2017

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Recommended Citation

Krumrei-Mancuso, E. J. (2017). Sex work and mental health: A study of women in the Netherlands. Archives of Sexual Behavior 46, 1843-1856. https://doi.org/10.1007/s10508-016-0785-4

This paper was published as: Krumrei-Mancuso, E. J. (2017). Sex work and mental health: A study of women in the Netherlands. *Archives of Sexual Behavior 46*, 1843-1856. https://doi.org/10.1007/s10508-016-0785-4

Sex Work and Mental Health: A Study of Women in the Netherlands

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ABSTRACT

This study examined how characteristics of prostitution and quality of life factors related to symptoms of depression and post-traumatic stress among 88 women engaged in prostitution in the Netherlands. Numerous factors were associated with elevated mental health concerns, including the experience of violence in prostitution, engaging in street prostitution, being motivated to engage in prostitution for financial reasons, having less confidence in one's ability to find alternative work, desiring to leave prostitution, and sense of self-transcendence. In contrast, focusing on achievement, having a sense of fair treatment from others and society, and self-acceptance were associated with better mental health outcomes. Finally, mediation analyses indicated that post-traumatic stress associated with engaging in prostitution against one's deeper desire to exit prostitution was, in part, the result of a lack of self-acceptance. The analyses controlled for relevant demographic factors, including age and level of education. The effect sizes for each of the findings ranged from medium to large. Implications for mental health care and public policy are included.

KEY WORDS: prostitution; depression; post-traumatic stress; mental health; quality of life.

INTRODUCTION

Across the world, the purchase and sale of sex have varying legal statuses, including being illegal, decriminalized, zoned, and legal. Debates about the legal status of prostitution often focus on concerns about human rights, women's rights, violence, oppression, human trafficking, safety, and public health. Within the social sciences, some have taken the stance that prostitution is intrinsically traumatizing, resulting in mental health concerns for those being prostituted (e.g., Barry, 1995; Farley, Baral, Kiremire, & Sezgin, 1998). Others have argued against the notion that sex work is inherently violent, degrading, or exploitative (e.g., Comte, 2014) and view prostitution as an occupational choice in which prostitutes are in a position of power as they negotiate services for a fee (Simmons, 1998). Recent attention has been paid to the rise of personal websites created by prostitutes to market themselves, which has made the commercial sale of sex more like other service industries for the first time in history (Prostitution: A personal choice, 2014). With websites and apps making prostitution more accessible to a larger proportion of women and minimizing their physical safety concerns (Prostitution and the internet: More bang for your buck, 2014), it is now more relevant than ever to examine the psychological outcomes of engaging in prostitution.

The current study examined this topic among women selling sex in the Netherlands, a country that recognizes voluntary adult prostitution as a normal occupation (Dutch Ministry of Foreign Affairs, 2012), where it is legal for individuals to engage in prostitution as independent entrepreneurs. In this model, individuals must be granted a business license to engage in prostitution, pay taxes on their income, and work in clean conditions. Much of the published research on prostitution involves data from women who are homeless, recruited through substance abuse treatment programs, or trafficked. A goal of the current study was to examine

how characteristics of prostitution relate to mental health in a setting that tends to present a lower frequency of mental health confounds related to violence, human trafficking, and substance abuse compared to the settings in which most previous research on prostitution has been conducted.

Depression and Post-Traumatic Stress Among Women in Prostitution

A systematic review of quantitative, empirical research indicated that depression and post-traumatic stress disorder (PTSD) are among the most commonly assessed mental health variables in research on women in prostitution (Krumrei & Fitzgerald, 2013). At least 18 published quantitative studies had assessed levels of depression and at least 12 published quantitative studies had assessed levels of PTSD among women in prostitution. Across these studies, the proportion of women with elevated levels of depression ranged from 10 to 100%, and the proportion of women with elevated levels of PTSD ranged from 13 to 89% (Krumrei & Fitzgerald, 2013).

Although the literature is correlational in nature, some trends have emerged. United States studies employing comparison samples have found that women who engage in prostitution display higher levels of depression and PTSD than their counterparts who do not engage in prostitution. For example, several studies of predominantly drug-using women have noted that psychological distress, including depression, was higher among those who engaged in prostitution than those who did not (El-Bassel et al., 1997; Risser, Timpson, McCurdy, Ross, & Williams, 2006). A study that did not find different levels of depression on the basis of whether women in treatment for substance use had ever engaged in prostitution, did find differences in the number of previous suicide attempts and levels of anxiety, both of which were higher for those who had engaged in prostitution than those who had not (Burnette et al., 2008).

International research has produced similar results. A study of Korean women found that those who had previously worked in brothels and escort agencies displayed higher levels of post-traumatic stress than those who had not worked in prostitution (Choi, Klein, Shin, & Lee, 2009). Choi et al. attributed this to higher reported rates of captivity, coercive control, physical and sexual assault, and emotional abuse. Indeed, themes in the literature that may help account for the large range that exists within the reported prevalence rates of depression and PTSD among women in prostitution include degree of freedom and the experience of violence.

As one might expect, rates of depression and PTSD are particularly high among women forced into prostitution. In one study, victims of sex trafficking displayed higher levels of depression in comparison to community samples that had not been trafficked (33% versus 6%; Chudakov, Ilan, Belmaker, & Cwikel, 2002). It seems the sexual nature of forced labor is relevant, as another study found that victims of human trafficking forced into sex work displayed higher levels of depression (100% versus 81%) and higher levels of PTSD (29.6% versus 7.5%) than victims trafficked into non-sex work (Tsutsumi, Izutsu, Poudyal, Kato, & Marui, 2008). Beyond human trafficking, high rates of depression (86%) were also reported among women who felt forced into prostitution by social and economic disadvantages (Suresh, Furr, & Srikrishnan, 2009).

Violence is another relevant theme in the literature. Some women have noted that it is the violence they have experienced rather than the sex work itself that they find depressing and stressful (Suresh et al., 2009). Although at least one study has not found evidence that physical assault during prostitution is associated with prevalence of PTSD (Roxburgh, Degenhardt, & Copeland, 2006), the majority of studies have linked violence experienced during prostitution to mental health concerns, including PTSD and depression (e.g., Farley & Barkan, 1998; Farley et

al., 2003; Vanwesenbeeck, de Graaf, van Zessen, Straver, & Visser, 1993). For example, levels of PTSD and depression were significantly higher for women who experienced severe violence during prostitution in Chennai, India, than for their counterparts who experienced less violence during prostitution (Suresh et al., 2009). These women experienced violence not only from clients, but also from police and outsiders. A study of women prostituting in Zurich, Switzerland found that mental health diagnoses, including depression and PTSD, were highest in settings where violence was more prevalent (Rössler et al., 2010). In comparison, depression was relatively low (9.5%) and PTSD was not at all present among women who experience little burden from prostitution. These findings also hold with regard to sexual violence. The experience of rape during prostitution (Farley & Barkan, 1998) and the experience of adult sexual assault (Roxburgh et al., 2006) have been associated with a greater prevalence and severity of PTSD symptoms, respectively.

Other factors that have been shown to predict the prevalence and severity of depression and PTSD among women in prostitution include the country in which the prostitution takes place (Farley et al., 1998), amount of social support (Ulibarri et al., 2009), perceived stigma (Hong et al., 2010), and coping styles (Eller & Mahat, 2003; Vanwesenbeeck et al., 1993).

Thus, the literature suggests that the mental health implications of prostitution may differ in accordance with factors such as women's degree of freedom, exposure to violence, and economic and social conditions, all of which are influenced by the sociocultural and legal contexts in which the prostitution takes place. Unfortunately, many previous studies have not controlled for variables such as level of education and employability, even though research has shown that these factors differ between individuals who enter sex work and those who enter other low-income service occupations (McCarthy, Benoit, & Jansson, 2014). In addition,

research needs to move beyond reporting the prevalence and severity of mental health concerns among women in prostitution to examining more in-depth relationships about how particular characteristics of prostitution and life relate to mental health.

The Current Study

The current study contributes to the relatively small quantitative base of knowledge about female prostitution. Thus far, the majority of research on female prostitution has included samples with high prevalence of substance abuse, violence, and human trafficking. The goal of the current study was to examine the mental health correlates of prostitution among a sample of women in the Netherlands, a country that has taken an official stance that prostitution is a viable work option (Dutch Ministry of Foreign Affairs, 2012). Specifically, the current study sought to provide information about how levels of depression and post-traumatic stress relate to various characteristics of prostitution (i.e., length of time in prostitution, setting of prostitution, reason for engaging in prostitution, and desire to exit prostitution) and quality of life factors (levels of achievement, self-acceptance, intimate relationships, acceptance in interpersonal relationships, sense of fair treatment in society, sense of contribution to society, and religion).

Based on previous research, I hypothesized that external motivations for engaging in prostitution, experience with violence during prostitution, and desire to exit prostitution would each be associated with higher levels of depression and post-traumatic stress. In addition, I hypothesized that various quality of life factors would be associated with lower levels of depression and post-traumatic stress, such as positive friendships and intimate relationships, sense of achievement, self-acceptance, religion, sense of contributing to society, and sense of fair treatment in society. Because previous research has arrived at mixed conclusions regarding whether differences in mental health outcomes relate to work settings (Farley et al., 2003;

Rössler et al., 2010), this study also examined how the location of prostitution related to levels of depression and post-traumatic stress.

Finally, the current study tested a conceptual model of pathways between characteristics of prostitution and mental health outcomes. I hypothesized that positive quality of life factors would buffer levels of depression and post-traumatic stress associated with characteristics of prostitution such as violence and the desire to exit prostitution.

METHOD

Participants

The sample consisted of 88 female participants aged 20 through 70 years (M = 33.45, SD = 10.27) who engaged in prostitution. Some participants declined to answer some or all of the demographic questions, which contributes to the differences in total percentages reported in this section. The length of time in prostitution ranged for these participants from less than one year to 46 years, with an average of 6.83 years (SD = 7.15). A majority of participants reported that they were originally from the Netherlands (60.2%), with 6.8% from another Western European country, 4.5% from Asia, and 3.3% from other parts of the world. The women were asked to indicate all locations in which they engaged in prostitution. Over a quarter of the sample (26.1%) reported working in multiple locations. Total percentages were as follows: 29.5% worked in a sex-club or brothel, 28.4% from home, 23.8% as escorts, 14.8% from a window, 6.8% outdoors, and 2% in massage salons. The women reported an average number of 2.57 (SD = 1.52) clients per shift and 9.79 (SD = 10.13) clients per week. Slightly over half of the sample (55.4%) reported that prostitution was their primary source of income. The amount of money earned through prostitution per week ranged from 50 to 1500 Euro, with an average of 592.27 Euro (SD = 393.19) per week. Regarding highest level of education achieved, 8% reported elementary

school, 22.8% reported high school, 25% reported vocational school, and 15.9% reported college. Regarding family life, 30.7% were single without children, 20.5% were single with children, 13.6% were married or living together without children, and 9.1% were married or living together with children. When asked about their religious affiliation, 36.4% of participants reported having none, 17% reported being Catholic, 5.7% Protestant, 6.7% Buddhist, 3.4% Muslim, 2.2% Hindu, and 3.3% indicated other religious preferences, including paganism and humanism.

Procedure

This study was approved by the Institutional Review Board of the affiliated university and the study procedures complied with the ethical standards of the American Psychological Association. All participants provided informed consent prior to participating. They were informed that participation was voluntary and that they were permitted to discontinue at any time. Once gathered, the survey data was stored separately from any personally identifying information.

The goal was to include a broad sample of women in prostitution in the Netherlands, covering a full range of forms of prostitution. Our data collection team employed three means of recruiting participants: (1) we made one attempt in person at each window of 9 red light districts in 6 cities, (2) we mailed flyers to 106 sex clubs/brothels in 60 cities with the request to post them for workers (it is unknown how many of these flyers were posted), and (3) we sent individual messages to women on prostitution websites. We offered a participation incentive of a 20 Euro gift card to the participant's choice of vendors (stores, restaurants, etc.). Nearly all participants completed the survey online (95.5%) and the remainder completed a hard copy that was returned in a pre-stamped response envelope. Nearly all participants completed the survey in

Dutch (96.6%), with the remainder completing it in English. Thirty-two participants left one or more survey items blank. Participants were excluded from analyses involving demographic items or scale scores for which they had missing data, but were retained for the remaining analyses. All analyses were conducted in SPSS 22. Mediation analyses were conducted with Process Macro 2.13 for SPSS.

Measures

All measures had been previously validated in both English and Dutch. The following sections provide the internal consistency scores for each scale within the current sample.

Demographic variables and characteristics of prostitution

Demographic data were gathered regarding age, highest level of education achieved, relationship status, religious affiliation, and country of origin. A multiple-choice item was used to assess the locations in which each woman engaged in prostitution (window, sex-club/brothel, escort service, home, outdoors, or other). Open-ended single items were included to assess the women's duration of involvement in prostitution, number of clients per shift and per week, primary motivations for entering and continuing in prostitution, expected time remaining in prostitution, barriers to leaving prostitution, and alternative job prospects. Seven-point Likert-scale items were used to assess how much participants would like to leave prostitution, with 1 representing "I do not want to leave at all" and 7 representing "I completely want to leave" and how confident participants were in finding alternative work if they were to leave prostitution, with 1 representing "Not at all confident" and 7 representing "Very confident." Dichotomous items with a *yes* and *no* response were used to assess whether prostitution was a participant's primary source of income and whether the participant had ever experienced either physical or sexual violence while prostituting.

Quality of life factors

The Brief Personal Meaning Profile (PMP-B; Jaarsma, Pool, Ranchor, & Sanderman, 2007; McDonald, Wong & Gingras, 2012) was used to assess seven aspects of life that tend to be sources of meaning and thereby provide quality of life: achievement (focusing on initiative and goal attainment; 3 items, α = .85), relationship (having friends and being liked and trusted by others; 3 items, α = .75), religion (seeking to please God; 2 items, α = .82), self-transcendence (focusing on contributing to society and making the world a better place; 3 items, α = .74), self-acceptance (accepting personal limitations and suffering; 3 items, α = .55), intimacy (having an intimate, mutually satisfying relationship; 3 items, α = .85), and fair treatment (sense of fair treatment from life and others; 3 items, α = .74). The scale includes 3 items per domain for a total of 21 items; however, one item was deleted from the religion scale due to a lack of cultural applicability. The subscales have previously demonstrated high internal consistency (α of .80 and higher) in the Dutch and English versions (Jaarsma et al., 2007; McDonald et al., 2012). Items were rated on a 7-point Likert scale from 1 = "not at all" to 7 = "a great deal" and summed such that high scores indicated greater levels of each subscale construct.

Depression

The 10-item Center for Epidemiologic Studies Depression Scale (CES-D10) was used to assess depressive symptoms experienced in the past week (Beekman, van Limbeek, Deeg, Wouters, & van Tilburg, 1994; Radloff, 1977). The scale has demonstrated high internal consistency in previous research, ranging from .80 to .90 in the Dutch and English versions, as well as within the current sample (α = .90). Sample items include "I felt depressed" and "I felt hopeful about the future" (reverse scored). Items were rated on a 4-point Likert scale from 0 = "rarely or none of the time/less than 1 day" to 3 = "most or all of the time/5-7 days" and summed

such that higher scores indicated higher levels of depressive symptoms. The possible score range is 0 to 30, with a score of ten or higher indicating significant depressive symptoms (Andresen, Malmgren, Carter, & Patrick, 1994)

Post-traumatic stress

Seventeen items were administered from the 22-item Impact of Event Scale–Revised (IES-R; van der Ploeg, Mooren, Kleber, van der Velden, & Brom, 2004; Weiss & Marmar, 1997) to assess post-traumatic stress experienced in the past week specifically about engaging in prostitution ($\alpha = .97$). The scale assessed three domains: intrusion (e.g., nightmares and intrusive thoughts or imagery; 7 items, $\alpha = .91$), avoidance (e.g., numbing of responsiveness and avoidance of feelings or situations; 8 items, $\alpha = .93$), and hyperarousal (e.g., hypervigilance, irritability, and difficulty concentrating; 2 items, $\alpha = .83$). The full scale and subscales have demonstrated appropriate levels of internal consistency in previous research in both Dutch and English, ranging from .77 to .96 (van der Ploeg et al., 2004; Weiss & Marmar, 1997). Items were rated on a 5-point Likert scale from 0 = "not at all" to 4 = "extremely." Mean scores were calculated, with higher scores indicating a greater frequency and severity of post-traumatic stress related to prostitution. Given that a number of factors influence the scores obtained, the author of the scale has argued against setting universal cutoff points for scoring (Weiss, 2004).

RESULTS

Demographics

Bivariate correlation analyses were conducted to examine whether the assessed demographic variables were associated with any of the other study variables. The results indicated that more education was associated with a greater focus on achievement ($r[63] = .39$, $p < .01$), more meaningful relationships ($r[63] = .26$, $p < .05$), greater self-transcendence ($r[63]$

= .42, $p < .01$), a greater perception of fair treatment ($r[63] = .31$, $p < .05$), and less depressive symptoms ($r[63] = -.33$, $p < .01$). In addition, higher age was associated with less confidence in finding alternative work ($r[59] = -.36$, $p < .01$). Therefore, level of education and age were controlled in subsequent analyses of these respective variables. Other demographic variables were not significantly related to any prostitution variables, quality of life variables, or mental health characteristics.

Work Settings

A multivariate analysis of covariance (MANCOVA) was conducted to examine whether the locations in which the women engaged in prostitution related to levels of depression or post-traumatic stress, while controlling participants' levels of education. The analyses compared six groups of participants on the basis of where they worked: (1) exclusively windows, (2) exclusively sex clubs/brothels, (3) exclusively home, (4) exclusively escort, (5) multiple locations including outdoors, and (6) multiple locations excluding outdoors (no participants reported working exclusively outdoors). Significant group differences emerged in levels of post-traumatic stress, $F(5, 59) = 3.13$, $p < .05$, $\eta^2 = .22$, including levels of intrusion, $F(5, 66) = 3.45$, $p < .01$, $\eta^2 = .24$, avoidance, $F(5, 66) = 2.43$, $p < .05$, $\eta^2 = .18$, and hyperarousal, $F(5, 66) = 3.07$, $p < .05$, $\eta^2 = .22$. There were no significant differences in levels of depressive symptoms across the work setting groups, $F(5, 60) = 1.33$, $p = .27$.

Table 1 shows the post hoc multiple comparisons with Bonferroni correction, which revealed that those who worked in a combination of settings including outdoors experienced higher levels of post-traumatic stress, including higher levels of intrusion, avoidance, and hyperarousal, than those who worked in brothels, from home, or in a combination of settings that did not include working outdoors ($p < .05$).

Motivations for Engaging in Prostitution

A few common themes emerged in the open-ended responses regarding reasons for prostituting. Nearly half of the participants (48.9%) reported prostituting for financial reasons. This included responses such as making money, financial need, no other jobs available, desiring more luxury in life, and desiring to have easier work or fewer work hours. Not all of those who reported financial reasons indicated whether the motivation was based on financial need versus desire for more luxury. Of those who made an explicit statement on this topic, the responses were fairly evenly split between prostituting out of financial need (15.9% of sample) and using prostitution to achieve a nicer lifestyle (14.8% of sample). The second most commonly reported reason for engaging in prostitution was fun and/or excitement (22.8% of sample).

A MANCOVA was conducted to examine whether there were group differences in depression and post-traumatic stress on the basis of the most commonly reported reasons for engaging in prostitution. The analysis compared those who reported prostituting for money, those who reported prostituting for fun/excitement, and those who reported prostituting for both money and fun/excitement, while controlling levels of education. Group differences were observed in the experience of depression, $F(2, 54) = 3.58$, $p < .05$, $\eta^2 = .13$, and post-traumatic stress, specifically for levels of avoidance, $F(2, 54) = 3.50$, $p < .05$, $\eta^2 = .12$. Table 2 shows post hoc multiple comparisons with Bonferroni correction, which were consistent with the study's hypotheses, in that those who engaged in prostitution for financial reasons (an external motivation) scored higher in depressive and avoidance symptoms than those who engaged in prostitution for fun or excitement. Those who engaged in prostitution for both financial reasons and fun or excitement did not score significantly differently than the other two groups. Notably, those who engaged in prostitution for financial reasons, on average, exhibited significant levels

of depression, with 53.49% of this group scoring at or above the cut-off score of 10. The other two groups, on average, scored below this cut-off point for depressive symptoms, with 7.69% of those who engaged in prostitution for fun or excitement and 14.29% of those who engaged in prostitution for financial reasons and fun or excitement exhibiting significant levels of depression.

Intentions to Remain in Prostitution

The women provided various responses to the open-ended question of how long they planned to continue in prostitution, e.g.: "As long as I enjoy it," "Depends on a number of factors," "I hope for a long time," "forever," "A number of years," "As long as possible," "Until retirement," "Until I finish college," and "not long." Of those who provided a specific length of time, the number of years ranged from 1 to 10 with an average of 4.67 (SD = 3.47).

Regression analyses were used to examine whether the length of time the women planned to remain in prostitution was predictive of depression and post-traumatic stress. Table 3, Panel A displays a hierarchical linear regression predicting levels of depression while controlling levels of education. The results indicated that the longer participants intended to remain in prostitution, the lower their levels of depressive symptoms were. Intentions of how long to remain in prostitution accounted for 25.6% of the variance in depressive symptoms after controlling levels of education. Intentions about how long to remain in prostitution were not predictive of levels of post-traumatic stress (β = -.21, p = .32).

Desire to Remain in Prostitution

When the participants were asked to rate how much they would like to leave prostitution, the average response was 3.18 (SD = 1.87) on a 7-point scale, close to the mid-point anchor of 4

representing “I see advantages and disadvantages to leaving” with a slight tendency toward not wanting to leave prostitution.

Regression analyses were conducted to examine whether a desire to leave prostitution was predictive of levels of depression and post-traumatic stress. Consistent with this study’s hypotheses, Table 3, Panel B shows that a greater desire to leave prostitution was associated with higher levels of depressive symptoms, even after controlling participants’ levels of education (β = .34, $p < .01$). Desire to leave prostitution accounted for 11.4% of the variance in depressive symptoms beyond level of education. Table 3, Panel C shows that a greater desire to leave prostitution was also associated with higher levels of post-traumatic stress (β = .51, $p < .001$). Desire to leave prostitution accounted for 26.0% of the variance in post-traumatic stress.

Barriers to Leaving Prostitution

For participants who indicated some desire to leave prostitution, a follow-up question was used to assess what primary barrier kept them from leaving. By far, the most commonly named barriers were financial, including not having a source of income to pay bills, not having as much money to spend, and difficulty finding other work. Several commented on being in debt, pressure from debt collectors, the state of the economy, and the cost of healthcare. Besides financial reasons, a smaller number of participants commented on not wanting to leave the excitement or fun of prostitution, finding their personal worth in prostitution, or not wanting to give up the freedom of setting their own work hours.

The average rating of confidence in ability to find alternative work was 4.26 (*SD* = 2.23) on a 7-point scale, which was near the mid-point anchor of 4 representing “Somewhat confident.” Regression analyses were used to examine whether confidence in finding an alternative job was predictive of depression and post-traumatic stress, after controlling relevant

demographic factors. Table 3, Panel D displays a regression analysis indicating that greater confidence in finding an alternative job was associated with less depressive symptoms (β = -.30, $p < .05$) after controlling participants ages and levels of education. Confidence in finding an alternative job accounted for 7.4% of the variance in depressive symptoms beyond age and level of education. Greater confidence in finding an alternative job was also associated with less post-traumatic stress (β = -.34, $p < .05$) after controlling age. Confidence in finding an alternative job accounted for 10.2% of the variance in post-traumatic stress beyond age.

Violence Experienced in Prostitution

Half of the sample reported that they had never experienced violence during prostitution. Almost a quarter of participants (23.9%) reported that they had experienced violence while prostituting and 26.1% of the sample declined to answer this question. A MANCOVA was used to examine whether those who had and those who had not experienced violence in prostitution differed in levels of depression or post-traumatic stress, including levels of intrusion, avoidance, and hyperarousal, while controlling levels of education. Consistent with hypotheses, those who had experienced violence in prostitution reported significantly higher levels of symptoms of intrusion (M = 1.29, SD = .99) than those who had not (M = .75, SD = .85), $F(1, 54) = 4.14$, $p < .05$, $\eta^2 = .08$. However, no significant group differences were observed in overall levels of post-traumatic stress, $F(1, 54) = 2.97$, $p = .09$, avoidance, $F(1, 54) = 1.86$, $p = .18$, hyperarousal, $F(1, 54) = 2.00$, $p = .16$, or depressive symptoms, $F(1, 54) = .63$, $p = .44$.

Quality of Life Factors

Table 4 displays two hierarchical regressions conducted to examine whether particular quality of life factors were predictive of levels of depression and post-traumatic stress after controlling relevant demographic factors. Consistent with this study's hypotheses, both models

were significant, with quality of life factors accounting for 32.8% of the variance in depressive symptoms and 29.3% of the variance in post-traumatic stress. Focus on achievement and sense of fair treatment in life predicted less depressive symptoms ($\beta = -.56$, $p < .05$ and $\beta = -.45$, $p < .01$, respectively), self-transcendence predicted more depressive symptoms ($\beta = .37$, $p < .05$), and self-acceptance predicted less post-traumatic stress ($\beta = -.47$, $p < .05$).

Quality of Life Factors as Buffers of Characteristics of Prostitution on Mental Health

The final goal of this study was to test hypothesized and alternative models of pathways between characteristics of prostitution and mental health outcomes. Given that greater desire to leave prostitution was associated with higher levels of depressive symptoms and post-traumatic stress and that specific quality of life factors were associated with less depressive symptoms and post-traumatic stress, I hypothesized that quality of life factors would function as buffers of mental health symptoms related to the desire to leave prostitution. Mediation models were examined with 1,000 bootstrap samples and significance testing with 95% confidence intervals that corrected for biases in the sampling distribution (Hayes, 2013).

Figure 1A displays a multiple mediator model with achievement focus and sense of fair treatment entered simultaneously as mediators of the relationship between the desire to leave prostitution and levels of depressive symptoms, controlling level of education. The simultaneous entry of mediators examines each mediator's contribution while controlling the effect of the other mediator. The results did not support the hypotheses, in that achievement and fair treatment did not mediate the relationship between desire to leave prostitution and depressive symptoms after controlling the effects of education (see Table 5, Panel A).

Figure 1B displays a mediation model with self-acceptance as a mediator of the relationship between desire to leave prostitution and levels of post-traumatic stress. Consistent

with the hypotheses of this study, the results indicated that self-acceptance functioned as a partial mediator between desire to leave prostitution and levels of post-traumatic stress (see Table 5, Panel B). However, rather than self-acceptance buffering levels of post-traumatic stress, the mediated effect was associated with greater post-traumatic stress (B = .75). Thus, as desire to leave prostitution increased, levels of self-acceptance among women in prostitution decreased, resulting in higher levels of post-traumatic stress. The size of the mediated effect was medium (K^2 = .09; Preacher & Kelley, 2011).

Given that the causal order among desire to exit prostitution, quality of life factors, and mental health variables were unknown in the current data, alternative models could be equally plausible. Therefore, I conducted post hoc analyses to assess an alternative theoretical model in which the desire to exit prostitution was considered as a mediator of links between quality of life variables and mental health variables.

Figure 2A and B display mediation models in which the desire to leave prostitution was entered as a mediator between quality of life factors (focus on achievement and sense of fair treatment, respectively) and depressive symptoms, while controlling levels of education. The results indicated that desire to leave prostitution did not mediate links between achievement or fair treatment and depressive symptoms (see Table 6, Panel A and B).

Figure 2C displays a mediation model in which the desire to leave prostitution was entered as a mediator of the relationship between self-acceptance and levels of post-traumatic stress. The results indicated that desire to leave prostitution functioned as a partial mediator between self-acceptance and levels of post-traumatic stress (see Table 6, Panel C). As levels of self-acceptance among women in prostitution increased, the desire to leave prostitution

decreased, thereby being associated with less post-traumatic stress. The size of the mediated effect was medium (K^2 = .13; Preacher & Kelley, 2011).

DISCUSSION

This study offers quantitative insight into how characteristics of prostitution relate to mental health factors among a sample of women in the Netherlands. The effect sizes for each of the findings ranged from medium to large, indicating that these results are noteworthy for mental health professionals working with women in prostitution and can help inform public policies surrounding prostitution. The findings highlight that women in prostitution are not a homogeneous group and therefore prostitution must be studied in all of its nuances.

On average, the sample scored slightly below cut-off scores for significant levels of depressive symptoms. However, the results revealed that specific factors related to prostitution were associated with elevated mental health concerns. The current study echoes previous research indicating that increased exposure to violence experienced by women in prostitution is an important correlate of mental health concerns (Farley et al., 2003; Rössler et al., 2010). Having experienced violence in prostitution was associated with greater post-traumatic stress. Among the sample, 23.9% reported having ever experienced violence while engaging in prostitution. This rate was slightly lower than rates reported in earlier studies conducted in the Netherlands (34.1%, Vanwesenbeeck et al., 1993) and Switzerland (25.9%, Rössler et al., 2010), and substantially lower than rates reported in Germany (61%, Farley et al., 2003) and 8 non-European countries (56–91%, Farley et al., 2003).

In addition, engaging in street prostitution (i.e., working outdoors) was also associated with greater post-traumatic stress. Notably, street prostitution is not legal in the Netherlands, and

those who engage in prostitution outdoors may be doing so out of desperation and placing themselves in more vulnerable situations.

More nuanced findings emerged as well, indicating motivations for engaging in prostitution and feelings about remaining in prostitution may pose potential points of intervention. Farley (2006) has argued that even those who state they have freely chosen prostitution might be influenced by global forces such as sex discrimination, poverty, abandonment, abuse, lack of education, and jobs that do not pay a living wage. According to Farley et al. (2003), the conditions that make genuine consent possible are physical safety, equal power with customers, and viable alternatives. For this reason, the current study included a focus on motivations for engaging in prostitution, levels of education, and alternative career options to consider whether the women had feasible alternatives to prostitution for survival. On average, the women in the current sample expressed ambivalence about wanting to leave prostitution. Some studies have reported high rates of women desiring to leave prostitution (e.g., 89% of women in 9 countries reported by Farley et al., 2003). However, the current data suggest that there are circumstances in which women choose to engage in prostitution because they believe it is fun or exciting. Fun or excitement was reported as primary in the decision to engage in prostitution for almost a quarter of this sample from the Netherlands. Similarly, in a study of women in Switzerland, nearly 40% of the sample reported that they liked working in prostitution (Rössler et al., 2010). However, the current data also indicate that being motivated to engage in prostitution for financial reasons, having less confidence in one's ability to find alternative work, and desiring to leave prostitution were all associated with elevated mental health symptoms. For these reasons, it is essential to have social and economic services available to those who desire to exit prostitution.

Previously, little to no research had focused on general, non-sex work related quality of life factors among those engaged in prostitution. The current study shows that such factors are also relevant to mental health variables among women in prostitution. Thus, mental health providers may be able to make progress by focusing on the strengths posed by various quality of life factors among this population that is at higher risk for mental health concerns. Specifically, focusing on achievement, having a sense of fair treatment from others and life, and having a sense of self-acceptance were each associated with better mental health outcomes. Therefore, exploring and bolstering these aspects of life among women in prostitution may propel positive life changes. Interestingly, self-transcendence, which involves focusing on making society and the world better, was associated with more depressive symptoms. Feeling that one contributes to society and the world through prostitution may be a complex issue that can be explored in further depth.

Finally, exploring quality of life factors can be relevant for understanding the ways in which aspects of prostitution relate to mental health symptoms. For example, the results were consistent with the hypothesis that post-traumatic stress associated with engaging in prostitution against one's deeper desire to exit prostitution seems to be, in part, the result of a lack of self-acceptance. However, an alternative mediation model was also significant with a slightly larger effect size, in which a lack of self-acceptance was associated with greater post-traumatic stress via a greater desire to leave prostitution. Thus, it seems that women in prostitution with lower levels of self-acceptance have a greater desire to leave prostitution and, accordingly, experience higher levels of post-traumatic stress. Therefore, self-acceptance would be a fruitful theme for exploration among those engaged in prostitution. Recognizing this as a potential risk factor may be able to motivate change for those who desire to exit prostitution.

Limitations and Future Directions

Similar to most previous research on prostitution, the current study involved self-reported, cross-sectional data. The fact that over a third of the sample left one or more survey items blank poses a limitation with regard to power and potential biases in the results. Given the unique nature of this sample, all participants were retained in the study for the analyses involving variables for which they provided complete data, lending the greatest power possible to each analysis.

The cross-sectional nature of this study means that causality between variables cannot be evaluated. Longitudinal studies among women in prostitution would allow insight into directionality between characteristics of prostitution and psychological variables. As Rössler et al. (2010) have noted, lifetime prevalence rates and 1-year prevalence rates of mental illness before and after engaging in prostitution are quite similar, suggesting a correlational confound in studying mental health among women in prostitution. This may relate to the fact that those who engage in sex work face more challenges across the lifespan in comparison to individuals in other low-income service occupations, including more childhood poverty, childhood abuse, family instability, limited education and employment experience, and adult drug use (McCarthy, Benoit, & Jansson, 2014).

Along the same lines, consideration should be given to the fact that a mediator is a variable in a causal sequence between two other variables (MacKinnon, Fairchild, & Fritz, 2007). However, the current cross-sectional data were not able to speak to the accuracy of the assumptions regarding causal order, causal direction, or the potential role of unmeasured variables. For this reason, multiple theoretical models were tested. Nevertheless, additional models could be plausible as well, such as mental health characteristics mediating links between

quality of life variables and desire to leave prostitution. MacKinnon et al. (2007) have suggested incorporating information from theory, randomized experimental studies, and qualitative methods to bolster conclusion that a mediation relation exists. Thus, more work remains to be done to examine the hypotheses generated by this study. For the time being, the results of the mediation analyses should be considered descriptive in nature and not necessarily reflecting an underlying causal mediation relation.

Other limitations include the small sample drawn from only one country. In addition, the study likely undersampled women who had been trafficked into prostitution, as those working under coercion would likely have been less willing to share information. In addition, trafficked women may have faced language barriers to completing a written survey with a Flesch-Kincaid reading grade level of 3.9, requiring approximately 4 years of education in one of the survey languages.

Finally, it is important to note that the empirical approach taken in this study to understanding prostitution offers only one source of insight into this complex phenomenon. Formulating public policy and responses to prostitution likely require insight from empirical as well as philosophical, moral, and religious sources. While an empirical approach speaks to some of the mental health outcomes of engaging in prostitution, additional factors should be considered in forming opinions about whether prostitution is harmful or dehumanizing to individuals.

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Table 1

Post Hoc Multiple Comparisons of Participants' Mean Levels of Post-Traumatic Stress by Work Setting (n = 67)

	Window (7.5%)		Brothel (29.9%)		Escort (11.9%)		Home (16.4%)		Combination Including Outdoors (9%)		Combination Excluding Outdoors (25.4%)			
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	η^2
Post-Traumatic Stress	.66[ab]	.79	.60[a]	.74	.90[ab]	.85	.53[a]	.57	1.97[b]	1.31	.66[a]	.69	3.13*	.22
Intrusion	.69[ab]	.82	.63[a]	.76	1.16[ab]	1.01	.70[a]	.63	2.07[b]	1.16	.75[a]	.71	3.45**	.24
Avoidance	.50[ab]	.92	.65[a]	.83	.73[ab]	.72	.55[a]	.59	1.92[b]	1.45	.68[a]	.75	2.43*	.18
Hyperarousal	.50[ab]	1.12	.33[a]	.59	.69[ab]	1.07	.41[a]	.80	1.83[b]	1.47	.44[a]	.68	3.07*	.22

* $p < .05$ ** $p < .01$ *** $p < .001$

Note. Each variable ranges from 0 to 4. Participants' mean levels of post-traumatic stress that do not share superscripts within each row were significantly different at $p < .05$ after Bonferroni adjustment.

Table 2

Post Hoc Multiple Comparisons of Participants' Total Levels of Depressive Symptoms and Mean Levels of Avoidance by Motivation for Engaging in Prostitution (n = 57)

	Financial Reasons		Fun or Excitement		Financial reasons and Fun/Excitement		F (η^2)
	M	*SD*	*M*	*SD*	*M*	*SD*	
Depressive Symptoms	11.24[a]	6.54	6.10[b]	5.24	7.00[ab]	2.61	3.58* (.13)
Avoidance	.96[a]	.97	.18[b]	.35	.54[ab]	.71	3.50* (.12)

* $p < .05$ ** $p < .01$ *** $p < .001$

Note. Depressive symptoms range from 0 to 30. Avoidance ranges from 0 to 4. Participants' mean levels of depressive symptoms and avoidance that do not share superscripts were significantly different at $p < .05$ after Bonferroni adjustment.

Table 3

Regression Models of Prostitution Variables Predicting Mental Health Variables (n = 59)

Panel A. Intended Years Staying in Prostitution Predicting Depressive Symptoms Beyond Correlated Demographic Factor

	Depressive Symptoms			
	B	*SE*	β	ΔR^2
Step 1				.14
Education	-1.96	1.03	-.37	
Step 2				.26**
Years Continuing in Prostitution	-.96	.32	-.51**	
Total R^2				.39

Panel B. Desire to Leave Prostitution Predicting Depressive Symptoms Beyond Correlated Demographic Factor

	Depressive Symptoms			
	B	*SE*	β	ΔR^2
Step 1				.11*
Education	-1.65	.62	-.33*	
Step 2				.11**
Desire to Leave Prostitution	1.19	.41	.34**	
Total R^2				.23

Panel C. Desire to Leave Prostitution Predicting Post-Traumatic Stress

	Post-Traumatic Stress			
	B	*SE*	β	ΔR^2
Desire to Leave Prostitution	4.29	.95	.51***	.26

Panel D. Confidence in Finding an Alternative Job Predicting Depressive Symptoms and Post-Traumatic Stress Beyond Correlated Demographic Factors

	Depressive Symptoms				Post-Traumatic Stress			
	B	*SE*	β	ΔR^2	*B*	*SE*	β	ΔR^2
Step 1				.12*				.01
Age	-.07	.08	-.11		-.16	.22	-.10	
Education	-1.43	.66	-.29*					
Step 2				.07*				.10*
Confidence in Finding an Alternative Job	-.87	.40	-.30*		-2.34	.95	-.34*	
Total R^2				.19				.11

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 4

Hierarchical Regressions of Quality of Life Factors Predicting Mental Health Variables Beyond Correlated Demographic Factor (n = 65)

	Depressive Symptoms				Post-Traumatic Stress			
	B	*SE*	β	ΔR^2	*B*	*SE*	β	ΔR^2
Step 1				.10*				.03
Education	-1.55	.67	-.31*		-2.17	1.64	-.18	
Step 2				.33**				.29*
Achievement	-.85	.34	-.56*		-.92	.84	-.26	
Relationships	.37	.31	.25		1.24	.82	.35	
Religion	.41	.27	.19		-.23	.73	-.04	
Self-transcendence	.55	.25	.37*		.56	.60	.16	
Self-acceptance	-.13	.26	-.08		-1.98	.74	-.47*	
Intimacy	-.06	.13	-.06		-.37	.33	-.16	
Fair Treatment	-.68	.23	-.45**		-1.02	.64	-.26	
Total R^2				.42				.33

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 5

Hypothesized Models of Quality of Life Variables Mediating Links Between Desire to Leave Prostitution and Mental Health Symptoms (n = 65)

Panel A. Achievement and Fair Treatment Mediating Links Between Desire to Leave Prostitution and Depressive Symptoms, Controlling Level of Education

Desire to Leave Prostitution			Depressive Symptoms	
Path	B	*SE*	*t*	C.I.[a]
a				
1 Achievement	-.31	.27	-1.12	(-.86, .24)
2 Fair Treatment	.04	.30	.12	(-.56, .63)
b				
1 Achievement	-.22	.21	-1.06	(-.64, .20)
2 Fair Treatment	-.44	.19	-2.28*	(-.83, -.05)
c' (direct effect)	1.12	.40	2.77**	(.31, 1.93)
axb (mediated effect)	.05	.20		(-.38 , .44)
1 Achievement	.07	.10		(-.05 , .36)
2 Fair Treatment	-.02	.17		(-.41 , .29)
d (Education)				
1 Achievement	1.13	.40	2.83**	(.33, 1.93)
2 Fair Treatment	1.14	.43	.12	(-.56, .63)
3 Depressive Symptoms	-.92	.64	-1.45	(-2.20, .36)

Panel B. Self-Acceptance Mediating Links Between Desire to Leave Prostitution and Post-Traumatic Stress

Desire to Leave Prostitution			Post-Traumatic Stress	
Path	B	*SE*	*t*	C.I.[a]
a	-.60	.26	-2.31*	(-1.11, -.08)
b	-1.25	.47	-2.67**	(-2.18, -.31)
c' (direct effect)	3.58	.95	3.76***	(1.67, 5.48)
axb (mediated effect)	.75	.48		(.09, 2.01)

* $p < .05$ ** $p < .01$ *** $p < .001$

[a]C.I. reflects 95% bias corrected, accelerated confidence intervals

Table 6

Alternative Models of Desire to Leave Prostitution Mediating Links Between Quality of Life Variables and Mental Health Symptoms (n = 59)

Panel A. Desire to Leave Prostitution Mediating Links Between Achievement and Depressive Symptoms, Controlling Level of Education

Achievement			Depressive Symptoms	
Path	B	*SE*	*t*	C.I.[a]
a	-.08	.07	-1.12	(-.21, .06)
b	1.06	.42	2.53*	(.22, 1.90)
c' (direct effect)	-.37	.21	-1.77	(-.78, .05)
axb (mediated effect)	-.08	.10		(-.37, .05)
d (Education)				
1 Desire to Leave	-.19	.20	-.98	(-.59, .20)
2 Depressive Symptoms	-.96	.59	-1.64	(-2.14, .21)

Panel B. Desire to Leave Prostitution Mediating Links Between Fair Treatment and Depressive Symptoms, Controlling Level of Education

Fair Treatment			Depressive Symptoms	
Path	B	*SE*	*t*	C.I.[a]
a	.03	.06	.42	(-.10, .15)
b	1.25	.39	3.17**	(.46, 2.03)
c' (direct effect)	-.48	.18	-2.71**	(-.84, -.13)
axb (mediated effect)	.03	.09		(-.09, .31)
d (Education)				
1 Desire to Leave	-.19	.20	-.98	(-.59, .20)
2 Depressive Symptoms	-.96	.59	-1.64	(-2.14, .21)

Panel C. Desire to Leave Prostitution Mediating Links Between Self-Acceptance and Post-Traumatic Stress

Desire to Leave Prostitution			Post-Traumatic Stress	
Path	B	*SE*	*t*	C.I.[a]
a	-.14	.06	-2.31*	(-.27, -.02)
b	3.58	.95	3.76***	(1.67, 5.48)
c' (direct effect)	-1.25	.47	-2.67**	(-2.18, -.31)
axb (mediated effect)	-.51	.28		(-1.32, -.12)

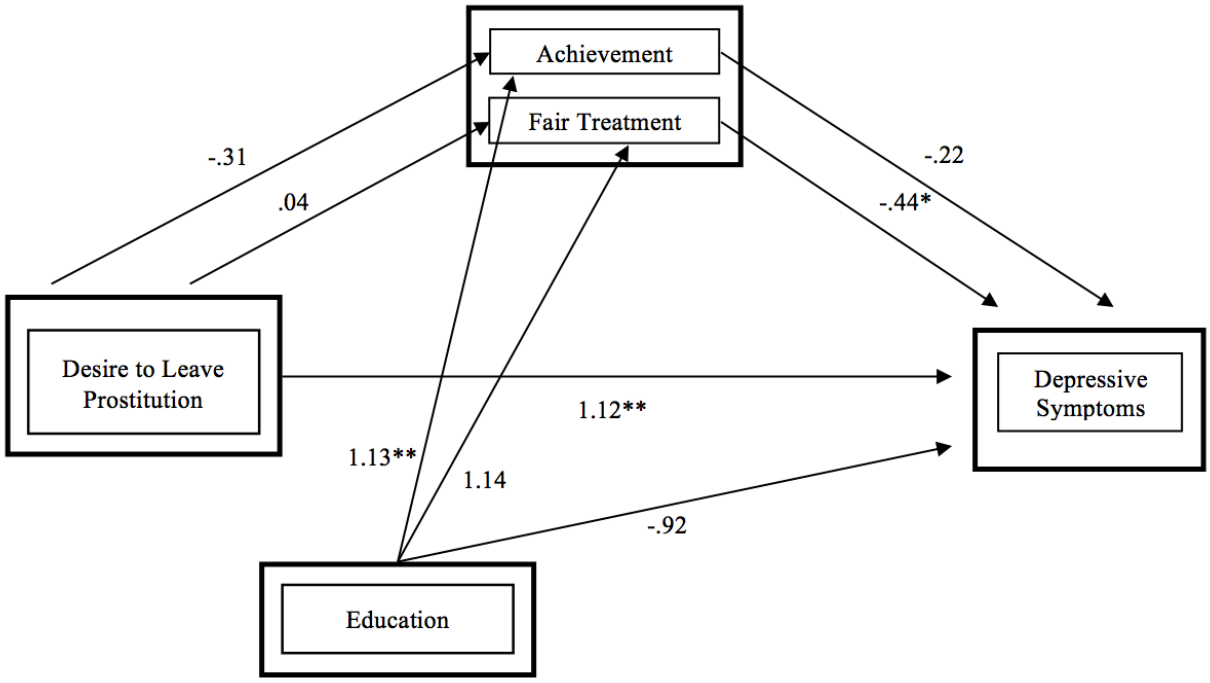
* $p < .05$ ** $p < .01$ *** $p < .001$

[a]C.I. reflects 95% bias corrected, accelerated confidence intervals

Figure Caption

Figure 1. Quality of Life Variables Mediating Links Between Desire to Leave Prostitution and Mental Health Variables

A.


Achievement
Fair Treatment
-.31
.04
-.22
-.44*
Desire to Leave Prostitution
Depressive Symptoms
1.12**
1.13**
1.14
-.92
Education

B.

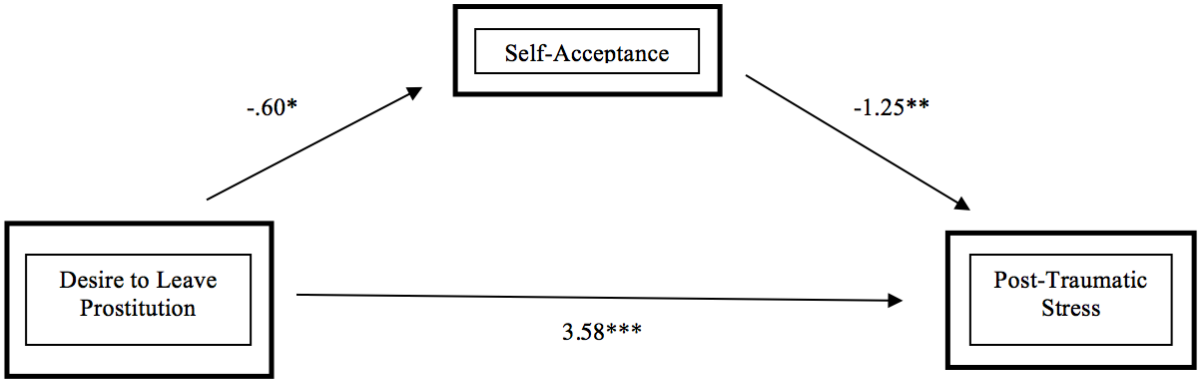
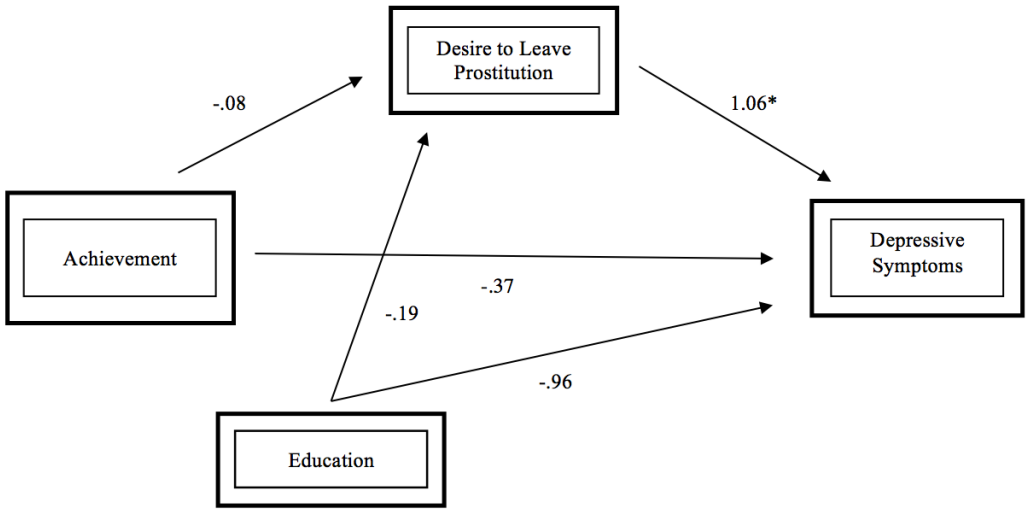

Self-Acceptance
-.60*
-1.25**
Desire to Leave Prostitution
Post-Traumatic Stress
3.58***

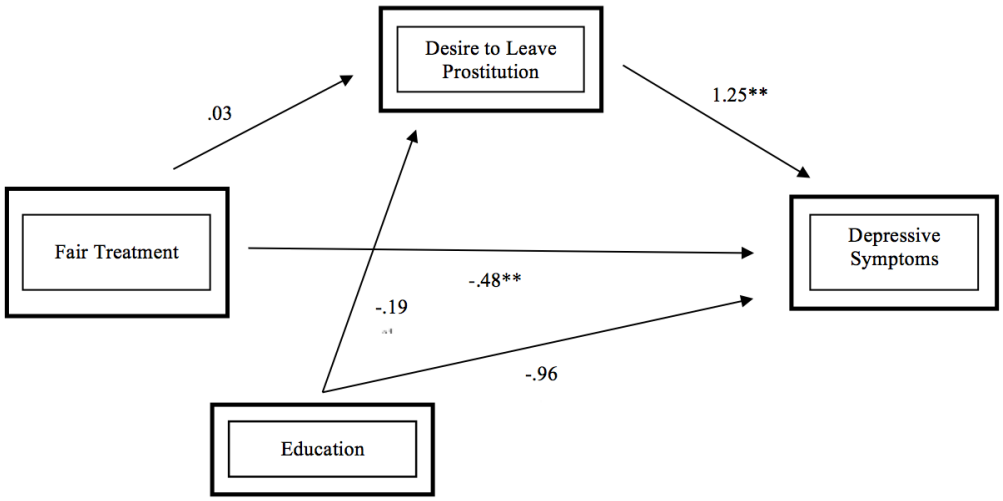
Figure Caption

Figure 2. Desire to Leave Prostitution Mediating Links Between Quality of Life Variables and Mental Health Variables

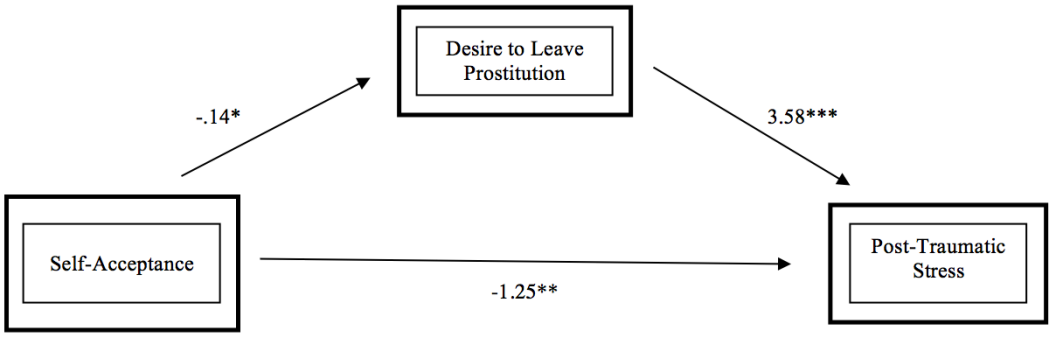
A.


Desire to Leave Prostitution
-.08
1.06*
Achievement
Depressive Symptoms
-.37
-.19
-.96
Education

B.


Desire to Leave Prostitution
.03
1.25**
Fair Treatment
Depressive Symptoms
-.48**
-.19
-.96
Education

C.


Desire to Leave Prostitution
-.14*
3.58***
Self-Acceptance
Post-Traumatic Stress
-1.25**