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## Predictors of workplace sexual health policy at sex work establishments in the Philippines

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### Abstract

Based on the literature, we identified manager and establishment characteristics that we hypothesized are related to workplace policies that support HIV protective behavior. We developed a sexual health policy index consisting of 11 items as our outcome variable. We utilized both bivariate and multivariate analysis of variance. The significant variables in our bivariate analyses (establishment type, number of employees, manager age, and membership in manager association) were entered into a multivariate regression model. The model was significant ( $p < .01$ ), and predicted 42% of the variability in the development and management of a workplace sexual health policy supportive of condom use. The significant predictors were number of employees and establishment type. In addition to individually-focused CSW interventions, HIV prevention programs should target managers and establishment policies. Future HIV prevention programs may need to focus on helping smaller establishments, in particular those with less employees, to build capacity and develop sexual health policy guidelines.

### Introduction

A great deal of research has been undertaken to understand HIV/AIDS risk factors and prevention programs; however, these prevention models have mostly focused on how to motivate change at the individual level (Fogarty et al., 2001; Rotheram-Borus et al., 2000). Although useful in many circumstances, these individually focused interventions often miss social contextual risk factors that affect the health choices available to marginalised and vulnerable populations, such as commercial sex workers (CSWs).

Emerging findings demonstrate that a range of environmental factors interact to promote or prevent HIV-associated behaviour (DiClemente & Wingood, 2003; Waldo & Coates, 2000). New sociostructural approaches to reducing HIV risk behaviours focus on broader social and environmental change, such as improving access to condoms, economic and gender empowerment, changing social norms and creating supportive environments that enable or reinforce positive individual health choices and behaviour (Latkin & Knowlton, 2005;

Morisky et al., 2002a; O'Reilly & Piot, 1996; Parker et al., 2000; Sweat & Denison, 1995; Tawil et al., 1995).

Of the growing body of international research focusing on individual and sociostructural determinants of HIV, a smaller number of studies evaluate specific interventions. Much of this subset of intervention studies focuses on CSWs (Kerrigan et al., 2003; Parker et al., 2000). Such studies have demonstrated that interventions focusing solely on individual factors and individual behavioural change among CSWs are ineffective at developing and sustaining consistent condom use (Sweat & Denison, 1995; Tawil et al., 1995; Yang et al., 2005). They also demonstrate that workplace policies regarding condoms are more important than CSW knowledge of HIV transmission or their attitudes toward condoms (Morisky et al., 1998; Yang et al., 2005).

Researchers have found that structural factors can increase condom use among establishment based CSWs (Kerrigan et al., 2003; Morisky et al., 1998, 2002a, 2002b; Yang et al., 2005). One such structural factor that positively impacts consistent condom use is CSW access to purchasing condoms in the workplace (Oladosu, 1995). Additionally, the level of support for condom use among establishment managers, or gatekeepers, has been found to be highly associated with consistent CSW condom use in China (Yang et al., 2005), Dominican Republic (Kerrigan et al., 2003), Thailand (Visrutaratna et al., 1995) and the Philippines (Morisky et al., 1998, 2002a, 2002b). Perceived gatekeeper support is also positively associated with CSW condom use communication, condom use intention and condom use frequency (Yang et al., 2005).

This paper reports the results of a supplemental inquiry utilising data from an HIV prevention intervention with establishment-based sex workers in the Philippines. Unique to this study was its focus on both individual determinants (CSW behaviour) and sociostructural determinants (manager support and establishment sexual-health education policies) of HIV/AIDS. Findings from the original study demonstrated the significant, positive effect of establishment-based condom use policies on consistent condom use among CSWs (Morisky et al., 2002a, 2002b).

Given that workplace support and establishment policies regarding condoms have been found to be associated with condom use and other positive risk-reducing behaviours among CSWs, the aim of this supplemental study is to analyse which manager characteristics and/or establishment characteristics may be related to the development and maintenance of a workplace sexual-health policy that is supportive of consistent condom use and HIV risk reduction behaviour (Kerrigan et al., 2003; Morisky et al., 1998, 2002a; Visrutaratna et al., 1995; Yang et al., 2005). Identifying these characteristics will help inform the content and structure of future HIV prevention and health promotion programs by enhancing our understanding of key contextual factors that impact CSW sexual-health practices.

### **HIV/AIDS and CSWs in the Philippines**

The Joint United Nations Program on HIV/AIDS (2005) estimates that 8.3 million people in the Asian region were infected with HIV at the end of 2005, with about one million new infections occurring in the past year alone. As of 2004, there were an estimated 9,000 HIV cases in the Philippines, most transmitted through heterosexual contact. While the prevalence of HIV/AIDS in the Philippines is still very low, numerous factors contribute to the potential for a catastrophic epidemic, including a very active sex industry, low condom use and high rates of sexually transmitted infections, especially among CSWs (US AID, 2005).

Although technically illegal, the commercial sex industry in the Philippines is thriving. It is estimated that there are 65,000 direct CSWs working in brothels and at least another 200,000 indirect commercial sex workers (Tan, 1993). 'Indirect' CSWs are those female sex workers working in non-brothel based establishments, such as karaoke bars, massage parlours, hotels and bars. The CSWs are employed by these establishments and receive a daily salary and a small commission from the sales of food and drinks by the owners of the establishments. If a customer wishes to have sex with an employee, the management sets a 'bar fine' and a portion of this fee is given to the employee. The customer and employee also negotiate a separate payment and location outside the establishment for sex. All sex workers are required to register with the local health department and attend weekly or bi-weekly government funded social hygiene clinics for STD testing.

### **Parent study: HIV/AIDS prevention among CSWs and establishment managers**

The data discussed in this article come from a quasi-experimental HIV prevention intervention in the Philippines targeting CSWs and establishment managers. A total of 162 eligible establishments were identified in four different cities. The data used in this paper are from the follow-up surveys completed among all managers of the participating establishments. The participation rate of managers in this study was over 95% in all four study sites. The primary goals of the intervention were to promote safer sex behaviours among CSWs, to increase their HIV knowledge and reduce risk behaviour and to change social norms about HIV risk behaviour through managers. The study evaluated the relative efficacy of four community-level arms of treatment, including trained CSW peer educators, manager trainings, a combined CSW and manager program and the health education standard of care (Morisky et al., 2002b). Structured, face-to-face interviews assessing knowledge, attitudes, beliefs and behaviour were administered to both CSWs and their managers at baseline, at the end of formal intervention activities and at six-month follow-up from the end of the intervention (Morisky et al., 2002a, 2002b; Swendeman et al., 2005).

Morisky's findings demonstrate that structural and environmental factors, such as availability of condoms and workplace policies, are significantly related to condom use. Specifically, managers who enforced an educational policy in the workplace, mandated condom use and provided employees and clients with condoms, contributed to increased condom use (Morisky et al., 1998, 2002a; Sweat & Denison, 1995). In addition, membership in the local manager association and degree of involvement was related to condom use among CSWs (Morisky et al., 2002a) as well as demonstrated significant reductions of sexually transmitted diseases (Morisky et al., 2006).

## **Methods**

### **Theoretical framework: Ecological/systems approach**

According to Bronfenbrenner (1979), health beliefs, attitudes and choices are influenced by an ongoing interactive process between the individual and their ecological and sociocultural environment. Thus, risk behaviours arise out of a dynamic interaction between individual behaviours and environmentally shaped social interactions (Kelly, 1986; Kelly et al., 2000; Latkin, 2005; Trickett, 2002). For CSWs, HIV risk behaviours are related to individual practices (e.g. knowledge, practices and behaviours such as condom use), social norms in the workplace (e.g. an accepted peer norm of condom use and social hygiene practices) and organisational policies (e.g. a verbal or written mandatory condom use policy and support from the establishment gatekeepers—managers and owners.)

Our conceptualisation of this theoretical model includes the following individual-level variables (manager based:  $N = 135$ ): gender, marital status, member of manager association,

age, grade level completed, income per week and years working as manager in the industry (see Table I). Our conceptual framework also includes the following environmental-level variables (establishment based:  $N = 136$ ): establishment type, class level of clientele, nationality of customers, distance from social hygiene clinic, years in business, number of customers daily, number of employees and amount of CSW bar fine (see Table II).

We operationalised our outcome variable (sexual-health education policy) as an index. We created an aggregate index of our outcome variable, consisting of 11 dichotomised items (yes/no). For every item, a positive ('yes') response indicated agreement with a statement that promotes condom use in the establishment. Thus, a higher 'count' or score on our index signifies more condom support policies are in place in the establishment. A factor analysis extracted three components with an Eigen value greater than one. However, these three components did not correspond to any known constructs. Thus, we did not create subscales. The reliability for this index was a Cronbach's alpha of 0.77. The minimum score was 0 and the maximum was ten, with a mean index score of three (see Table III for a description of the 11 items included in the index).

## Results

### Bivariate analysis

We used Pearson chi-square analyses to test correlations for categorical variables and Pearson correlation analyses for continuous variables. In our bivariate analyses of the manager characteristics and our sexual-health education policy index, we found no significant association with: education, weekly income, gender or marital status. However, there was a moderate positive significant association with membership in manager association ( $r = 0.339$ ;  $p < 0.01$ ). There was also a small positive significant association found between age of manager and our scale ( $r = 0.199$ ;  $p < 0.05$ ).

In our bivariate analyses of the establishment characteristics and our sexual-health education policy index, we found no significant association with: class level of clientele, nationality of customers, distance to social hygiene clinic, number of customers per day or years in business. However, there was a small positive association between the number of employees and the health education policy index ( $r = 0.256$ ;  $p < 0.01$ ). The amount of the bar fine for the CSW was moderately positively associated with the index ( $r = 0.399$ ;  $p < 0.01$ ). In addition, the type of establishment was significantly associated with our index. There was a moderate negative association between karaoke bars and the index ( $r = -0.405$ ;  $p < 0.01$ ), while massage parlor/barber shop were found to be positively associated with the index ( $r = 0.224$ ;  $p < 0.01$ ).

### Multivariate analysis

The variables that were found to be significantly associated with the outcome variable in our bivariate analysis (establishment type, number of employees, manager age, membership in manager association) were entered into a multivariate linear regression model along with three additional manager-level variables (sex, income and education) and two additional establishment-level variables (number of customers per day and years in business.) The amount of bar fine was not considered for inclusion in the multivariate model due to a high number of missing values, which would have significantly reduced the sample size. Backward stepwise variable selection was used to obtain the most parsimonious model.

Three variables were retained in the final model: age of the manager, number of employees and type of institution (specifically karaoke bar.) The overall model was significant ( $F_{(5,35)} = 10.607$ ,  $p < 0.01$ ). The adjusted R-square for this model was 0.419 indicating that 42% of the variance in sexual-health education policy is explained by this constellation of

independent variables. In this model, the number of employees was found to have a small positive association with the sexual-health policy index ( $p < 0.01$ ). Establishments with a higher number of employees were more likely to have a sexual-health policy. In this model, the establishment type has the most predictive value. Establishment type (karaoke bars) were highly negatively associated with the index ( $p < 0.01$ ). Karaoke bars are strongly predictive of not having a sexual-health policy. The age of the manager was also a predictor in this model but was not statistically significant at the  $p < 0.05$  level (see Table IV). While some of the other variables were significant in the bivariate analyses, they were not significant in this model.

## Discussion

Of key importance in the bivariate findings is the significance of the manager-level variable, active membership in manager associations. Such associations could become naturally occurring paths of influence within the community of sex work establishments. This points to the ability of manager associations to help establish ‘enabling environments’—those environments that promote individual health decision-making and personal responsibility.

The significance of the establishment-level variable number of employees may point to a key economic perspective for future HIV prevention programs. It is possible that this variable indicated that more employees may result in an economic valuing of the sex worker, which then impacts the establishment's motivation to develop health protective policies as a way to protect their ‘assets’. It could also be that larger establishments have more resources (money, information technology and human capital) to develop such policies. Future health promotion programs seeking to develop establishment-based sexual-health education policies may consider approaching managers/owners from an economic perspective. It is also important to consider how this information may be utilized to motivate smaller sex work establishments. Smaller establishments may need added resource development and capacity building to be able to establish such pro-condom policies.

Additionally, the type of establishment was significantly related to sexual-health education policy. Specifically, karaoke bars, because of their recent entry as an entertainment establishment in Asia, were the only establishments not included in the city ordinance that mandated regular CSW social hygiene clinic check ups. It is an interesting finding that demonstrates the impact of external city laws on internal establishment sexual-health policy. During the course of the study the city ordinance was amended and karaoke bars were required to meet the social hygiene clinic mandate. (Morisky et al., 2002b). While not captured in the current data, this change in city law may ultimately influence the development of an establishment based sexual-health education policy in karaoke bars as well.

It is interesting to note that age of the manager was the only individual, demographic manager variable found to affect workplace sexual-health policy significantly. Other demographic variables of interest (gender, income, marital status, level of education completed) were not found to be significant. Findings from a prior study suggest that CSWs report higher *perceived* support for condom use from female managers, resulting in more consistent condom use (Yang et al., 2005). However, our findings suggest that perception of support may not actually be related to actual, practical support in the workplace (e.g. an establishment based sexual-health education policy).

## Limitations

There are several potential limitations to the current study. First, the data utilized is cross sectional, from one time point, and thus limits our ability to infer causality. Second, the data

is based on self-report and thus could be affected by memory error and recall bias. Data on workplace policies was self-reported by managers and not independently observed by study personnel. Third, the study may be affected by social desirability bias, as the questions and behaviours are very sensitive in nature. However interviewers were trained on proper administration techniques to minimise this bias. Fourth, there may be additional manager characteristics associated with their practices, such as their belief in the efficacy of educating CSWs or if they are also the owner of the establishment, which this supplemental study was unable to examine. Finally, the aggregate sexual-health policy index developed would have been more powerful if the study could have weighted the items proportionally to estimate their differential impact (e.g. condoms in the workplace versus sexual-health brochures in the workplace). However, despite statistical consultation, these authors could not develop an appropriate approach, so an aggregate index was developed pursuant to the extant literature. This is an important area for further research and development as it may better inform establishment-based interventions focused on developing management capacity and workplace sexual-health policies.

## Conclusion

It is evident that diverse socio-environmental and policy influences contribute to sustaining the HIV epidemic. Individual-focused interventions, while integral to our knowledge of intervention efficacy, may lack effectiveness or sustainability in ‘real world’ complicated and challenging contexts. Contextual interventions targeted at CSW behaviour *and* environment could motivate behaviour change by providing knowledge and skills through naturally occurring channels of influence (e.g. peers, managers or owners in the establishment). Furthermore, HIV interventions focused toward these structural levels of causality may have the potential to develop environmental norms that support and sustain individual-level HIV prevention interventions. The positive relationship between managers and consistent condom use suggests that health promotion programs should target management and establishment practices as well as CSWs. Future HIV prevention programs may need to focus on helping smaller establishments, in particular those with less employees to develop establishment based health policy practices.

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**Table I**

Manager characteristics.

Variable	% or median (range)	N
Sex		142
Female	67.6	
Marital status		141
Married	41.8	
Living together	9.9	
Divorced/separated	14.2	
Single	29.1	
Widowed	5.0	
Member of manager association	79.6	167
Age	32 (18–65)	141
Years of school completed	12 (5–15)	141
Income per week	1,000 pesos (100–9000) (27 pesos =US\$1, 1997)	135
Years working as manager in industry	3(0–35)	141



Table II

Establishment characteristics.

Variable	% or median (range)	N
Type		136
Karaoke bar	23.5	
Beer garden/bar/club	36.8	
Disco	19.1	
Massage parlour/barber shop	12.5	
Restaurant/hotel	3.7	
Other	4.4	
Class level of clientele		173
Low class	22	
Middle class	50.3	
High class	27.7	
Nationality of customers		140
Mixed foreigners and nationals	75.7	
Foreigners only	23.6	
Nationals only	0.7	
Distance from social hygiene clinic		169
Less than 1 kilometre	17.8	
1–4 kilometres	70.4	
More than 4 kilometres	11.8	
Years in business	3 (0–38)	141
Number of customers per day	20 (2–350)	141
Number of employees	10 (1–30)	169
Amount of CSW bar fine in pesos	325 (50–3000) (27 pesos= US\$1, 1997)	92

**Table III**

## Sexual-health policy scale (11 items).

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1. Condoms are available for CSWs at establishment.
  2. Workers do not have to pay for condoms at establishment.
  3. Establishment gives or sells condoms to customers.
  4. In the past six months, management has talked to any of the CSW employees about using condoms.
  5. Management has taught CSW employees proper condom use (ever).
  6. In the past six months, management has provided classes for CSW employees about using condoms properly.
  7. Brochures demonstrating proper condom use are available at establishment.
  8. There is either an informal (verbal) or formal (written) establishment-based condom use policy.
  9. CSW employees have exams at the social hygiene clinic at least two times per month.
  10. There are at least two manager meetings per month.
  11. There is a penalty for absence at these meetings.
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**Table IV**

Regression results.

<b>Variable</b>	<b>Unstandardised coefficient</b>	<b>Beta</b>	<b>P-value</b>
Age of manager	0.019	0.201	0.072
Number of employees	0.053	0.439	0.000*
Karaoke bars	-0.950	-0.504	0.000*