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History of Abuse and Psychological Distress Symptoms among Female Sex Workers in Two Mexico-U.S. Border Cities

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Abstract

This study examined histories of past emotional, physical, and sexual abuse as correlates of current psychological distress using data from 916 female sex workers (FSWs) who were enrolled in a safer-sex behavioral intervention in Tijuana and Ciudad (Cd.) Juarez, Mexico. We hypothesized that histories of abuse would be associated with higher symptom levels of depression and somatization, and that social support would moderate the relationship. Nonparametric correlations and a series of hierarchical regression analyses revealed that all forms of past abuse predicted higher levels of depressive symptoms, and physical and sexual abuse were significantly associated with higher levels of somatic symptoms. Social support was also significantly associated with fewer symptoms of distress; however, it was not shown to moderate the relationship between abuse history and distress.

Keywords

history of abuse; psychological distress; Hispanic women; female sex workers

The quasi-legal nature of commercial sex work in the U.S.-Mexico border cities of Tijuana and Ciudad (Cd.) Juarez is associated with large numbers of “sexual tourists” from the United States and other foreign countries (Patterson, Semple, Fraga, Bucardo, De La Torre, Salazar et al., 2006). Over the past decade, FSWs in these two cities have experienced a dramatic increase in HIV infection (Patterson, Semple, Fraga, Bucardo, De La Torre, Salazar et al.,

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2006), and in a recent study 6% tested HIV positive (Patterson et al., 2007). A better understanding of risk factors that FSWs face, specifically history of abuse and psychological distress, may help to inform the development of HIV risk reductions interventions for this high risk population. Therefore, the main goal of this study was to examine the relationship between lifetime history of emotional, physical, and sexual abuse, and social support in relation to current symptoms of depression and somatization in a sample of sex workers in Tijuana and Cd. Juarez, Mexico.

History of Abuse and Psychological Distress among FSWs

Despite the importance of understanding the underlying mechanisms of HIV risk for FSWs, such as psychological distress and history of abuse, we were unable to locate any published studies or reports on this among Mexican FSWs. However, higher levels of depression (Alegria, Vera, Freeman, & Robles, 1994; Burgos et al., 2003; Surratt, Kurtz, Weaver, & Inciardi, 2005) and childhood sexual abuse (Dickson-Gomez, Bodnar, Gueverra, Rodriguez, & Mauricio, 2006; Vaddiparti et al., 2006) have been associated with greater risk of HIV infection among FSWs in El Salvador, Puerto Rico, and the U.S.

In regards to history of violence, high rates of childhood emotional, physical and sexual abuse and current exposure to violence in relationships and sex work have been documented among sex workers from countries such as Israel (Cwikel, Ilan, & Chudakov, 2003), the United States (El-Bassel, Witte, Wada, Gilbert, & Wallace, 2001; Surratt, Inciardi, Kurtz, & Kiley, 2004), England (Sanders, 2001), Canada (Farley, Lynne, & Cotton, 2005), the Czech Republic (Zikmundova & Weiss, 2004) and South Africa (Wechsberg, Luseno, & Lam, 2005). Given that childhood trauma and life stress have been shown to be predictors of major depressive disorder in other populations (De Marco, 2000; Kessler & Magee, 1994), these issues likely play an important role in the overall mental health and well-being of FSWs, especially since they are often the victims of violence perpetrated by their clients (Romero-Daza, Weeks, & Singer, 2003; Surratt et al., 2004) as well as their spouses or steady partners (El-Bassel et al., 2001; Wechsberg et al., 2005).

The prevalence of psychological distress among FSWs has been well documented among samples from various countries around the world as well (Farley, Baral, Kiremire, & Sezgin, 1998; Farley & Barkan, 1998; Jayasree, 2004). For example, Jayasree found 40% of Indian FSWs attending a drop-in clinic suffered from psychological illness, especially depression and self-harm. The Farley et al. study found that 67% of their sample of male, female and transgender sex workers in South Africa, Thailand, Turkey, U.S.A, and Zambia met DSM-IV criteria for post-traumatic stress disorder. Given their findings, Farley et al. suggested that the harm of sex work is not culture-bound and that psychological distress among sex workers should be treated as a health crisis equally important as the HIV epidemic. Given the high prevalence of symptoms of psychological distress among FSWs and the cost of mental health problems to FSWs and society in general, understanding factors that are related to psychological distress in this population could be useful for interventions designed to reduce those costs.

The Socio-cultural Context of Psychological Distress

Understanding the socio-cultural context is crucial in determining the extent and manifestations of psychological distress. For example, studies with both Mexicans and Mexican-Americans have demonstrated a tendency to endorse somatic symptoms of depression more than affective symptoms (Golding, Aneshensel, & Hough, 1991; Kolody, Vega, Meinhardt, & Bensussen, 1986; Slone et al., 2006). This finding has also been observed in FSWs in Nepal (Eller & Mahat, 2003). Together these findings suggest that for non-U.S. populations, somatic and affective

symptoms of depression should be examined separately. Likewise, such nuances in defining and identifying depression make the study of mental health and its treatment extremely culturally specific.

To better understand the occurrence of psychological distress among FSWs, it is important to measure not only possible risk factors but also possible protective factors. The role of social support as a moderator of stress is well documented in other populations (Wills & Filer Fegan, 2001). For example, in one study of American, street-level sex workers, Dalla, Xia, and Kennedy (2003) examined various relationships among coping strategies for stressful events (e.g., locus of control and social support) and depression. They found that lack of social support (or inability to access supportive relations) was related to a lower sense of agency or competence in affecting one's environment (what they termed external locus of control). In turn, this external locus of control was associated with higher levels of depression for the women. So, although they did not directly measure the relation between social support and depression, they did provide evidence for how social support may indirectly affect coping with psychological distress.

In another study of Nepali former sex workers diagnosed with HIV, researchers found seeking social support was the most common form of coping style, and this resulted in lower rates of perceived stress (Eller & Mahat, 2003). Having a network of people available may help people find alternative ways of coping with stressors or simply provide them with the emotional support they need during difficult times. Identifying possible modifiable factors such as this may help in the development of behavioral intervention programs targeting FSWs. However, to date, stress theory has not been used as an organizing framework to examine psychological distress and coping behavior among FSWs.

Conceptual Framework and Hypotheses

Our conceptual framework for the study was the Stress Process Model (Pearlin & Schooler, 1978). The main components of this model include stressors, moderators, and outcomes. Stressors are typically any condition or event that disrupts an individual's ability to adapt. Moderators are capable of reducing the negative impact of stressors through "stress buffering." Outcomes are generally indicators of health or psychological functioning (Pearlin, Menaghan, Lieberman, & Mullan, 1981). Based on existing literature about FSWs from different countries, we hypothesized that histories of emotional, physical, or sexual abuse would be associated with more symptoms of depression and somatization. In addition, we predicted that social support would moderate the relationships between history of abuse and current psychological distress. Specifically, we hypothesized that having a strong social support network would result in fewer symptoms of current psychological distress for women with histories of emotional, physical, and sexual abuse in their lifetime.

Method

Population

The data used for this analysis were taken from baseline psychosocial assessments administered in an ongoing, randomized trial of a safer sex intervention for FSWs in Tijuana and Cd. Juarez. The study, which is described in more detail by Patterson, Semple, Fraga, Bucardo, De La Torre, Salazar-Reyna et al. (2006), is designed to increase FSWs' motivation to use condoms with clients. Further goals are to increase the participants' knowledge about condom use and STI/HIV risk and to teach skills in negotiating safer sex with clients. FSWs residing in Tijuana or Cd. Juarez were recruited through street outreach, community and municipal health clinics, and referrals from participating FSWs. Interviews were conducted between January 2004 and March 2005. In order to be eligible for this study, women had to provide informed consent; be

18 years or older; have traded sex for money, drugs, or other material benefits, in the previous two months; and have had unprotected sex with a client during the same time frame. Women who completed the 60-minute, interviewer-administered survey received 30 U.S. dollars for their time.

Measures

The development of the questionnaire used in this study is described in detail elsewhere (Patterson et al., 2005). Items from the depression and somatization subscales from the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) were used to measure current symptoms of psychological distress. The BSI is a self-report scale that was developed from a longer precursor, the System Checklist-90-R (SCL-90-R). The depression subscale consisted of six items and the somatization subscale of seven. Coefficient alpha for the depression subscale in this study was .85, while that for the somatization subscale was .82.

Lifetime emotional, physical, and sexual abuse, were measured using three items derived from the family and social relationships section of the fifth edition of the Addiction Severity Index (Mclellan, Kushner, Metzger, & Peters, 1992). Participants responded either “yes” or “no” to the following: “In your lifetime, has anyone ever abused you physically/Alguna vez en su vida, alguien abuso de usted fisicamente?”; “In your lifetime, has anyone ever abused you sexually/ Alguna vez en su vida, alguien abuso de usted sexualmente?”; and “In your lifetime, has anyone ever abused you emotionally/Alguna vez en su vida, alguien abuso de usted emocionalmente?”

Social support was assessed using seven items measuring availability of emotional support (Pearlin, Mullan, Semple, & Skaff, 1990) from various sources. Response choices were on a four-point scale ranging from 1 (strongly disagree/firmemente de desacuerdo) to 4 (strongly agree/firmemente de acuerdo). Sample items included, “You have a friend or relative in whom you can confide your opinions/Usted tiene un amigo o familiar en quien puede confiar en sus opioniones;” “You have at least one friend or relative with whom you can be with when you are sad or depressed/Usted tiene por lo menos un amigo o familiar con quien quiere estar cuando esta triste o desanimada.” Coefficient alpha for the social support scale in this study was .85.

Data Analysis

Given the combination of categorical and continuous variables, nonparametric correlations were evaluated to examine the relations among the variables of interest. To determine if demographic variables should be controlled for in the hierarchical regressions, the nonparametric correlations between these variables and the outcome variables were evaluated. For the regression analyses, each BSI subscale of interest (depression and somatization) was used as a criterion variable. For each of the two hierarchical regressions, demographic variables were entered as covariates in step 1. In step 2, social support was entered. In step 3, the three abuse items were entered as additional predictor variables. Finally, in step 4, the interactions between social support and each predictor variable were entered as a block. Tolerance and variance inflation factor (VIF) collinearity statistics were examined for the three abuse items. Both were within normal limits; therefore, they were included in the regression analyses.

Results

Descriptives

Data were collected from a total of 916 women; 462 from Tijuana and 450 from Cd. Juarez (the site information was missing for 4 women). Descriptive statistics for selected variables of interest are presented in Table 1. The mean age of participants was 33.4 years (*SD* = 9.41). The average length of time as a sex worker was 5.79 years (*SD* = 6.50). Ninety-three percent of the women reported having children, and the average number of children was 2.93 (*SD* = 1.91).

Twenty-three percent of the women reported being married or in a common-law union. Forty-nine percent reported being single, and 26% reported being either separated, divorced, or widowed (and not re-married). The majority of the women reported their main place of work as the street (54.8%), while approximately 26% reported their main place of work as in a bar or cantina-type setting.

Of the abuse items, 78% reported ever having experienced emotional abuse, 74% reported physical abuse, and 44% reported having been sexually abused in their lifetime (see Table 1). There was considerable overlap in the various forms of abuse. The majority of FSWs (39.2%) reported all three forms of abuse; 28.2% reported emotional and physical abuse, 3.1% reported emotional and sexual abuse, and 1.6% reported physical and sexual abuse. The percentage of participants reporting a single form of abuse were: emotional abuse only (7.5%), physical abuse only (5.2%), and sexual abuse only (0.3%). Approximately 13.6% of the sample reported no form of lifetime abuse and 1.3% were missing these data.

Preliminary analyses

Age was significantly and negatively related to current depression ($r = -.09$, $p < .01$). Individuals who were older had lower mean scores of depression symptoms. Likewise, number of dependents was significantly and negatively related to current depression symptoms ($r = -.088$, $p < .01$). That is, women with more financial dependents had fewer depressive symptoms. In regards to current somatic symptoms, women who had completed more years of education tended to have significantly lower rates of somatic symptoms ($r = -.086$, $p < .01$). In addition, length of time as a sex worker was significantly and positively correlated with somatic symptoms ($r = .111$, $p < .01$). Marital status was not significantly related to any of the outcome variables of interest. Based on these findings, age, education, number of dependents, and time as a FSW were used as control variables in subsequent hierarchical regression analyses.

Next, the nonparametric correlations between the stressors (e.g., history of abuse) and the outcomes of interest were examined. Women with histories of abuse in their lifetime were more likely to have more symptoms of depression and somatization.

Finally, the nonparametric correlations between social support and the outcome variables were examined. As predicted, social support was significantly and negatively related to current symptoms of distress. Women with higher levels of social support endorsed fewer depression and somatic symptoms.

Hierarchical regression analyses

To formally test these relationships, two hierarchical regressions were conducted with selected demographic items, social support, and the lifetime abuse items to predict each form of current psychological distress. Because age, education, number of dependents, and time as FSW were significantly associated with some symptoms of distress, these variables were treated as covariates in the regression analyses. Demographic covariates accounted for only a small amount of variance, and their relationship to depressive and somatic symptoms remained essentially the same as reported above.

Depression Symptoms

The dependent variable in our first regression model was mean number of current depressive symptoms. Independent variables were entered in the following steps: Step 1 = age, number of dependents (covariates); Step 2 = proposed moderator (social support); Step 3 = stressors (i.e., lifetime physical abuse, sexual abuse, emotional abuse); Step 4 = interaction terms (i.e., physical abuse x social support, sexual abuse x social support, emotional abuse x social support). At each step, we calculated change in R-square to determine the amount of variance

accounted for by that particular set of variables. Social support accounted for 5% of the variance. The abuse items accounted for 9% of the variance in depressive symptoms (see Table 3). All of the predictors were significantly related to current symptoms of depression (see Table 3). Women who had experienced abuse endorsed more symptoms of depression, and women with less social support endorsed more symptoms of depression. None of the interaction terms between social support and the abuse items was significant.

Examination of the beta weights for each of the abuse items showed that the association between history of sexual abuse and current symptoms of depression was almost two times stronger than it was for the other two abuse dimensions (see Table 3).

Somatic Symptoms

The dependent variable for the second regression model was mean number of current somatic symptoms. Independent variables were entered in the following steps: Step 1 = length of time as a sex worker, highest year of school completed (covariates); Step 2 = proposed moderator (social support); Step 3 = stressors (i.e., lifetime physical abuse, sexual abuse, emotional abuse); Step 4 = interaction terms (i.e., physical abuse x social support, sexual abuse x social support, emotional abuse x social support). As with the first model, we calculated change in R-square at each step to determine the amount of variance accounted for by that particular set of variables. Social support accounted for 2% of the variance in mean number of current somatic symptoms, and the abuse items accounted for 6% (see Table 4).

Histories of physical and sexual abuse were significantly related to somatic symptoms; however, emotional abuse was not (see Table 4). There was also a main effect for social support. Women who had experienced physical and sexual abuse and who had less social support reported more somatic symptoms. There was one significant interaction, specifically between social support and emotional abuse ($\beta = .190$, $p = .05$).

Follow-up analyses were conducted to explore the interaction between social support and emotional abuse. Simple regression lines were computed for the relationship between somatic symptoms and emotional abuse at specific values of social support ("low" = 1 SD below the mean; "medium" = at the mean; and "high" = 1 SD above the mean). No significant simple slopes were found between somatic symptoms and emotional abuse for participants at low, medium, or high levels of social support.

Discussion

An overwhelming majority of women in our study reported having experienced emotional and physical abuse in their lifetime (78% and 74%, respectively), and 44% reported having experienced sexual abuse in their lifetime. The rates of abuse in our study are within the ranges reported by other studies with FSWs, but differ slightly due to the manner in which we defined abuse (i.e., lifetime abuse regardless of perpetrator). For example, El-Bassel et al. (2001) reported lifetime physical (57.8%), sexual (42.2%), and both physical and sexual abuse (73.3%) by intimate partners, and then lifetime physical (45.3%), sexual (34.9%), and both physical and sexual abuse (50%) by commercial partners among FSWs. Surratt et al. (2005) reported FSWs' emotional (64.7%), physical (51.1%), and sexual abuse (53.1%) as *children* and then any type of violence regardless of perpetrator (71.2%) in the past 3 months. Therefore, the rates in our study likely reflect the cumulative occurrence of violence in both childhood and adulthood regardless of perpetrator (e.g., client, intimate partner, family member). The focus on lifetime occurrence of abuse provides further evidence of the widespread and enduring violence and victimization that FSWs experience, which has a bearing on the development of effective HIV prevention and intervention strategies.

As was hypothesized, we observed a significant relationship between history of abuse and current symptoms of psychological distress. Specifically, all forms of abuse predicted higher levels of depressive symptoms and physical and sexual abuse predicted higher levels of somatic symptoms. Furthermore, history of sexual abuse was the strongest predictor of both depressive and somatic symptoms of the three abuse items. This suggests that sexual violence may be significantly more traumatic for the victim and have more serious mental health consequences than other forms of abuse. These results are consistent with a study of multi-ethnic women by Roosa, Reinholtz, and Angelini (1999) which found that for Mexican-American women, history of childhood sexual abuse accounted for more variance in depression scores than background variables as social class, family size, marital status, extent of child physical abuse, and teen pregnancy.

Histories of physical and sexual abuse were also significantly related to current symptoms of somatization, and they predicted higher levels of somatic complaints. The separate examination of depressive and somatic symptoms is particularly important when working with Latino/a populations, because research has shown that Mexican-Americans, for example, preferentially endorse somatic over affective symptoms of depression compared to non-Latino/a whites (Golding et al., 1991). In our study, the addition of the somatic sub-scale provided an alternative indicator of psychological distress. Interestingly, emotional abuse was not associated with somatic symptoms in our study, which may suggest that emotional abuse was a weaker predictor relative to the other forms of abuse, or alternately that physical and sexual abuse, by virtue of the physical injuries they inflict, are more likely to result in somatic complaints than emotional abuse.

FSWs with higher rates of social support reported significantly fewer symptoms of both depression and somatization. We also observed a significant interaction between social support and emotional abuse. However, upon further investigation of the interaction, no significant differences were found between different levels of social support in their effect upon the relation between somatic symptoms and emotional abuse, suggesting that it did not have an important modifying effect which was contrary to our hypothesis. A possible reason why social support did not emerge as a moderator in this study was that it was framed more generally (i.e., as availability of emotional support from friends or family members) rather than specifically in reference to having been abused. Phase two of the intervention trial on which this study is based has added questions specifically asking women who have been abused whether they have ever disclosed this information to anyone, and if so, whether they received social support. This will enable future studies with this population to assess social support specifically as it relates to disclosures of abuse.

Social support may still have value for counseling and intervention strategies among FSWs. The use of support groups and an emphasis on the importance of family and social networks may be effective methods for helping FSWs cope and for treating their symptoms of mental distress. This notion is supported by a study with immigrant Mexican women by Vega, Kolody, Valle, and Wier (1991) that found that lack of *family* emotional support was one of the best predictors of depression. Specifically, this study found that the role the provider of social support plays within the social network (e.g., a trusted family member) may be even more important than the mere presence or absence of a social support network.

Another interesting and unexpected finding in this study was the significant negative relationship between number of financial dependents and symptoms of depression. This suggests that financial dependents (who might include children as well as other family members) have a significant beneficial impact on the mental health of the FSW providing financial support. One possible explanation for this is that having more dependents increases the FSW's network size, which in turn provides a sense of purpose, and helps her more

effectively to justify and cope with the stigma associated with her work. In fact, in pilot work done with this population, one of the most frequently mentioned motivations for HIV behavior risk change was FSWs' desire to protect their health so that they might continue to support their children (Patterson et al., 2005). In the present sample, 81% reported entering sex work to support their children. Therefore, *familismo*, the strong identification, loyalty, and attachment to family for material and emotional support (Flores, 2000), is likely an extremely important factor to address when working with this population of FSWs. HIV prevention and intervention programs with Mexican FSWs should be designed to acknowledge *familismo* and perhaps use it as a motivational tool for improving HIV protective behavior.

Limitations

One of the limitations of this study is that we were unable to compare our rates of depression and somatization symptoms to those in other studies of FSWs or Latinas. Other studies with FSWs and Spanish-speaking Latinas have generally used the Beck Depression Inventory (Beck, Steer, & Brown, 1996) or the Center for Epidemiological Studies Depression Scale (Radloff, 1977), which have cut-off scores for clinically significant levels of depression. Although the Spanish version of the BSI, which was used in this study, has been shown to be a reliable, valid, and rapid measure for the assessment of *symptoms* of depression and somatization for low-income Latina women in the U.S. (Ruiperez, Ibanez, Lorente, Moro, & Ortet, 2001), further research is needed to determine clinical cutoff scores for Spanish-speaking, non-psychiatric samples. We did not feel it was appropriate to utilize the norms of the BSI established on female, American, psychiatric outpatients to establish cut-off points of clinical depression in our sample. Therefore, we utilized the mean number of symptoms reported instead of a standardized score, as has been done by other studies utilizing the BSI with monolingual Spanish-speaking populations in the U.S. (Acosta, Nguyen, & Yamamoto, 1994). Even though the BSI depression and somatic subscales do not formally constitute a diagnosis of depression, they do indicate symptoms of a psychological distress state which may be uncomfortable and reduce quality of life (Derogatis & Fitzpatrick, 2004).

An additional limitation of this study, as well as abuse research in general, is the limited, fixed nature of abuse measures. Most measures do not assess multiple experiences of abuse, chronic abuse, or multiple abusers, and therefore may not reflect the true experience of emotional, physical, sexual abuse for some women. Previous research has indicated that frequency and chronicity of the abuse can be important moderating factors in the relation of sexual abuse to maladjustment (Browne & Finkelhor, 1986; Kendall-Tackett, Williams, & Finkelhor, 2001). The present study utilized a measure of lifetime experience of emotional, physical, and sexual abuse. While this information is important, it may distort the true relation of history of abuse to poor adjustment.

As with most sexual abuse research, another limitation of this study is that it is cross-sectional and, as such, cannot be used to infer causality. Longitudinal studies that assess onset of abuse and onset of symptoms will be more informative. The present study is also retrospective, which can lead to potential recall bias. Lastly, the results of this study may not be generalizable to other ethnic groups of FSWs, or even other Latina FSW groups. The samples in this study were convenience samples from two U.S.-Mexico border cities and may not be representative of FSWs in other cities or FSWs in each of these cities as a whole.

Future Directions

Findings from this study underscore that histories of abuse and violence, especially sexual abuse, are a serious problem among FSWs in these Mexican-US border settings. Moreover, history of abuse may lead to higher levels of psychological distress. Unfortunately, empirically-tested interventions designed to address psychological distress and violence among FSWs are

lacking. Furthermore, additional research needs to address how these factors may influence violence revictimization, drug use, and HIV risk among FSWs. Since psychological distress and violence may be barriers to safer sex practices (Burgos et al., 2003) and may exacerbate substance use (Alegria et al., 1994), adherence to drug treatment (Gilbert et al., 2006), and the ability to leave sex work (Hwang & Bedford, 2004), further study of these relationships in prospective studies is warranted.

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Table 1

Descriptive Statistics for Selected Variables

VARIABLE	Percent	Min	Max	N	Mean	Standard Deviation
Age		18	64	906	33.44	9.14
Highest year of school completed		0	20	898	6.13	3.14
Number of children		0	12	904	2.93	1.91
Number of dependents supported		0	11	907	2.52	1.84
Years in sex work		0	49	906	5.79	6.50
Marital Status						
Married	2.4			22		
Common-law union	21.0			192		
Separated	16.3			149		
Divorced	5.7			52		
Widowed	4.3			39		
Single	49.1			450		
Place of work						
Street worker	54.8			502		
Bar/Cantina-type setting	36.7			336		
Brothel (casa de citas)	2.6			24		
Call girl/escort	1.9			17		
Other	3.2			29		
Lifetime emotional abuse	78.1 (yes)			715		
Lifetime physical abuse	74.2 (yes)			680		
Lifetime sexual abuse	44.2 (yes)			405		
Social support				906	2.83	.58
Depression mean score				908	1.47	1.03
Somatization mean score				908	.75	.79

Table 2

Spearman's Rho Nonparametric Correlations for the Selected Variables

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Age	1.00										
2.	Marital Status	.005	1.00									
3.	Education	−.267**	.093**	1.00								
4.	Number of dependents [a]	−.008	.033	−.058	1.00							
5.	Time as FSW (weeks)	.442**	−.064	−.178**	−.006	1.00						
6.	Any emotional abuse	−.017	−.025	.046	.043	.117**	1.00					
7.	Any physical abuse	−.002	.000	−.013	.055	.062	.504**	1.00				
8.	Any sexual abuse	.054	−.019	−.078*	.032	.126**	.367**	.358**	1.00			
9.	Social support [a]	−.008	−.006	.072*	.045	−.054	−.076*	−.075*	−.110**	1.00		
10.	Depressive symptoms	−.089**	.045	−.060	−.088**	.038	.220**	.229**	.292**	−.191**	1.00	
11.	Somatic symptoms	.005	.004	−.086**	−.003	.111**	.192**	.242**	.293**	−.125*	.550**	1.00

Note. This analysis utilized pairwise deletion.

*Correlation is significant at the .05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

[a]Centered variables

Table 3

Summary of Hierarchical Regression Analysis of Abuse Items and Emotional Support as Predictors of Symptoms of Depression (n = 900)

	β	t	R^2	Adjusted R^2	ΔR^2	ΔF	*df*
Step 1 (covariates)			.011	.009	.011	5.14**	2, 898
Age	−.077	−2.32*					
# of dependents	−.074	−2.23*					
Step 2 (main effect)			.061	.058	.050	47.86***	1,897
Emotional Support	−.224	−6.92***					
Step 3 (main effects)			.154	.148	.092	32.52***	3, 894
Emotional abuse	.077	2.11*					
Physical abuse	.102	2.79**					
Sexual abuse	.207	6.08***					
Step 4 (interactions)			.156	.148	.003	.891	3, 891
Emotional support × Emotional abuse	.035	.392					
Emotional support × Physical abuse	−.044	−.512					
Emotional support × Sexual abuse	−.065	−1.29					

* p <.05;

** p <.01;

*** p <. 001

Table 4

Summary of Hierarchical Regression Analysis of Abuse Items and Emotional Support as Predictors of Symptoms of Somatization (n = 900)

	β	t	R^2	Adjusted R^2	ΔR^2	ΔF	*df*
Step 1 (covariates)			.018	.016	.018	8.11^{***}	2, 885
Highest year of school	−.048	−1.42					
Length of time in sex work	.117	3.47^{***}					
Step 2 (main effect)			.036	.033	.018	16.31^{***}	1, 884
Emotional Support	−.224	-6.92^{***}					
Step 3 (main effects)			.099	.093	.063	20.53^{***}	3, 881
Emotional abuse	.014	.363					
Physical abuse	.103	2.71^{**}					
Sexual abuse	.190	5.36^{***}					
Step 4 (interactions)			.105	.096	.007	2.19	3, 878
Emotional support × Emotional abuse	.190	2.03^{*}					
Emotional support × Physical abuse	.030	.344					
Emotional support × Sexual abuse	−.072	−1.40					

* p <.05;

** p <.01;

*** p <.001