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Using Peer Education to Promote Psychosocial and Occupational Health and Empowerment Among Female Sex Workers in Nepal

Lauren M. Menger-Ogle[1], Michelle R. Kaufman[2], Gwenith G. Fisher[1], Elizabeth P. Ryan[1], and Lorann Stallones[1]

Abstract

Female sex workers (FSWs) in Nepal are vulnerable to an array of occupational risks, which may compromise their psychosocial health and ability to engage in protective behaviors. A peer education (PE) intervention designed to empower and promote the psychosocial health of FSWs was pilot tested in Kathmandu, Nepal. FSWs who were exposed to the PE intervention ($n = 96$) had significantly higher scores on psychosocial health knowledge, perceived self-efficacy and ability to access resources, happiness, and job control compared with those who were not ($n = 64$). PE may be a promising way to promote psychosocial health and empowerment among FSWs.

Keywords

female sex workers, psychosocial health, peer education

Introduction

Sex work has been recognized in nearly every corner of the world. Although the hazards associated with it vary depending on the nature of the work itself, venue of sex work, sex worker to client ratio, and broader societal context in which sex work takes place (e.g., legal framework, sociocultural norms pertaining to sex, and gendered

[1]Colorado State University, Fort Collins, CO, USA
[2]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

Corresponding Author:
Lauren M. Menger-Ogle, 1876 Campus Delivery, Fort Collins, CO, 80524, USA.
Email: laurenmenger@gmail.com

power dynamics), the profession is arguably a dangerous one. Across the different circumstances in which sex work takes place, female sex workers (FSWs) may be exposed to poor working conditions, disease transmission, violence, and various forms of harassment, discrimination, and exploitation (Rekart, 2005; Ross, Crisp, Månsson, & Hawkes, 2012). These risks place a tremendous burden on the psychosocial health (i.e., the mental, emotional, spiritual, and social aspects of health; Donatelle, 2009) of FSWs, which in turn compromises their ability to engage in protective behaviors. FSWs are also at risk of psychological strains stemming from their need to stay vigilant to protect themselves against potential dangers (Brewis & Linstead, 2000). There are also a number of nonwork factors that may influence the psychosocial health of FSWs, such as financial difficulties, family problems, and social stigma (Vanwesenbeeck, 2001). Due to their stigmatized status, FSWs may feel they have to conceal their identity to friends and loved ones, which not only diminishes social support, but also creates an emotionally demanding burden to maintain "double lives" (Vanwesenbeeck, 2001, p. 268).

Global evidence suggests that FSWs have poor psychosocial health, including high rates of depression (Chudakov, Ilan, Belmaker, & Cwikel, 2002), posttraumatic stress disorder (PTSD; Chudakov et al., 2002; Farley, Baral, Kiremire, & Sezgin, 1998), and self-harm tendencies (Lau, Tsui, Ho, Wong, & Yang, 2010); low self-esteem (Lau et al., 2010); and low life satisfaction (Wong, Holroyd, Gray, & Ling, 2006). Despite these findings, there have been no known peer-reviewed interventions worldwide, which have exclusively aimed to promote the psychosocial health of FSWs. Poor psychosocial health may contribute to a lack of motivation as well as a lack of perceived empowerment or agency to engage in protective behaviors and pursue positive life changes. Evidence suggests a reciprocal relationship between violence and psychosocial health, such that poor psychosocial health—and particularly anxiety, depression, and PTSD—has been found to be both a risk factor for (Coker et al., 2002; Reingle, Jennings, Connell, Businelle, & Chartier, 2014) as well as an outcome of (Jordan, Campbell, & Follingstad, 2010) violence victimization. Poor psychosocial health and a lack of perceived empowerment or agency may lead FSWs to have fatalistic views of violence as something that is inevitable and from which they are powerless to protect themselves (Cornish, 2006). Improved psychosocial health may lead to reduced risk of experiencing violence as well as increased resilience to endure violent experiences with less of a detrimental impact on mental health outcomes. For instance, Coker et al. (2002) found social support to be a protective buffer against the negative effects of violence on mental health. Of course, the promotion of psychosocial health among FSWs is important in terms of the general aim to promote health and well-being. But also, without a strong foundation of psychosocial health, programs solely targeting the physical health risks of FSWs, such as HIV and violence prevention programs, are likely to have minimal impact (Lau et al., 2010). The goal of the present study was to pilot test an intervention to promote the psychosocial health and empowerment of FSWs in Nepal.

Sex Work in Nepal

Nepal is an impoverished country in South Asia. Political instability, in combination with pervasive poverty and patriarchal norms, has contributed to a lack of education and job opportunities for women in the country (Kaufman, Harman, & Shrestha, 2012). As a consequence, a growing number—many of whom fled their villages to escape conflict, domestic violence, and severe poverty—have resorted to sex work in Kathmandu and other cities to provide for themselves and their children (Youth Partnership Project for Child Survivors of Commercial Sexual Exploitation in South Asia, 2010).

The commercial sex industry in Nepal is referred to synonymously as the entertainment sector (Frederick, Basynat, & Aguettant, 2010). This term will be used throughout the remainder of this article when referring to this industry and women working in it, except when citing other studies that specifically used other terminology (e.g., FSWs) when describing their target population. In contrast to women who engage in sex work from their home or on the street, women in the entertainment sector (WES) work in various establishments, including massage parlors, cabin restaurants (i.e., establishments with private plywood cabins in which women accompany customers), dance bars, and *bhatti pasals* (i.e., small liquor and snack shops; Frederick et al., 2010). Not all WES actively engage in sex work; among those who do, some are willing and some do so under coercion from customers and establishment owners (Frederick et al., 2010).

WES in Nepal are exposed to an array of risks to their health and well-being. Working hours are long, breaks and days off are few, and work environments may be noisy, dirty, dark, and smoky (Frederick et al., 2010). For those who do engage in sex work, risk of contracting HIV and other sexually transmitted infections and the occurrence of an unwanted pregnancy are concerns (Frederick et al., 2010). Although WES who do not engage in sex work may not be at risk in terms of their sexual health, they are still exposed to numerous other hazards, including violence, abuse, and sexual harassment by clients and establishment owners (Frederick et al., 2010). Forced alcohol and drug use, as well as instances of not being paid the amount promised, not being paid on time, and sometimes not being paid at all, are not uncommon (Kaufman, Harman, & Menger, 2015). Due to fear of being fired, WES may avoid asking for a higher salary or better working conditions (Kaufman et al., 2015; Shakti Samuha, 2008). WES are also subject to social stigma and, as a result, may prefer to hide their job status from their families and the public eye (Frederick et al., 2010). The stigmatized status of WES, combined with the traditional role expectations that Nepali women are to be obedient, passive, and self-sacrificing in relationships (Poudel & Carryer, 2000), renders them defenseless in harmful and abusive situations. Forced prostitution is illegal in Nepal under the Trafficking and Transportation (Control) Act, 2064 (2007) (Godwin, 2012), but Nepali law neither prohibits voluntary prostitution nor does it attempt to regulate the activities of WES (Shrestha, 2006). Despite its legal status, in practice, WES in Nepal are often treated as criminals and are commonly arrested, detained, harassed, and extorted by the police (Frederick et al., 2010).

The psychological and social impact of sex work in Nepal is profound (Blanchet, 1996; Terre des hommes, 2005). Reports from counselors and psychologists who have worked with WES in Nepal suggest high rates of depression, anxiety, isolation, guilt, anger, hopelessness, fear, and insecurity (Frederick et al., 2010). Ghimire, Smith, van Teijlingen, Dahal, and Luitel (2011) conducted interviews and field observations with establishment- and street-based FSWs in Nepal and found low self-efficacy was a primary reason for not using condoms, highlighting the broader public health implications of psychosocial health promotion programs. The nongovernmental organizations (NGOs) offering programs and services for WES in Nepal give minimal focus to promoting psychosocial health (J. Maharjan, personal communication, December 13, 2013) and do little in terms of program evaluation (Kaufman & Crawford, 2011). Overall, there is a great need for evidence-based interventions to promote the psychosocial health and empowerment of WES in Nepal.

The Present Study

The present study was a pilot test of a peer education (PE) intervention to promote the psychosocial health and empowerment of WES who were members of an existing community empowerment network. PE is an approach whereby individuals with similar demographics or life experiences are trained to impart knowledge, increase awareness, and encourage positive behavior change among individuals from the same group. PE is a promising approach for promoting sexual health behaviors among FSWs (Luchters et al., 2008; Medley, Kennedy, O'Reilly, & Sweat, 2009) but has rarely been investigated as a means of promoting psychological health. The intervention was designed and evaluated based on the integrated empowerment theory (IET; Blanchard et al., 2013), an empowerment framework with a corresponding measurement instrument that was originally developed to assess the impact of a community mobilization intervention on the empowerment of FSWs in south India (Blanchard et al., 2013). The IET breaks down the mechanisms of empowerment into three distinct but interrelated domains: power *within* (i.e., self-esteem, self-efficacy, and self-awareness), power *with others* (i.e., the collective identity, mutual support, and trust required for empowerment and action), and power *over resources* (i.e., the ability to access and exert power over resources in one's environment).

In addition to psychosocial health and empowerment, we also assessed the impact of the intervention on three aspects of occupational health relevant to WES in Nepal: job control (the extent to which an individual has control over work tasks; Karasek, 1979), burnout (a state of mental, physical, and emotional exhaustion resulting from prolonged exposures to work stressors; Pines & Aronson, 1988), and workplace bullying (persistent exposure to mistreatment and aggression from colleagues, superiors, and subordinates; Einarsen, Hoel, & Notelaers, 2009). These constructs have been associated with psychosocial health outcomes. For instance, Stansfeld and Candy (2006) found evidence linking job control with mental disorders and diminished social support. Burnout has been conceptualized as a form of mental illness itself and as a precipitating factor for mental illness (Maslach, Schaufeli, & Leiter, 2001), and

bullying has been shown to have an impact on psychosocial distress (Cortina, Magley, Williams, & Langhout, 2001). However, these occupational health factors have been minimally examined among FSWs. The hypothesis was that, compared with baseline measures, WES exposed to psychosocial health promotion messages via peer educators (PEs) will have improved self-reported psychosocial and occupational health and empowerment compared with WES who were not exposed to the PEs, and that the PEs themselves would show improvements in these outcomes as well as increased PE efficacy after the intervention.

Method

We designed and pilot tested the intervention in partnership with an NGO that works to educate and empower WES in Kathmandu. A community-based participatory research (CBPR) framework guided our study. CBPR aims to bring together community members and researchers to establish trust, foster colearning, enhance strengths and resources, and build capacity to address community-identified needs (Israel, Eng, Schulz, & Parker, 2013). All members of the partner NGO, and especially two key field staff, as well as WES, were highly engaged throughout the project. Colorado State University and the Nepal Health Research Council approved all study materials and procedures prior to implementation.

Participants

The PEs and study participants were all members of an existing community empowerment network established by the partner NGO to foster greater solidarity, social support, and empowerment among WES. At the time of the study, the network consisted of 20 groups formed based on establishment type and geographic location, with 16-28 women in each group ($M = 20.65$, $SD = 3.79$). All groups had an elected leadership structure and a cooperative savings account and convened in bimonthly meetings coordinated and attended by the two key field staff.

Materials and Procedures

Training overview. The PE training program consisted of six, 3-hr sessions divided into two phases. The first author and a female Nepali translator facilitated Phase 1, which consisted of three sessions aiming to establish an understanding of what PE is and to develop the leadership, communication, and teaching skills needed to be successful as PEs. Phase 2 consisted of three sessions aiming to instill psychosocial health knowledge and skills to promote it in daily life. To ensure culturally congruent training, three local Nepali experts facilitated this phase: a psychologist, a spiritual leader from an international meditation organization, and a "life skills"[1] trainer from another Kathmandu-based NGO that works with WES. Each Phase 2 session consisted of 2 hr of training on different psychosocial health topics followed by a 1-hr debrief session. The psychologist gave an introduction to the topic of psychosocial health and focused on

developing motivation and skills related to self-care behaviors. The meditation guru discussed the importance of spiritual well-being and led participants through a guided meditation. The life skills trainer focused on promoting self-awareness of strengths, values, and roles in society (e.g., mother, wife, friend, and coworker) and developing communication skills. All three trainers emphasized the power of positive thinking. Two female artists attended the debrief sessions to create visual teaching aids representing the lessons learned (see Figure 1 for an example). The PEs were asked to use the customized visual teaching aids to teach the lessons learned both formally during their next network group meeting and informally while at work.

The training content was tailored for a low-education, low-literacy population. In line with the IET (Blanchard et al., 2013), the training was designed to promote (a) power *within* by fostering self-awareness, self-esteem, self-confidence, and self-care; (b) power *with others* by providing opportunities for the women to discuss the lessons learned with one another during the PEs' practice teaching sessions; and (c) power *over resources* by enhancing the PEs' awareness of community resources, as well as how to access and refer others to them. The training was also designed to promote training transfer (i.e., the transfer of the knowledge and skills learned to work and life outside of the training context) through behavioral modeling, discussion of error management strategies, and opportunities to practice teaching (Grossman & Salas, 2011).

Recruitment and selection of PEs. The NGO field staff announced the training opportunity to WES from all 20 network groups during their regular establishment visits and bimonthly network group meetings. Recruitment was limited to WES who were members of the community empowerment network and 18 years of age or older. The first author announced the training opportunity on a weekly radio program targeting WES in Kathmandu. All WES who met the inclusion criteria and expressed interest in the training were invited to attend an information session at the partner NGO, which provided an overview of the training content, schedule, logistics, evaluation, and incentives. Those who felt confident they could complete all activities were encouraged to fill out an application, which the two key field staff administered verbally, one-on-one, in Nepali to account for the low literacy among WES. The application was used to determine whether their leadership and communication skills, motivations, personality, and other characteristics would allow them to be effective in the role of a PE. Thirty women, representing 16 of the 20 network groups, completed an application. Two separate sets of 10 recruits, representing members of 10 of the 20 network groups, were selected to be final candidates; the first author selected one set based on application scores, and the two key field staff selected the other set based on who they thought would be most successful in and able to commit to the role of a PE. The first author and two key field staff then met to compare lists and select the final candidates, which included one applicant from 10 of the 20 network groups.

Training implementation. All trainings took place in a small, private room at the headquarters of the partner NGO. The first four sessions were conducted on four

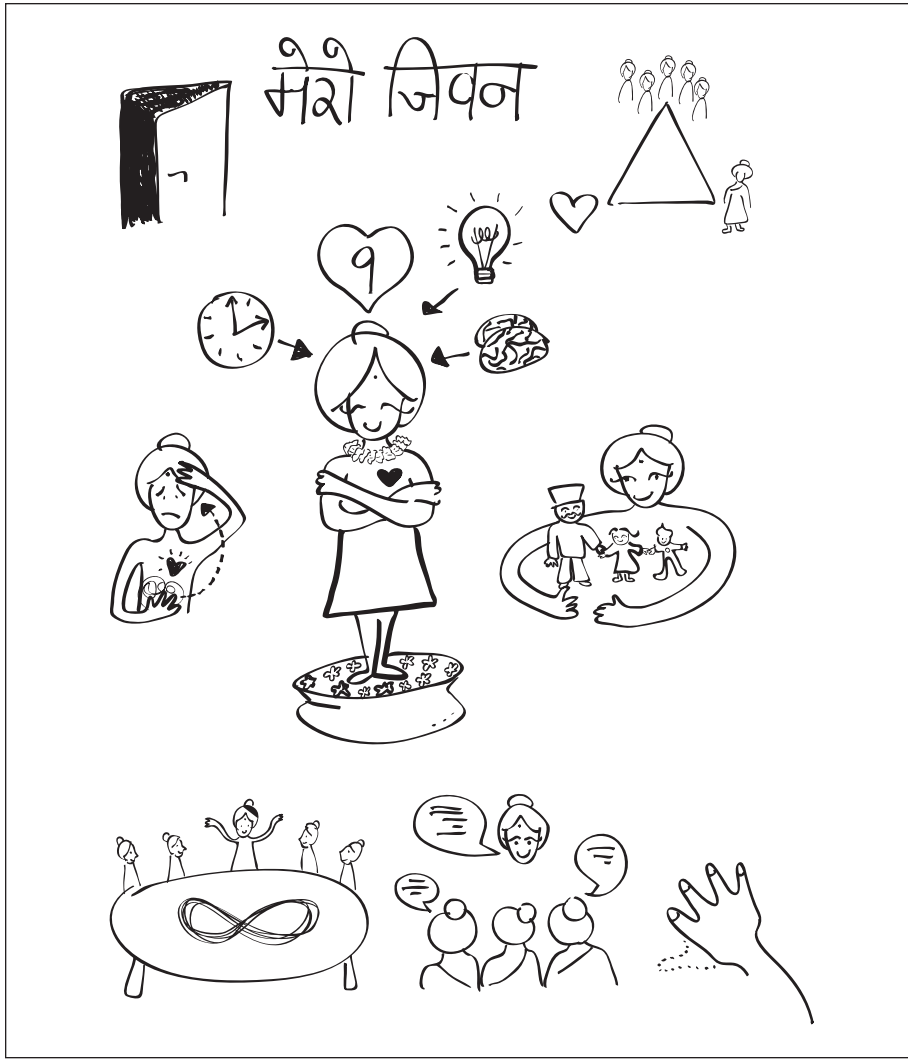

Figure 1. Example of a visual teaching aid created in the posttraining debrief session after the training facilitated by the psychologist.
Note. The primary themes represented in this drawing include the connection between mental and physical health, the importance of self-care, and teaching strategies.

consecutive days, and there was a 2-week gap between each of the Phase 2 sessions to allow sufficient time for the PEs to practice teaching each topic during their next network bimonthly group meeting. All 10 trainees attended the first four sessions, nine attended the fifth session, and seven attended the final session. The two key field staff attended all training sessions and assisted the PEs with their practice teaching.

Evaluation

We conducted a quasi-experimental impact evaluation to assess the psychosocial and occupational health and empowerment of members from all 20 network groups who were and were not exposed to the PEs at baseline and postintervention. Network members from the 10 groups with PEs comprised the experimental condition, while those from the 10 groups without PEs comprised the control condition. The PEs were also surveyed at baseline, immediately postintervention, and at 2- and 10-months postintervention.

Measures. Demographics were assessed at baseline. Network group membership and outcome variables were assessed at baseline and postintervention for study participants and additionally at 2- and 10-months postintervention for PEs. Study participants were asked to indicate whether their network group had a PE from the program at postintervention to assess exposure to the PEs. If yes, they were also asked to recall how many times the PE taught during their previous three group meetings. The outcome variables measured included burnout, the confidence dimension of power *within*, the efficacy dimension of power *within*, power *with others*, power *over resources*, happiness, job control, overall health, psychosocial health knowledge, stress, the personal dimension of workplace bullying, and the physical dimension of workplace bullying. The PEs were asked additional items to assess four aspects of PE efficacy (communication efficacy, teaching efficacy, leadership efficacy, and efficacy to help others) at baseline, immediately postintervention, and at 2- and 10-months postintervention. Burnout, job control, stress, and workplace bullying were assessed on a 4-point frequency Likert-type scale ranging from *never* to *always*, and participants were asked to consider their experiences in the previous month when responding to these questions. Empowerment, psychosocial health knowledge, and PE efficacy were assessed on a 4-point level of agreement Likert-type scale ranging from *disagree a lot* to *agree a lot* with no retrospective time period specified. Scales for the remaining constructs are described below.

Burnout. Burnout was assessed with four items from the 10-item version of the Malach-Pines Burnout Measure (BMS-10; Malach-Pines, 2005). The BMS measures three aspects of burnout—physical, emotional, and mental. Questions related to physical burnout were not included.

Empowerment. Power *within* was assessed with two modified items from the IET measure (referred to as the confidence dimension of power *within*; Blanchard et al., 2013), three modified items from the General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995), and a newly constructed item to measure power *within* related to psychosocial health (the GSE and newly constructed items referred to as the efficacy dimension of power *within*). The GSE is a 10-item scale designed to assess self-beliefs related to one's ability to cope with challenges and stress. Power *with others* was assessed with six items from the IET. The IET assessed power *over resources*

by tracking changes in participants' access to social entitlements (e.g., driver's license and savings account). However, because of the comparatively brief nature of the present intervention, access to social entitlements was not expected to change. Therefore, power *over resources* was assessed through five newly constructed items related to perceived ability to access community resources (e.g., health services and legal services).

Happiness. Participants responded to a single item on a visual analog scale in which they were asked to place an "X" to show how happy they had been in their life in the past month on a line with a smiley face on one end and a sad face on the other. Similar single-item measures have been shown to be valid and reliable measures of happiness (e.g., Abdel-Khalek, 2006). Scores were translated to a 13-point scale by measuring the placement of the check mark on the 13-cm line, with higher scores reflecting greater perceived happiness.

Job control. Job control was assessed with a single newly constructed item ("How often do you feel you could decide what you do at work and how you do your work?").

Overall health. A single item was used to ask participants to rate their current health on a 4-point scale (i.e., *poor, fair, good*, and *excellent*). This item has been demonstrated to be a valid and reliable measure of overall health (DeSalvo et al., 2006).

PE efficacy. PE efficacy was assessed with 12 items. Four items were modified from the Leadership and Personal Development Inventory (LPDI; Carter, 1989), which measures perceptions of personal and leadership life skills, and eight items were newly constructed. Four, three-item scales were created to represent four aspects of PE efficacy: communication efficacy, teaching efficacy, leadership efficacy, and efficacy to help others.

Psychosocial health knowledge. Psychosocial health knowledge was assessed with two items ("I understand what psychosocial health is and why it's important," and "I am aware of my strengths and weaknesses and understand how they influence my life.") written based on the Phase-2 training content.

Perceived stress. Perceived stress was assessed with two items. One item ("How often do you feel that difficulties are piling up so high that you cannot overcome them?") was from the short form of the Perceived Stress Scale (PSS-4), which assesses "the degree to which individuals appraise situations in their lives as stressful" (Cohen, Kamarck, & Mermelstein, 1983, p. 385). The PSS has been used extensively in cross-cultural settings (Lee, 2012), including Nepal (Eller & Mahat, 2003). The second item ("How much have you had worries, sadness, or thoughts playing in your heart-mind?") was included based on advice from a medical anthropologist with expertise in assessing mental health in Nepal (B. Kohrt, personal communication, December 9, 2013).

Workplace bullying. Three items from the Negative Acts Questionnaire–Revised (NAQ-R; Einarsen et al., 2009) were used to assess workplace bullying. The NAQ-R is comprised of three factors—person-related bullying (slander and social isolation), physically intimidated bullying (physical aggression), and work-related bullying (criticism related to work performance). Two items from the person-related dimension and one from the physically intimidating dimension were used.

Recruitment and survey administration. Field staff from the partner NGO recruited WES from the network to take the surveys during their regular establishment visits and bimonthly network group meetings. The field staff were asked to survey the 10 PEs and an additional 200 study participants with an equal number from each of the 20 network groups (to the extent possible) at baseline and to follow up with the same women postintervention. After obtaining written consent, the field staff administered all surveys one-on-one, verbally, in Nepali. Each survey took between 30 and 45 min to complete, and participants were given 100 Nepali rupees (equivalent to approximately US$1) for each survey taken. The field staff also administered follow-up surveys to the 10 PEs at 2- and 10-months postintervention.

Data Analysis

Repeated measures ANOVA tests were conducted to assess the impact of the program on the 10 PEs across the four survey time points and hierarchical linear modeling was conducted to assess the impact of the program on study participants. Descriptive statistics and repeated measures ANOVA tests were conducted using SPSS V23 and hierarchical linear modeling was conducted using Mplus V6 (Muthén & Muthén, 2007). Of the 193 study participants who completed a survey (experimental $n = 100$, control $n = 93$), 33 cases were deleted due to loss at follow-up ($n = 4$), reporting of different network group membership at baseline and postintervention ($n = 3$), and incorrect exposure to the PEs ($n = 26$), which was assessed by checking experimental or control group membership against responses to the item assessing exposure to PEs at postintervention. The reason for these cases of incorrect exposure is unclear; these individuals may have attended group meetings for more than one group.

Repeated measures ANOVA tests. Repeated measures ANOVA tests were conducted to assess the impact of the program on the 12 psychosocial and occupational health and empowerment outcomes and the four PE efficacy outcomes among the 10 PEs across the four survey time points. A Bonferroni correction ($p = .05/16 = p = .003$) was used to account for multiple comparisons. If an overall significant difference in means was detected, pairwise comparisons were conducted using a Bonferroni confidence interval adjustment to determine which time points were significantly different from one another.

Hierarchical linear modeling. Hierarchical linear models were specified to determine the impact of the intervention on each outcome at postintervention while

controlling for baseline scores. Given the clustered nature of the data with participants nested within groups, the assumption of independence of observations required by traditional statistical tests was violated (Baldwin, Imel, Braithwaite, & Atkins, 2014). HLM techniques were used to accommodate for the correlations among observations by modeling the variability between clusters or groups (Raudenbush & Bryk, 2002).

Results

Demographics

The 160 participants included in the final analyses (experimental $n = 96$, control $n = 64$) represented WES from all 20 network groups with 1-20 women per group ($M = 10.83$, $SD = 5.35$). See Table 1 for a summary of PE and study participant demographic information and PE exposure among study participants.

Intervention Effects

Reliability was calculated for outcomes with more than two items: the efficacy dimension of power *within* ($\alpha = .68$), power *with others* ($\alpha = .67$), power *over resources* ($\alpha = .84$), and burnout ($\alpha = .86$). The *t*-test results indicated significant differences between experimental and control participants on the confidence dimension of power *within* $t(158) = -2.43$, $p = .016$, perceived stress $t(155) = -2.46$, $p = .016$, and burnout $t(154) = -2.55$, $p = .012$ at baseline. After applying the Bonferroni correction ($p = .05/12 = .004$), these differences were rendered not significant. See Table 2 for baseline and postintervention means and standard deviations for experimental and control participants for the 12 outcome variables.

The ICCs, representing the proportion of between-group variance, ranged from .04-.24 across outcome variables ($M = .16$, $SD = .05$), indicating between 4% and 24% of the variance in outcomes was between groups, as opposed to within groups. Holding baseline scores constant, experimental participants were found to have significantly higher postintervention scores on the efficacy dimension of power *within,* $b = .48$, $SE = .10$, $p < .001$, 95% confidence interval (CI) = [.32, .66]; power *over resources,* $b = .40$, $SE = .11$, $p = .003$, 95% CI = [.22, .58]; psychosocial health knowledge, $b = .46$, $SE = .15$, $p = .003$, 95% CI = [.21, .71]; happiness, $b = 1.36$, $SE = .39$, $p < .001$, 95% CI = [.73, 2.00]; job control, $b = .60$, $SE = .11$, $p < .001$, 95% CI = [.41, .79]; and the personal dimension of workplace bullying, $b = .46$, $SE = .11$, $p < .001$, 95% CI = [.27, .64] compared with control participants (see Table 3). All significant changes were in the expected direction with the exception of the personal dimension of workplace bullying, which was expected to decrease after exposure to the PEs. Again, a Bonferroni correction ($p = .05/12 = .004$) was applied to account for multiple comparisons.

Results from repeated measures ANOVA and post hoc tests are summarized in Table 4. According to Mauchly's Test, the assumption of sphericity was violated for

Table 1. Demographic Characteristics Across Study Participants ($N = 160$) and PEs ($N = 10$).

	Study participants			PEs	
	N	*M*	*SD*	*M*	*SD*
Age	158	25.75	4.73	34	7.07
Years of education	160	2.76	3.25	2.15	2.93
Number of children	112	1.73	0.74	2.8	1.23
Time in entertainment sector	144	6.65	2.79	9.05	4.4
Time in network group	155	1.50	0.61	2.23	0.70
	N	%		*N*	%
Caste or ethnic group					
Brahmin	15	9.4		2	20
Chhetri	33	20.6		2	20
Janajati	90	56.3		4	40
Dalit	12	7.5		1	10
Missing	9	5.6		1	10
Married					
Yes	133	83.1		9	90
No	27	16.9		1	10
Previous PH training					
Yes	16	10		1	10
No	140	87.5		8	80
Missing	4	2.5		1	10
PE exposure					
Three meetings	92	95.8			
Two meetings	2	2.1			
Missing	2	2.1			

Note. PE = peer education; PEs = peer educators; PH = psychosocial health.
PE exposure is only reported for the experimental participants ($N = 96$).

the efficacy component of power *within*, $\chi^2(5) = 13.36$, $p = .021$, power *over resources*, $\chi^2(5) = 17.99$, $p = .003$, burnout, $\chi^2(5) = 15.88$, $p = .008$, communication efficacy, $\chi^2(5) = 29.93$, $p < .001$, and leadership efficacy, $\chi^2(5) = 12.68$, $p = .028$; therefore, degrees of freedom were corrected using Greenhouse Geisser estimates for these variables.

Discussion

WES in Nepal, and FSWs worldwide, are in need of programs to promote psychosocial health and empowerment. Without a strong foundation of psychological health and empowerment, their quality of life will remain poor, and it is likely that other programs solely targeting the physical health risks of FSWs, such as HIV transmission

Table 2. Descriptive Statistics for All Outcome Variables at Baseline and Postintervention for Experimental and Control Participants.

Outcome (number of items)	Experimental ($n = 96$)				Control ($n = 64$)			
	Baseline		Post		Baseline		Post	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Empowerment								
Within—Confidence (2)	3.08	0.59	3.29	0.59	2.86	0.53	3.30	0.58
Within—Efficacy (4)	2.52	0.65	3.53	0.53	2.55	0.50	3.04	0.56
With (4)	3.04	0.59	3.40	0.37	3.00	0.51	3.30	0.49
Over (5)	3.31	0.68	3.51	0.46	3.24	0.58	3.14	0.50
Psychosocial health								
Knowledge (2)	2.76	1.02	3.46	0.78	2.85	0.81	3.00	0.79
Perceived stress (2)	3.45	0.53	3.03	0.44	3.20	0.68	2.96	0.58
Happiness (1)	4.68	4.65	4.26	2.84	5.16	5.06	2.93	2.14
Overall health (1)	2.23	0.77	2.19	0.84	2.28	0.80	2.17	1.01
Occupational health								
Job control (1)	3.13	0.72	3.51	0.62	2.97	0.58	2.91	0.64
Burnout (4)	3.59	0.57	3.33	0.61	3.34	0.63	2.91	0.60
Bullying—Personal (2)	2.88	0.69	3.41	0.67	2.73	0.59	2.93	0.63
Bullying—Physical (1)	3.06	0.95	3.02	0.43	3.03	0.71	2.97	0.59

Note. All constructs were assessed on a 4-point Likert-type scale, with the exception of happiness, which was assessed on a sliding scale from 1-13 (1 = *extremely unhappy*, 13 = *extremely happy*).

and violence, will have minimal impact (Lau et al., 2010). This study aimed to pilot test the feasibility and impact of a PE program on the psychosocial and occupational health and empowerment of WES in Nepal.

Overall, this pilot program revealed that PE is a feasible and promising approach to improving psychosocial and occupational health and empowerment outcomes among WES in Nepal. The WES who were exposed to the PEs' psychosocial health promotion messages reported significantly higher scores on the efficacy dimension of power *within*, power *over resources*, psychosocial health knowledge, happiness, and job control postintervention compared with participants who were not exposed to the PEs. These results are partially congruent with the finding that participation in the community empowerment program in South India evaluated by Blanchard et al. (2013) was associated with significant increases in power *within* and power *with others*, but not power *over resources*. This is likely due, in part, to the discrepancies in the measures used to assess empowerment across the two studies as well as the substantial differences in the nature of the two interventions (e.g., duration, context, and program type). Contrary to the hypothesis, WES who were exposed to the PEs reported significantly higher scores on the personal dimension of workplace bullying postintervention compared with control participants. This finding may be partially related to increased awareness of experienced bullying due to a

Table 3. Hierarchical Linear Multiple Regression Models for All Outcome Variables.

Outcome (R^2, *p*)	Intercept	*b* (*SE*)	*p*	95% CI	*d*
Empowerment					
Within—Confidence (.00, .934)	3.28 (.10)		.000	[3.11, 3.45]	
TX		.02 (.14)	.872	[−.21, .25]	
Baseline within—Confidence		−.01 (.10)	.917	[−.17, .15]	
Within—Efficacy (.17, .008)	3.04 (.09)		.000	[2.89, 3.20]	
TX		**.48 (.10)**	**.000**	**[.32, .66]**	**.90**
Baseline within—Efficacy		.04 (.07)	.518	[−.07, .15]	
With (.01, .609)	3.30 (.08)		.000	[3.17, 3.43]	
TX		.10 (.09)	.290	[−.05, .24]	
Baseline with		−.02 (.08)	.825	[−.14, .11]	
Over (.16, .049)	3.13 (.09)		.000	[2.97, 3.28]	
TX		**.40 (.11)**	**.000**	**[.22, .58]**	**.77**
Baseline over		−.05 (.05)	.317	[−.12, .03]	
Psychosocial health					
Knowledge (.08, .133)	3.00 (.13)		.000	[2.79, 3.20]	
TX		**.46 (.15)**	**.003**	**[.21, .71]**	**.59**
Baseline knowledge		.04 (.05)	.423	[−.05, .13]	
Health (.01, .527)	2.18 (.12)		.000	[1.98, 2.37]	
TX		.02 (.13)	.904	[−.19, .22]	
Baseline health		.10 (.09)	.237	[−.04, .24]	
Happiness (.08, .076)	2.93 (.29)		.000	[2.45, 3.41]	
TX		**1.36 (0.39)**	**.000**	**[.73, 2.00]**	**.53**
Baseline happiness		.07 (.05)	.168	[−.01, .15]	
Perceived stress (.01, .739)	2.96 (.11)		.000	[2.78, 3.14]	
TX		.07 (.11)	.538	[−.12, .26]	
Baseline stress		−.01 (.06)	.825	[−.11, .08]	
Occupational health					
Job control (.19, .004)	2.91 (.09)		.000	[2.76, 3.07]	
TX		**.60 (.11)**	**.000**	**[.41, .79]**	**.95**
Baseline job control		.04 (.08)	.647	[−.09, .16]	
Burnout (.13, .011)	2.95 (.11)		.000	[2.77, 3.13]	
TX		.36 (.13)	.007	[.14, .58]	
Baseline burnout		.21 (.09)	.023	[.06, .36]	
Bullying—Personal (.14, .002)	2.94 (.09)		.000	[2.79, 3.10]	
TX		**.46 (.11)**	**.000**	**[.27, .64]**	**.74**
Baseline bullying—Personal		.19 (.09)	.034	[.04, .34]	
Bullying—Physical (.00, .798)	2.96 (.11)		.000	[2.79, 3.14]	
TX		.06 (.12)	.634	[−.14, .25]	
Baseline bullying—Physical		−.01 (.07)	.930	[−.12, .11]	

Note. A Bonferroni correction was applied to account for multiple comparisons ($p = .05/12 = .004$). Significant results ($p \leq .004$) are in bold. CI = confidence interval; TX = treatment.

Table 4. Repeated Measures ANOVA Results With Post Hoc Tests for All PE Outcome Variables Across Four Time Points ($N = 10$).

	T1 *M* (*SD*)	T2 *M* (*SD*)	T3 *M* (*SD*)	T4 *M* (*SD*)	*F*(3, 27)	*p*	η_p^2	Tukey's HSD
Empowerment								
Within—Confidence	3.20 (0.59)	3.58 (0.50)	4.00 (0.00)	4.00 (0.00)	9.51	.000	.51	1<3*, 1<4*
Within—Self-efficacy	2.88 (0.59)	3.08 (0.26)	3.58 (0.39)	3.20 (0.42)	4.63	.032	.34	—
With	2.91 (0.69)	3.57 (0.38)	3.51 (0.49)	3.38 (0.63)	3.10	.043	.26	—
Over	3.12 (0.69)	3.69 (0.26)	3.82 (0.18)	3.44 (0.32)	4.89	.039	.35	—
Psychosocial health								
Knowledge	3.21 (0.42)	3.20 (0.26)	3.65 (0.41)	3.10 (0.21)	7.40	.001	.45	2<3*, 3>4**
Overall health	2.30 (0.67)	2.10 (0.32)	3.44 (0.68)	2.80 (0.92)	10.74	.000	.54	1<3**, 2<3**
Happiness	5.35 (3.77)	6.70 (2.84)	10.39 (2.62)	9.10 (3.21)	7.24	.001	.45	1<3*, 1<4*
Perceived stress	2.95 (0.76)	3.20 (0.35)	2.55 (0.76)	3.05 (0.44)	1.94	.147	.18	—
Occupational health								
Job control	3.50 (0.53)	3.70 (0.48)	3.80 (0.42)	3.00 (0.00)	8.14	.001	.48	2>4**, 3>4**
Burnout	3.33 (0.49)	3.26 (0.47)	3.00 (0.17)	3.05 (0.11)	4.11	.016	.31	—
Bullying—Personal	2.75 (0.98)	3.31 (0.40)	2.69 (0.53)	2.95 (0.37)	2.10	.124	.19	—
Bullying—Physical	3.00 (0.82)	3.30 (0.48)	2.50 (0.85)	2.80 (0.63)	2.10	.124	.19	—
PE efficacy								
Communication	3.57 (0.52)	3.80 (0.18)	3.93 (0.14)	3.85 (0.23)	3.01	.100	.25	—
Teaching	3.59 (0.46)	3.78 (0.35)	3.97 (0.11)	3.92 (0.21)	2.42	.088	.21	—
Leadership	3.27 (0.81)	3.68 (0.28)	3.87 (0.32)	3.82 (0.32)	2.74	.107	.23	—
Helping others	3.30 (0.66)	3.76 (0.36)	3.70 (0.51)	3.80 (0.28)	2.20	.111	.20	—

Note. PE = peer education.
*$p \leq .05$. **$p < .01$. ***$p < .001$.

general heightened awareness of their psychosocial health status as opposed to an actual increase in experienced bullying.

Compared with baseline, the PEs reported a significant increase in the confidence component of power *within* at the 2-month follow-up, and this effect remained significant at the 10-month follow-up. The PEs also reported a significant increase in happiness and overall health at the 2-month follow-up compared with baseline, and the effect on happiness remained significant at the 10-month follow-up. There was a significant increase in psychosocial health knowledge between postintervention and the 2-month follow-up, which was perhaps due to the PEs discussing psychosocial health topics more frequently with their peers and others; however, this effect did not remain significant at the 10-month follow-up. Previous studies have also found positive effects of PE programs on knowledge and self-esteem (e.g., Jackson, Bennett, Ryan, & Sowinski, 2001).

Given that no known peer-reviewed studies have exclusively attempted to improve the psychosocial health of FSWs through PE methods, we were unsure whether the PEs and study participants would reject or lack interest in the program. On the contrary, the PEs were enthusiastic participants, and the program evaluation had low rates of attrition compared with other PE programs targeting FSWs (Medley et al., 2009). The dedication of the two key field staff ensured that all PEs conducted their practice teaching during the network group meetings and that all participants who took the survey at baseline also took the survey postintervention. During postintervention exit interviews, the PEs reported that their peers were generally interested in and engaged with the training content during their practice teaching sessions.

Limitations and Future Research

The ability to detect an effect was limited by the reduced statistical power after deleting over 30 cases, resulting in an unequal number of participants in the experimental and control conditions. The generalizability of the findings is restricted because participants were part of an existing community empowerment network. Program acceptance, impact, and attrition rates warrant pilot testing with WES who are not engaged in such a network. In addition, the partner NGO required that the survey be brief, resulting in a small number of items to measure the outcomes. Furthermore, given the scant psychological research conducted with WES in Nepal, there were no previously validated measures related to the constructs of interest. Finally, the fact that study participants were only surveyed at baseline and immediately postintervention renders the longer-term effects of the program unknown. However, many interventions targeting FSWs only survey at one time point, have no control group, and have high attrition rates (Shahmanesh, Patel, Mabey, & Cowan, 2008). Although this study included the aforementioned limitations, it improves on the current body of knowledge in the field, particularly in the understudied context of Nepal.

Findings from this pilot study provide support for conducting the intervention with longer study follow-up and an increased sample size. Although a randomized controlled trial is likely not feasible or ethical (i.e., considering this pilot

demonstrated primarily positive intervention effects), a wait-list control or stepped-wedge design (Brown & Lilford, 2006) may be suitable alternatives. There are additional topics related to psychosocial health and empowerment that may be beneficial to cover, such as stress management, mindfulness, social support, and mental health first aid. Program impact could also be enhanced by including goal-setting elements for the PEs (e.g., number of peers to teach each day) and those receiving the lessons from the PEs (Joint United Nations Programme on HIV/AIDS, 2003). It is also important to track the impact of such programs on behavioral outcomes (e.g., self-care behaviors) and longer-term outcomes, such as whether WES who wish to exit the sex industry are successful in doing so. The potential benefit of pairing psychosocial interventions with other types of health promotion interventions targeting FSWs, such as HIV and violence prevention programs, should also be further examined. The Sonagachi Project in Kolkata, India (Newman, 2003) and the programs implemented by the Karnataka Health Promotion Trust (KHPT) as part of the Bill and Melinda Gates *Avahan* program (Blanchard et al., 2013; Gurnani et al., 2011) are examples of successful HIV-prevention interventions that have concurrently directed efforts toward promoting psychosocial health and empowerment among FSWs.

Interventions to promote psychosocial health and empowerment of FSWs should also be examined in other contexts (e.g., rural areas of Nepal and in other countries) and with other sex worker populations (e.g., street-based FSWs and male and transgender sex workers). Given the potentially disparate needs of FSW communities across and even within the same countries, it is likely that psychosocial health promotion programs would have to be tailored for each target audience to be effective (Newman, 2003). Nonetheless, many of the methodological features of this pilot study, namely, the high level of participation of the partner NGO and the use of native trainers to provide culturally congruent training, apply across contexts. In addition to interventions targeting psychosocial health promotion of FSWs at an individual level, it is also important to implement programs targeting the repressive aspects of the broader sociopolitical environments in which they live and work. Toward this aim, programs to promote psychosocial health knowledge and supportive behaviors of gatekeepers (e.g., owners and managers of sex work establishments, police officers, and health care providers) are also needed (Ross et al., 2012).

Summary and Conclusion

In summary, FSWs in Nepal and worldwide are in need of programs to promote psychosocial health and empowerment. This pilot study demonstrated that PE is a feasible and promising means of enhancing the psychosocial and occupational health and empowerment of WES in an existing community empowerment network in Kathmandu, Nepal. This pilot study can inform future programs aiming to promote the psychosocial and occupational health and empowerment of FSWs as well as other vulnerable and hard-to-reach working populations.

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Note

1. This trainer typically provides a 36-hr "life skills" training, covering a variety of topics to help women in the entertainment sector (WES) foster the personal and relational knowledge and skills to be happy and successful in life, such as communication skills, positive thinking, and self-awareness.

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Author Biographies

Lauren M. Menger-Ogle is a social scientist with the National Institute for Occupational Safety and Health (NIOSH), U.S. Centers for Disease Control and Prevention. Her research focuses on promoting health and safety among vulnerable working populations. She was working to complete her PhD in the Applied Social and Health Psychology program with a

concentration in Occupational Health Psychology at Colorado State University at the time of this study.

Michelle R. Kaufman is an assistant professor in the Department of Health, Behavior, and Society at the Johns Hopkins Bloomberg School of Public Health. Her research focuses on how gender, sexuality, and social status contribute to health disparities. She designs and tests community-based behavioral interventions to reduce such disparities among the world's most marginalized populations. She received her PhD in social psychology from the University of Connecticut and was awarded a Fulbright U.S. Student Research Scholarship to Nepal in 2007-2008.

Gwenith G. Fisher is an associate professor of industrial/organizational psychology and program coordinator and director of the occupational health psychology training program at Colorado State University. Her research investigates worker health and well-being, particularly among older workers (retirement, work ability, and prolonged working life) and working parents, as well as survey methods and measurement. She received her PhD in psychology from Bowling Green State University, where she specialized in industrial/organizational psychology.

Elizabeth P. Ryan is an associate professor in the Department of Environmental and Radiological Health Sciences in the College of Veterinary Medicine and Biomedical Sciences at Colorado State University. Her research explores the complex interactions of food components with gut microbiota and the immune system, spanning enteric diseases and malnutrition in children from developing countries, and colon cancer control and prevention. Her global health research program includes developing innovative solutions to food systems that will enhance nutritional security. She holds a PhD in molecular toxicology from the University of Rochester School of Medicine and Dentistry.

Lorann Stallones is a professor in the applied social and health psychology department at Colorado State University, a professor in the Department of Epidemiology, and the director of the graduate degree program in public health at the Colorado School of Public Health. Her areas of specialization include epidemiology of agricultural health, rural injuries, and injuries among underserved populations. She holds a PhD in epidemiology from the University of Texas School of Public Health.