Those conducted have shown negative physical health effects including physical symptoms and illness, increased odds of illness injury or assault (Rospenda et. al., 2005), and increased number of missed days at work (Hoobler et. al., 2010). Our findings are in line with these, and are the first to examine GWH in nurses in the Philippines. They are biologically plausible, especially when considered through the constructs of allostasis and allostatic load. GWH can be thought of as a stressor, and in order to maintain homeostasis, the body to help adapt after acute stress releases certain mediators. Over time, this can lead to allostatic overload, which is damage done to the body from stress. This overload can continue overtime, and can contribute to poor health outcomes, which includes physical health (McEwen, 2005; Beckie, 2012). Allostatic overload has also been shown to be applicable for stressors related to the workplace (Seeman, 2014), and GWH has been show to have mental health implications, such as depression, anxiety and hostility (Bjorkqvist, 1994). Studies in the future should look at biomarkers of allostatic load in order to help examine this association, and determine if there is causality between GWH and physical health outcomes.

Findings from this study also indicate that many factors are important when looking at nursing physical health outcomes, and should be considered when trying to improve working conditions for nurses. This finding is supported by previous findings of Fujishiro et. al. of nurses in the Philippines, and associations between workplace aggression and well-being outcomes (2011). Potential areas to target would be institutional policies, not only related to legally protected characteristics, but those not legally protected in GWH. Nurses have been found in previous research to believe that different aspects of GWH such as verbal and physical harassment are part of the job (Lewis, 2001; Yildirim 2009; OSHA, 2015). Creating targeted educational campaigns to change thinking of nurses on these issues could potentially increase awareness of GWH. This in turn could increase reporting of harassment incidents, which has been found to be vastly underreported in nurses (Gerberich et. al., 2004; ASIS, 2011) and thus decrease the occurrence of GWH aspects (Murray, 2009). Programs of this nature have been found to decrease workplace bullying (Murray, 2009). Further, if targeted interventions to decrease GWH are implemented, these could foreseeably decrease the number of days a nurse rated their health as not good in the last 30 days, increase self-rated
health, which could potentially contribute to better staffing, less overtime to cover shifts, and increased financial economic stability of nurses if they had been missing work due to poor health.

Lastly, these findings increased knowledge of non-Western experiences of GWH and its outcomes. The study gives baseline information on experiences of GWH in the Philippines, which the Philippine Nurses Association requested. The individual costs to a nurse in the Philippines for a missed work day are potentially much greater than for individuals in Western countries. Unemployment rates are high in the Philippines (PSA, 2017), and nursing positions are scarce with many nurses choosing to pursue international work (Lorenzo et. al., 2007). However, the number of international opportunities has been decreasing. Thus having one individual not working, due to poor physical health, could potentially led to economic hardships for individuals, as well as whole families.

LIMITATIONS

There were some limitations that should be taken into consideration. The sample used was limited to baseline surveys of nurses, who completed the full GWH scale. The 115 participants lost from the study sample after exclusions, may have systematic differences from those completing the scale fully. This could also make the sample size too small or skewed.

Many of the nurses were not currently working at the time of survey completion, potentially making the sample not representative of working nurses in the Philippines. This could limit the potential exposure period for nurses to have experienced GWH, especially when considering the average age of nurses was 25.6 years, and nurses could not have been practicing for more than a few years. However, working at the present time would not prevent nurses from having experienced GWH before because of previous exposure during their education or previous jobs. Age could be viewed in the same way.

Of the 567 nurses surveyed, 45 reported a GWH score of zero. It is highly unlikely that nurses have never experienced GWH, due the stressful nature of the work being completed and current rates of workplace harassment experienced by nurses as described in the introduction. This could be due to a translation issues because nurses took the survey in English or that individuals in non-western countries responses vary from those in western countries.
This could have led to lower positive response rates, when it is actually higher by western definitions of harassment. Also, the scale used for GWH was created in the US. This could lead to differences in interpretation of the scale questions.

Other potential limitations were also possible in this study. Subjective data was used, which could potentially lead to participant recall bias. Lastly, due to it’s cross-sectional design it is impossible to establish causality and temporality between GWH and the selected physical health outcomes.

CONCLUSION

We examined associations between generalized workplace harassment and physical health outcomes of self-rated health and a healthy days measure, among nurses in the Philippines. Our results suggested that GWH has associations with physical health, an increased number of days not feeling physically well, and self-rated health. This expands on the previous literature, which focused on western countries and mental health.

Future directions to confirm these associations could involve studies using biomarkers of stress response to give objective data on physical health and longitudinal studies to determine if GWH and physical health associations change over time. Non-Western work cultures and views on harassment should also be looked at further to determine if the GWH scale is applicable in non-western populations.
Table I. Demographic and Work Characteristics of Sample (unadjusted) N=567

<table>
<thead>
<tr>
<th>Sample Characteristic</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) (mean, SD)</td>
<td>25.6(7.03)</td>
</tr>
<tr>
<td>Sex, Female</td>
<td>416(74%)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Married/Living with Partner</td>
<td>9(17%)</td>
</tr>
<tr>
<td>Separated/Divorced/Widowed/ Never Married</td>
<td>443(83%)</td>
</tr>
<tr>
<td>Working as a Nurse</td>
<td>190(34%)</td>
</tr>
<tr>
<td>Inpatient Work Setting</td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>279(53%)</td>
</tr>
<tr>
<td>Outpatient</td>
<td>250(47%)</td>
</tr>
<tr>
<td>&gt; 50% Time Spent in Patient Care Activities</td>
<td>316(58%)</td>
</tr>
<tr>
<td>Variables</td>
<td>Age</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
</tr>
<tr>
<td>Age</td>
<td>---</td>
</tr>
<tr>
<td>Sex</td>
<td>0.121***</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.529***</td>
</tr>
<tr>
<td>Working as Nurse</td>
<td>0.268***</td>
</tr>
<tr>
<td>Work Setting</td>
<td>0.034</td>
</tr>
<tr>
<td>Time</td>
<td>0.036</td>
</tr>
<tr>
<td>GWH Score</td>
<td>-0.076*</td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>-0.088**</td>
</tr>
<tr>
<td>Coworker Support</td>
<td>0.025</td>
</tr>
<tr>
<td>Safety at Work</td>
<td>-0.024</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>-0.012</td>
</tr>
<tr>
<td>Self-rated Health</td>
<td>0.09**</td>
</tr>
<tr>
<td>HDM</td>
<td>-0.127***</td>
</tr>
</tbody>
</table>

**NOTE:** p<0.1=*, p<0.05=**, p<0.01=***
Table III. Multiple logistic regression showing relationships between study variables, controlling variables and GWH (dependent variable)

<table>
<thead>
<tr>
<th></th>
<th>SRH 0=fair/poor</th>
<th>SRH 1= good/very good/excellent</th>
<th>HDM How many days during the past 30 days was your physical health not good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>Difference (95% CI)</td>
</tr>
<tr>
<td>GWH (continuous)</td>
<td>0.96(0.94, 0.99)***</td>
<td>0.97(0.94, 1.01)</td>
<td>0.06(0.008, 0.11)**</td>
</tr>
<tr>
<td>Age (continuous)</td>
<td>1.06(0.99, 1.14)</td>
<td>1.06(0.99, 1.13)</td>
<td>-0.03(-0.11, 0.04)</td>
</tr>
<tr>
<td>Sex (reference = male)</td>
<td>1.21(0.55, 2.67)</td>
<td>1.34(0.59, 3.04)</td>
<td>0.10(-0.11, 0.04)</td>
</tr>
<tr>
<td>Marital Status (reference=not married)</td>
<td>0.64(0.21, 1.96)</td>
<td>0.71(0.21, 2.39)</td>
<td>0.64(-0.71,1.98)</td>
</tr>
<tr>
<td>Working as RN (reference=no)</td>
<td>1.86(0.83, 4.17)</td>
<td>1.94(0.81, 4.61)</td>
<td>0.17(-0.68,1.02)</td>
</tr>
<tr>
<td>Work Setting (reference = Outpatient)</td>
<td>0.52(0.23, 1.19)</td>
<td>0.57 (0.24, 1.36)</td>
<td>-0.73(-1.5, 0.05)*</td>
</tr>
<tr>
<td>Time in patient care activities (reference = ≤50%)</td>
<td>0.82(0.37, 1.83)</td>
<td>0.74(0.32, 1.70)</td>
<td>0.22(-0.61, 1.06)</td>
</tr>
<tr>
<td>Supervisor support (continuous)</td>
<td>---</td>
<td>1.7(0.76, 3.83)</td>
<td>---</td>
</tr>
<tr>
<td>Coworker support (continuous)</td>
<td>---</td>
<td>0.69(0.27,1.43)</td>
<td>---</td>
</tr>
<tr>
<td>Safe at work (reference = poor/fair)</td>
<td>---</td>
<td>2.99(1.34, 6.70)***</td>
<td>---</td>
</tr>
<tr>
<td>Satisfaction (reference= not at all satisfied/a little satisfied)</td>
<td>---</td>
<td>1.37(0.51, 3.73)</td>
<td>---</td>
</tr>
</tbody>
</table>

NOTE: SRH Model 1 includes SRH, demographics, work characteristics, GWH; SRH Model 2 includes SRH, demographics, worker characteristics, GWH, control variables; HDM Model 1 includes HDM, demographics, work characteristics, GWH; HDM Model 2 includes HDM, demographics, work characteristics, GWH
p<0.1=*, p<0.05=**, p<0.01***
REFERENCES


