



Predictors of Initiation Into Prostitution among Female Street Youths

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ABSTRACT *Prostitution among female street youths represents an important risk factor for several health problems. Little is known about the incidence and determinants of prostitution in this vulnerable population, and no data have been previously reported based on a longitudinal follow-up study. The objective of this study was to determine predictors of initiation into prostitution among female street youths. Female youths aged 14 to 25 years were enrolled in the Montreal Street Youth Cohort. They completed a baseline and at least one follow-up questionnaire between January 1995 and March 2000. Girls who reported never having engaged in prostitution at baseline were followed prospectively to estimate the incidence and predictors of prostitution. Of the 330 female street youths enrolled as of September 2000 in the cohort, 148 reported no history of involvement in prostitution at baseline and completed at least one follow-up questionnaire. Of these 148 girls, 33 became involved in prostitution over the course of the study (mean follow-up 2.4 years), resulting in an incidence rate of 11.1/100 person-years. Multivariate Cox regression analysis revealed having a female sex partner (adjusted hazard ratio [AHR] 3.8; 95% confidence interval [CI] 1.6–9.1) was an independent predictor of initiation into prostitution after controlling for having been on the street at age 15 years or younger (AHR 1.8, 95% CI 0.9–3.8), using acid or phen-cyclidine (PCP; AHR 2.0, 95% CI 0.9–4.6), using heroin (AHR 1.9, 95% CI 0.7–5.5), the use of drugs greater than twice per week (AHR 1.9, 95% CI 0.9–4.2), and injection drug use (AHR 0.8, 95% CI 0.3–2.4). The incidence of prostitution in female street youths was elevated. Having a female sex partner was a strong predictor of initiating involvement in prostitution.*

KEYWORDS *Homelessness, Predictors, Prostitution, Street youths, Women.*

INTRODUCTION

Prostitution is a common occurrence among street youths. In the United States, estimates of the prevalence of runaway and homeless youths who have been involved in prostitution range from 10% to 50%.^{1–11} In Canada, the range is from 12% to 32% for estimates of the prevalence of a history of prostitution among street youths.^{12,13} The wide range of these estimates is partly because of variation in the definition of prostitution used by investigators. For example, some investigators used a definition of prostitution that included only the exchange of sexual activities for money; others used a broader definition that encompasses the trading of sex to

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meet subsistence needs such as food, shelter, and protection. Although the definition may vary, the basic premise of the exchange of sexual activity for material or personal gain remains constant. Both boys and girls are reported to be involved in youth prostitution; however, the majority of this population is comprised of 14- to 17-year-old girls,¹⁴ and prostitution among adolescent females is a growing phenomenon in major cities on every continent.¹⁵

The high proportion of street youths involved in prostitution leads to concern about the risks associated with selling sex for survival. The psychological and physical dangers inherent in prostitution make it among the most damaging repercussions of homelessness among youths.¹⁶ Such dangers include physical and sexual assault in addition to suicide, drug addiction, depression, and infection with sexually transmitted agents such as the human immunodeficiency virus (HIV). The end point of these health problems is increased mortality,^{17,18} as evidenced by a study of adult female prostitutes in London, England, that reported a mortality rate of 5.93 per 1,000 person-years. This rate was 12 times the expected rate for women of a similar age.¹⁷

Numerous research groups have examined the antecedents to prostitution.^{11,16,19-28} Several important associations between life events and prostitution have been observed. For girls, abuse in childhood, including sexual and physical abuse; substance use; and homelessness have been linked with entry into prostitution. Limitations of previous research included the use of exclusively incarcerated or institutionalized subjects and retrospective reporting by older, adult prostitutes. Some studies of prostitutes failed to include appropriate comparison groups or included comparison groups substantially different from the study population. Further, previous research has relied primarily on a cross-sectional study design. Only one of the reviewed studies utilized a prospective design²⁸; however, this study only explored one risk factor, namely, victimization in childhood as a precursor to prostitution among abused and neglected children.

The purpose of the present study was to determine the incidence of prostitution and predictors of initiation into prostitution among female street youths. This study utilized data from a large prospective cohort study of street youths that included females with no history of prostitution; this study design allowed for the determination of temporal relationships between independent precursors and prostitution.

METHODS

Since its inception in January 1995, youths between the ages of 14 and 25 years have been enrolled in the Montreal Street Youth Cohort. To be eligible for recruitment into the cohort, the youths had to have either been without a place to sleep more than once or have regularly used the services of one of the Montreal street youth agencies in the previous year. These criteria were used to capture a broad spectrum of street youths because it is known that youths have different experiences based in part on the degree of involvement in street life. Further eligibility criteria required that the youths speak either English or French and be intending to stay in the Montreal area for the following year. Youths were recruited through interviewers, who regularly visited all major agencies in Montreal offering free services to street youths, primarily drop-in centers, shelters, and outreach services. The frequency of these visits was determined by the volume of youths served by each of the individual agencies.

Criteria for exit from the cohort were also defined. These criteria stipulated that, over a 2-year period, if a study participant was not without a place to sleep while residing in Montreal or did not frequent the street youth services in Montreal,

he or she was excluded from further follow-up. In addition, when individuals reached 30 years of age, they were no longer eligible to continue in the cohort.

An interviewer-administered questionnaire and HIV antibody test were completed at entry into the study and on a semiannual basis thereafter. The baseline questionnaire used in this study was previously validated and assessed for the acceptability and the length. The reliability of the questionnaire was also evaluated.²⁹ Specifically, variables related to homelessness experiences, sexual behaviors, sexual abuse, and drug use behaviors (lifetime and in the last 6 months) were evaluated for reliability. The baseline and follow-up questionnaires elicited detailed information on socio-demographic characteristics, substance use, and sexual behavior, including involvement in prostitution.

Because of the transient nature of street life, rigorous follow-up procedures were employed. Detailed contact information was collected from all participants at baseline and updated thereafter. Interviewers contacted the participants approximately 2 weeks prior to the planned follow-up interview date by telephone, pager, or messages left at agencies known to be frequented by the youths. As well, to facilitate contact by the subjects, the project had a toll-free telephone number. Lists of subjects who were not found through regular follow-up procedures were sent each month to the social insurance office, youth centers, detoxification centers, probation offices, and prisons and detention centers. These organizations, as authorized by the subjects on the consent form, provided addresses or contact information or sent messages to the participant. Twice a year, a list of subjects lost to follow-up was sent to the coroner's office.

Interviews were conducted at the study office, located in an area of downtown Montreal frequented by street youths. An interviewer met subjects who had left the Montreal area during the follow-up period but were living within a driving distance of 1.5 hours of Montreal. In addition, there were interviewers in other major Canadian cities for participants who had moved.

Study Variables

A broad definition of prostitution was used in the questionnaire to capture all situations involving "the exchange of sex for money, gifts, drugs, a place to sleep, or other things." Independent variables were treated either as baseline variables (i.e., variables measured at the baseline interview that did not vary thereafter) or time-dependent variables (i.e., variables reassessed at each follow-up interview). Time-dependent variables were further defined as irreversible variables (i.e., biographical characteristics that can change only once, from the absence of the characteristic to the presence of the characteristic) and transient variables (i.e., variables for which the presence or absence of the characteristic may change over time).

Baseline factors of interest in these analyses included country of birth, having ever run away from home, and having ever been kicked out of home.

Irreversible time-dependent events included having a tattoo or body piercing, sexual abuse (both intra- and extrafamilial), having had sexual risk partners, and precocity of various behaviors or traumatizing events, including early alcohol bingeing, injection drug use, sexual abuse, and consensual sex. Precocity was explored only for variables for which the overall effect of exposure met our significance criteria of $P \leq .10$. For the purpose of this analysis, all ages were dichotomized at the median value for the study participants.

Transient time-dependent variables included age, employment or school attendance, and having been without a place to sleep. Transient substance use variables

of interest were the use and frequency of use of alcohol, noninjection drugs, and injection drugs; bingeing on alcohol or drugs; and the use of at least three types of drugs. *Bingeing* was defined as having “gotten drunk or high for one day or more.” The use of at least three types of drugs was defined as the reported use of at least three of the following; crack, marijuana, heroin, cocaine, cocaine-heroin mix (speedball), amphetamines and tranquilizers (without a prescription), mushrooms, codeine, acid, phencyclidine (PCP), or solvents. This variable was created to identify street youths engaged in polydrug use and investigate polydrug use as an antecedent to prostitution. Transient sexual behavior variables included sexual activity and having a regular or casual female sex partner.

Statistical Methods

The current study was restricted to girls who had never engaged in prostitution at study entry and who had completed at least one follow-up questionnaire. The incidence of involvement in prostitution for the first time was calculated as the number of girls who reported becoming involved in prostitution over the course of follow-up divided by the total person-time under observation. *Person-time* was defined as the interval between enrollment and the most recent follow-up visit for subjects who did not report engaging in prostitution through September 2000. For subjects who initiated prostitution during follow-up, person-time was calculated as the interval between enrollment and the date of initiation into prostitution, which was elicited from the subject at the first visit at which prostitution was reported. A 95% confidence interval (CI) for the incidence estimate was calculated using Poisson distribution.

Some girls reported prostitution for the first time during the follow-up period, but indicated that the date at which prostitution had first occurred was prior to baseline; these individuals were considered prevalent cases of prostitution and were excluded from the analyses. Crude rates of prostitution in association with potential predictors were calculated as the number of exposed girls who entered prostitution divided by the person-time attributed to the exposed category. Crude rates were calculated in the same manner for unexposed subjects.

Predictors of initiation into prostitution were determined using Cox proportional hazards regression. Groups of variables related to the same construct (sociodemographic characteristics, substance use behaviors, substances used, or sexual behaviors) were examined in three separate multivariate analyses. Baseline and time-dependent variables statistically significant at $P \leq .10$ in univariate regression analyses were included in the construct-specific multivariate Cox models; the independent predictors of initiation into prostitution significant at $P \leq .05$ for each of the groups of variables were included in a final overall multivariate model.

RESULTS

As of the end of September 2000, there were 330 girls recruited in the cohort, and 177 girls reported never having engaged in prostitution prior to baseline. Of these, 148 completed at least one follow-up questionnaire. The mean number of follow-up questionnaires completed was 4.3. These 148 girls constituted our study population, and they were followed for 296.1 person-years. Of these girls, 33 initiated involvement in prostitution between the baseline visit and the end of follow-up. Thus, the incidence rate of prostitution among female street youths was 11.1 per 100 person-years (95% CI 7.7–15.6 per 100 person years).

Baseline characteristics and behaviors of the study subjects are summarized in Table 1. The median age at baseline was 18.8 years (interquartile range 17.0–20.2), and 143 (97%) girls were born in Canada. The majority reported various experiences of homelessness, including having been without a place to sleep and having run away from home. Reports of substance use were high; almost half of all girls reported having ever binged on alcohol, and 61% reported having ever binged on drugs. Of the girls, 51% reported using drugs more than twice per week in the month prior to baseline, and almost one third of girls reported a history of injection drug use. Nearly one quarter of girls had experienced intrafamilial sexual abuse, and almost half had experienced extrafamilial sexual abuse. Female sex partners were reported by 18% of girls.

Table 2 presents univariate sociodemographic and personal characteristics associated with initiation into prostitution. Being younger than 18 years (hazard ratio [HR] 2.0) and having been without a place to sleep before the age of 16 (HR 2.0) increased the risk of becoming involved in prostitution. No other sociodemographic or personal characteristic variables investigated significantly increased the risk of initiation into prostitution.

As shown in Table 3, bingeing on drugs in the last month was associated with a 2.1-fold increase in the risk of initiation into prostitution. The use in the last month of cocaine/crack (HR 2.1), heroin (HR 2.9), and acid/PCP (HR 3.2) were also

TABLE 1. Baseline characteristics of female street youths with no history of prostitution (n = 148)

	Number of youths	≥Proportion, %
Born in Canada	143	97
At least one Aboriginal parent	8*	6
Ever without a place to sleep	135	91
Ever ran away from home	89	60
Ever kicked out of home	64	43
Ever had a tattoo	58	39
Ever had body piercing	95	64
Ever binge on alcohol	68	46
Use alcohol more than two times/week (last month)	41†	28
Use alcohol every day (last month)	15†	10
Ever binge on drug	90	61
Use drugs more than two times/week (last month)	76	51
Ever used at least four types of illicit drugs	104	70
Ever used injection drugs	47	32
Ever had consensual sexual activity	143	97
Ever had intrafamilial sexual abuse	32	22
Ever had extrafamilial sexual abuse	61†	42
Ever had regular or casual female sex partner	26	18

*N = 142 because of missing values.

†N = 147 because of missing values.

TABLE 2. Crude rates and univariate Cox proportional hazards ratios: sociodemographic and personal characteristics associated with initiation into prostitution

	Yes		No		Hazard ratio (90% CI)
	N	Rate*	N	Rate*	
Age < 18 years	13	19.9	20	8.7	2.0 (1.1–3.6)
Born in Canada	32	11.2	1	10.8	1.1 (0.2–5.9)
Had night(s) without a place to sleep (last 6 months)	20	15.3	13	7.9	1.7 (0.9–3.1)
Age first without a place to sleep < 16 years	22	14.8	11	7.5	2.0 (1.1–3.7)
Ever run away from home	21	11.6	12	10.5	1.1 (0.6–1.9)
Ever kicked out of home	13	10.0	20	12.1	0.8 (0.5–1.5)
Regularly go to school or work (last 6 months)	22	11.9	11	9.9	1.3 (0.7–2.4)
Has at least one tattoo	17	11.5	16	10.8	1.3 (0.7–2.3)
Has body piercing	23	11.3	10	10.8	1.2 (0.6–2.2)

CI, confidence interval.

*Per 100 person-years.

associated with initiation into prostitution. Further, the use of drugs more than two times per week increased the risk of initiation into prostitution by 2.7 times. As for the use of at least three types of drugs in the last month, it carried twice the risk of initiation into prostitution. Injection drug use was associated with a 2.7-fold increase in the risk of initiation into prostitution.

Having had a female sex partner (HR 5.7) and having had a female sex partner involved in prostitution (HR 3.5) increased the risk of initiation into prostitution (Table 4). No other sexual behavior variable was predictive of initiation into prostitution.

Table 5 presents multivariate analyses considering each of the four groups of variables separately. All variables identified as independent predictors in each of the four models were included in the final multivariate model. Multivariate analysis of sociodemographic and personal characteristics indicated that having been first without a place to sleep at younger than 16 years was an independent predictor of initiation into prostitution (adjusted hazard ratio [AHR] 2.0).

Examination of substance use behaviors revealed the use of drugs more than twice per week (AHR 2.3) and injection drug use (AHR 2.2) were independent predictors of initiation into prostitution. Types of drugs used that were independent predictors of prostitution were heroin (AHR 2.2) and acid/PCP (AHR 2.7). Having a female sex partner was independently associated with initiation into prostitution (AHR 5.7). The inclusion of each of these independent predictors into a final multivariate model resulted in having a female sexual partner (AHR 3.8) as the only independent predictor of initiation into prostitution.

DISCUSSION

Our study was the first prospective cohort study on factors predicting initiation into prostitution among female street youths. The rate of 11.1/100 person-years that we observed is of concern considering the major impact prostitution can have on the physical and psychological health of young women.

TABLE 3. Crude rates and univariate Cox proportional hazards ratios: substance use characteristics associated with initiation into prostitution

	Yes		No		Hazard ratio (90% CI)
	N	Rate*	N	Rate*	
Alcohol bingeing (last month)	7	12.2	26	10.9	1.0 (0.5–2.1)
Use alcohol more than two times/week (last month)	7	10.0	26	11.5	0.8 (0.4–1.6)
Use alcohol everyday (last month)	2	11.2	31	11.1	0.8 (0.3–2.8)
Drug bingeing (last month)	14	20.2	19	8.4	2.1 (1.1–3.7)
Age first binged on drugs ≤ 14 years of age†	14	14.7	13	10.8	1.3 (0.7–2.4)
Use of in the last month					
Marijuana or hash	24	12.2	9	9.1	1.3 (0.7–2.4)
Cocaine, crack, or freebase	11	20.4	22	9.1	2.1 (1.1–3.9)
Heroin	13	25.5	20	8.2	2.9 (1.6–5.3)
A mix of heroin and cocaine	1	11.6	32	11.1	1.0 (0.2–5.3)
Acid or phencyclidine	23	19.8	10	5.6	3.2 (1.7–6.1)
Mushrooms	4	9.0	29	11.5	0.7 (0.3–1.7)
Amphetamines	1	5.9	32	11.5	0.5 (0.1–2.8)
Solvents or glue	1	25.0	32	11.0	2.0 (0.4–10.6)
Use of drugs more than two times/week (last month)	22	17.9	11	6.4	2.7 (1.4–4.9)
Use of at least three types of drugs (last month)	16	17.8	17	8.2	2.0 (1.1–3.6)
Injection drug use (last 6 months)	14	22.7	19	8.1	2.7 (1.5–4.8)
Age first injection drug use ≤ 16 years of age†	9	16.6	9	18.0	0.9 (0.4–2.0)

CI, confidence interval.

*Per 100 person-years.

†Among persons reporting behavior, reference category equal to older age group.

Having a female sex partner was a strong predictor of initiation into prostitution among female street youths. There is scant literature on the relationship between same-sex partnerships among women and prostitution. Recent work by Hankins et al.³⁰ revealed that, compared to heterosexual women, female injection drug users who engaged in sex with women were significantly more likely to have been involved in sex work. Further, investigations of women attending sexually transmitted disease clinics showed that women who had sex with women were more likely to have reported prostitution activity.^{31–33} More investigation into the relationship between same-sex relationships and the role of social and sexual networks in relation to prostitution is required.

Other factors included in the final model that were close to statistical significance were precocity of homelessness, the use of acid/PCP, and the frequency of drug use. An association between initiation of prostitution and being less than 16 years of age when first without a place to sleep is plausible. This finding suggests that early involvement in the street economy increases the probability of initiation into prostitution. Previous research has shown that the likelihood of engaging in HIV

TABLE 4. Crude rates and univariate Cox proportional hazards ratios for sexual behaviors associated with initiation into prostitution

	Yes		No		Hazard ratio (90% CI)
	N	Rate*	N	Rate*	
Sexual activity (last 6 months)	32	11.3	1	7.2	1.8 (0.3–9.7)
First consensual sex ≤ 14 years of age	22	12.3	11	9.3	1.3 (0.7–2.4)
Ever had intrafamilial sexual abuse	11	16.4	22	9.6	1.7 (0.9–3.2)
Ever had extrafamilial sexual abuse	16	13.2	17	9.8	1.3 (0.7–2.3)
Regular or casual female sex partner (last 6 months)	8	54.3	25	8.9	5.7 (2.9–11.3)
Partner using injection drugs (lifetime)	20	10.0	13	13.9	0.9 (0.5–1.6)
Female sex partner (lifetime)	6	8.7	27	11.9	0.8 (0.4–1.6)
Male partner involved in prostitution (lifetime)	7	17.7	26	10.1	1.7 (0.8–3.5)
Female partner involved in prostitution (lifetime)	3	41.6	30	10.4	3.5 (1.3–9.5)

CI, confidence interval.
*Per 100 person-years.

TABLE 5. Multivariate Cox proportional hazards ratios: independent predictors of initiation into prostitution

	Adjusted hazard ratio	95% CI
Sociodemographic characteristics model*		
Age first without a place to sleep < 16 years	2.0	1.0–4.1
Substance use behaviors model*		
Use of drugs more than 2 times/week (last month)	2.3	1.1–4.8
Injection drug use (last 6 months)	2.2	1.1–4.6
Substances used model*		
Heroin	2.2	1.1–4.6
Acid/phencyclidine	2.7	1.2–5.9
Sexual behavior model*		
Regular or casual female sex partner (last 6 months)	5.7	2.6–12.9
Combined model		
Age first without a place to sleep < 16 years	1.8	0.9–3.8
Regular or casual female sex partner (last 6 months)	3.8	1.6–9.1
Use of heroin	1.9	0.7–5.5
Use of acid/phencyclidine	2.0	0.9–4.6
Use of drugs more than two times/week (last month)	1.9	0.9–4.2
Injection drug use (last 6 months)	0.8	0.3–2.4

CI, confidence interval.
*Estimates adjusted for other variables statistically significant at $P \leq .1$ in the analyses reported in Tables 2–4.

risk behavior such as prostitution increases with the length of the homelessness.^{34,35} It has been previously suggested that youths who are homeless for longer periods of time are more likely to become involved in risky sexual and drug-using activities. They may incur more material needs, thereby further reducing inhibitions against risk-taking behaviors and increasing their exposure to high-risk populations.⁹ These findings emphasize the importance of preventing street involvement and the need for early intervention for girls at risk.

Substance use has been associated with prostitution by a number of investigators.^{16,23,24,27,36,37} A study of former female juvenile prostitutes indicated that 40% of the women reported needing money to support a drug habit as their main reason for entering prostitution.³⁷ Further, in a study of 200 juvenile and adult female street prostitutes, 55% of the subjects reported addiction to drugs prior to involvement in prostitution; 30% became addicted following and 15% concurrent with their prostitution involvement.³⁶ As exhibited by these studies, the temporal relationship between drug use and involvement in prostitution has not been delineated. The current study suggests that substance use, characterized by the use of acid/PCP as well as the frequent use of drugs, may increase the risk of initiation into prostitution. Intense experimentation with alcohol and other illicit drugs in midadolescence³⁸ may facilitate addiction, which in turn may increase the likelihood of entry into prostitution as a means of financing drug dependence.

There has been debate in the literature regarding the role of childhood sexual abuse as a precursor to prostitution both among adolescent and adult women.^{19,21,22,24,27,28,39} Seng²¹ reported that the relationship between childhood sexual abuse and prostitution was not direct, but involved runaway behavior. This in turn could lead to homelessness, drug addiction, and finally to prostitution.¹¹ To our knowledge, the current study is the only prospective analysis of antecedents to prostitution among female street youths. The results of this analysis did not show childhood sexual abuse as an independent predictor of initiation to prostitution in this population. Despite this, sexual abuse was reported by a significant proportion of women in this study and is worthy of further consideration because of the potentially devastating consequences of such experiences.

Several limitations must be taken into account in the interpretation of the results presented in this study. Of primary importance is the small number of girls initiating prostitution. This small number may have resulted in decreased power to detect statistically significant associations between some studied factors and prostitution among these youths. The small number of girls initiating prostitution was partly because of our conservative approach in defining new cases of prostitution. As described in the Methods section, we chose to exclude any person who was incoherent on the reported date of first prostitution event. We feel that this conservative approach was advantageous because it allowed for the clear definition of incident events and a more rigorous analysis of the temporal relationship between life events and entry into prostitution.

Second, because the study population was recruited through services directed toward street youth, the results may not be generalizable to other street youths. It is possible that youths who do not access services are further marginalized and at greater risk of entry into prostitution. Conversely, we may have missed well-organized youths who do not utilize such services. The number of street youths not benefiting from the free services available in Montreal is unknown.¹³

A third limitation is the fact that our data relied on self-reported information. It is possible that participants may underreport behaviors, particularly those that

are illegal or have associated social stigmas. We have attempted to minimize the likelihood of such underreporting through repeated assurances of confidentiality and the establishment of a relationship between the interviewer and the participants.

This is the first prospective cohort study of initiation into prostitution among youthful street-involved women. To better identify factors that lead these vulnerable youths to engage in prostitution, it is essential to carry on further longitudinal studies. Understanding the circumstances that lead to prostitution may be key for developing strategies to curb the entry of youths into sex work and to limit the exploitive and often life-threatening situations endured by many prostitutes.

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