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Determinants of Property Crime Among Illicit Opiate Users Outside of Treatment Across Canada

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Criminal activities account for a major proportion of the social costs related to illicit drug use. This article examines the factors contributing to property crime activity among a community sample of 653 untreated regular illicit opiate users in 5 Canadian cities (OPICAN study). Multivariate analyses showed the frequency of heroin, cocaine, and crack use, gender, housing status, and past criminal justice involvement as predictors of property crime. Furthermore, crack use had a significantly different impact on property crime depending on housing status and city. These

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findings underline the need for targeted intervention efforts toward a reduced crime burden.

BACKGROUND

Illicit drug use is associated with a variety of individual and social harms among which involvement in crime is of particular significance. As one theoretical perspective, Goldstein's (1985) typology assumes three key elements in relation to crime among drug users, namely pharmacological characteristics of the drug used (e.g., cocaine triggering violence), economic pressure to support the drug habit and conflicts within the drug market system (e.g., in relation with control over sales areas, paying debts). Criminal activities—mostly occurring in the form of illicit activities for income-generating purposes—contribute to a major proportion of the social costs related to illicit drug use; most of these costs arise due to victimization and criminal justice system expenditures (Healey et al. 1998; Rajkumar and French 1997; Single et al. 1996). The largest share of the costs incurred through the criminal activities by illicit drug users are associated with property offenses, such as shoplifting, burglary, or forgery (Best et al. 2001; Fischer et al. 2001; Wall et al. 2000). Thus, identifying factors or determinants contributing to illicit drug users' engagement in property crime is an important task both for analytical as well as intervention objectives.

Past research has documented that increased use of illicit drugs, such as heroin, cocaine, or crack, is associated with an increased involvement in property crime and other criminal activities among street drug users (Anglin and Hser 1987; Anglin and Speckart 1988; Ball et al. 1981; Deschenes et al. 1991; Jarvis and Parker 1989; Collins et al. 1985; Hunt 1991; Inciardi and Pottieger 1994). However, some studies also suggested that drug demand is highly dependent on available liquid funds, and thus is more flexible than previously thought (Grapendaal 1992; Grapendaal et al. 1995). Hence, it remains difficult to determine the degree to which the level or the frequency of drug use influences property crime activities.

Furthermore, the role of different income sources in the prediction of property crime among drug users has not been

thoroughly explored. Previous research has shown that illicit opiate users utilize a variety of income sources, including drug market activities, public income support programs, employment, support from family or friends, and prostitution (Bretteville Jensen and Sutton 1996; Maher et al. 2002; Grapendaal et al. 1995). Yet, research illustrating opiate users' criminal involvement has shown that property crime for the purpose of revenue generation still plays a major role in such populations' criminal activities—although considerable variation across countries exist (Maher et al. 2002; Parker et al. 1988; Grapendaal 1992; Anglin and Speckart 1986; Bretteville Jensen and Sutton 1996; Deschenes et al. 1991; Hammersley et al. 1989; Kinlock et al. 2003). The majority of these studies, however, compared the prevalence proportions of different income sources in a descriptive or a bivariate way; very little research so far has examined the predictors of involvement in property crime with a multivariate approach. For example, the role of income from other channels, such as drug dealing, and its possibly mitigating effect on the need to commit property crime, has not yet been thoroughly examined.

Notable exceptions taking a differentiated perspective on the prediction of crime frequency are the studies of Kinlock et al. (2003) from the United States or Hammersley et al. (1989) from Scotland, although these studies did not consider (substitutional) effects between illegal income sources. Kinlock et al. (2003) predicted the variety and frequency of various types of criminal activity including theft, drug dealing, and violent crimes among imprisoned illicit drug users. Their study found that a larger variety of theft crimes was predicted by the use of a number of different drugs, gender, and larger amount of time unemployed, whereas a higher *frequency* of theft (crime days) was predicted by lesser amount of time unemployed and lesser days of marijuana use. Hammersley et al. (1989) did not consider other income sources in their analyses, but found that theft frequency was predicted by the frequency of (lifetime) crime involvement and frequency of opiate and other drug use.

Against this background, the main question of the present study is whether, and to what extent, drug use frequencies, legal and illegal income sources are related to the engagement in property crime. Specifically, this study examines predictors of

property crime activity in our sample of regular opiate users, most of which are also heavily involved in the use of other illicit drugs such as cocaine or crack (Fischer et al. 2005). On the basis of this approach, our analysis also considers the drug user's larger socioeconomic context (expressed by other income sources, housing status) as well as their involvement in the criminal justice system overall.

The present study aims to add to the existing research in this topical area in multiple ways. First, this study is unique as it is based on a fairly large sample of drug users who were neither in treatment nor seeking treatment at the time of recruitment and assessment. Most existing research about the criminal activity of drug users is based on information gathered from individuals either entering or in treatment, or in detention (Parker et al. 1988; Deschenes et al. 1991; Dobinson 1986; Brochu et al. 2001). There are only a few larger-scale studies of drug user samples drawn directly from the community of street drug users, with slightly different research foci. For example, Cross et al. (2001) studied a sample of 602 Afro-Americans in New York City who frequently used or sold cocaine, crack, or heroin and thus limited their ethnic focus. Two other large studies conducted in Oslo (Norway) and Glasgow (UK) were based on samples of drug injectors, thus neglecting users with other preferred routes of drug administration (Bretteville Jensen and Sutton 1996; Hutchinson et al. 2000). There is still a considerable lack of clarity to what extent samples recruited from institutional contexts (i.e., treatment or prison) and those from the community (i.e., street-based users) differ in terms of their criminal involvement. However, an earlier study from the United States suggested that both (narcotic) drug use and criminality would be atypically high in the months just before treatment and/or detention (Anglin and McGlothlin 1984). We may therefore assume that the data from our sample of untreated opiate users contribute to a more precise assessment of their everyday routines.

Secondly, most studies on criminal involvement among illicit drug users have been conducted in the United States or Europe. The present study is based on a community sample of regular illicit opiate and other drug users from cities across Canada; a context where there is still little known about the factors determining the income-generating

behavior of illicit drug users. On the part of judicial responses to illicit drug use in Canada, it is known that illicit drug users typically are more often arrested for a property crime than for the possession or trafficking of illicit drugs (Fischer et al. 2001). Also, since the middle of the 1990s convictions of drug offenders increasingly include alternatives to prison (e.g., conditional sentencing; Canadian Centre for Justice Statistics 2003).

REVIEW OF POTENTIAL PREDICTORS

The following analysis of illicit opiate users' property crime involvement examined the role of a series of potential, previously hypothesized predictors, which are briefly reviewed in what follows.

Drug Use Frequency

Drawing on Goldstein's (1985) typology, we expect that the (increasing) amount of funds required to support the drug habit typically exceeds the legal means available to users, who therefore ultimately resort to illegal means. Many studies on drug use and criminal involvement among opiate users have found support for this notion (Anglin and Speckart 1986; Goldstein 1985; Nurco et al. 1984; Nurco 1998). This dynamic is, of course, not limited to opiate use; the same may hold true for other illicit substances such as cocaine or crack that are often co-used by opiate or poly-drug users. Crack use is especially characterized by highly addictive properties and high drug demand (Inciardi 1993). Moreover, in a Scottish study of 151 people from prison and different drug treatment centres, Hammersley et al. (1989) demonstrated that poly-drug use had a stronger association with theft activity than opiate use.

However, Grapendaal and colleagues (Grapendaal et al. 1995) suggested a more flexible demand (or an increased level of control over drug use by its users, respectively) than generally assumed. In their study of 150 Dutch opiate users drawn from the community and Methadone maintenance treatment, they found that the extent of heroin consumption is influenced by available resources (i.e., fewer funds lead to lessened consumption).

Sources of Income

From an economic perspective, as proposed by Goldstein (1985), it may be concluded that drug users are unlikely to engage in acquisitive crime (regardless of type) as long as legal funds (e.g., employment or social support income) sufficiently cover drug expenditures. Therefore, one may expect that an increase in legally obtained funds would have a reduction effect on (property) crime activity. It should be noted that there is no standing hypothesis about how property crime and other illegal sources of income are related. However, given that opiate users typically utilize a variety of income sources besides property crime (Bretteville Jensen and Sutton 1996), we can also expect a substitution effect from income from drug dealing or prostitution. Hence, it appears reasonable to hypothesize that drug users are less likely to resort to property crime if they have legal income sources, or draw income from drug dealing or sex work.

With regards to other specific drug user populations, Inciardi and Pottieger (1994) found that street-based crack users focused more exclusively on one specific crime type, namely drug dealing, than their counterparts from a treatment sub-sample. Although this finding has to be interpreted in the context of the rather profitable U.S. crack market in the 1990s, it still may hold true for the present.

Housing Status

Illicit drug use is commonly associated with negative social characteristics, such as unemployment or unstable housing; for example, many illicit drug users live in non-permanent housing or are homeless (Stahler and Cohen 1995; Bassuk et al. 1997). In addition, there is evidence that homelessness exacerbates substance use or the extent of its harmful consequences (Anderson et al. 2002). More importantly, homelessness has been suggested to be a situation likely leading to criminal activities in itself, that is independent of age, gender, or the number of previous homeless experiences, as McCarthy and Hagan (1991) showed in a study of 390 homeless adolescents from Toronto.

Furthermore, drug users characterized by non-stable housing conditions are often excluded from legal income opportunities and therefore are more likely to be involved

in the illegal economy. On this basis, we hypothesize a positive association between unstable housing and the level of involvement in property crime among illicit opiate users.

Interaction Between Drug Use and Housing

Evidence suggests that certain constellations of housing and drug use among drug users may constitute a “double risk” for involvement in criminal activities. Previous research has suggested that specifically crack use is of importance in the context of explaining property crime among illicit drug users for several reasons. First, crack use and dealing has been found to be strongly associated with poverty and unemployment (Erickson and Cheung 1999). Second, frequent crack users and multiple hard drug users have been found to be highly marginalized—a situation that was even expressed in the hierarchy of roles in the drug distribution economy—and much more likely to engage in theft (Cross et al. 2001; Johnson et al. 1994). Consequently, we hypothesize interaction effects between the use of crack and the housing situation on property crime involvement. More specifically, we hypothesize that crack use frequency is more strongly associated with property crime involvement for drug users in non-permanent housing than for those in permanent housing.¹

Legal Status

The question of causality between crime and drug use is complex and simplistic causal relations models have been dismissed by pertinent research (White and Gorman 2000). The present cross-sectional study is not suited for a decisive clarification of this principal question. However, what may be more important for explanatory purposes is that illicit drug use typically takes place in the illegal environment of drug markets and thus often overlaps with other criminal environments or “cultures,” such as the market for stolen goods (Dorn et al. 1994). Therefore, illicit drug users may be more likely to entertain social relations or to be part of social

¹ An interaction effect means that the influence of one variable on another depends on the value of a third variable. However, interaction effects do not suggest causality (for which longitudinal data would be required) nor reciprocal influences of these relations.

networks with criminal cultures and their members, or to even have a standing history of criminal involvement. An individual's current legal status—that is, whether currently under some form of judicial restraint, such as being on probation or parole, under bail or warrant, or having a criminal record—would serve as an instructive proxy for previous involvement in criminal activity. Therefore, we hypothesize that individuals who are under some form of judicial restraint are more closely involved in criminal activity and thus more likely to be part of a criminal subculture (Byqvist and Olsson 1998).

Gender and Ethnicity

Previous research has shown important gender differences in income-generating behaviors related to illicit opiate use, with female users typically relying more on sex work, and men committing more thefts and being more likely to have income from legal work (Bretteville Jensen and Sutton 1996; Taylor 1993).

Further, due to their typically lower socioeconomic position and overrepresentation in marginalized populations (Tonry 1997), ethnic minorities may be expected to have less access to legitimate financial means for supporting their drug habit, and thus be more likely to engage in property crime. Specifically, Aboriginals are of main concern in the Canadian context given their extreme situation of socioeconomic deprivation as well as relatively high representation in the drug user population (Moore 2003).

Interaction Between Drug Use and Study Site

Drug use and related behaviors generally differ considerably according to and are starkly influenced by local drug ecologies, markets, and cultures. The study population to be examined featured substantial differences between sites on key indicators related to drug use, social, health, and crime-related characteristics (Fischer et al. 2005). Thus, distinct behavioral or environmental dynamics may exist in the different study sites, which, in turn, possibly contribute to differences in property crime activity. Therefore, for the purpose of the present analysis we hypothesize that factors possibly associated with property crime might differ between

cities, calling for a systematic examination of whether the use of certain drugs has a differential impact on property crime activity depending on site.

Summary of Hypothesized Effects

The already presented framework of assumed effects can be summarized as follows. A higher involvement in property crime is expected, if study participants:

- use drugs more frequently (including heroin, cocaine, crack, prescription opioids),
- have less legal income,
- are not involved in drug dealing,
- do not engage in sex work,
- live in non-permanent housing,
- use crack and live in non-permanent housing ("double risk"),
- are under any judicial restraint (legal status),
- are of male gender,
- are of non-white ethnicity.

On this basis, the aim of the following analysis is to identify factors associated with the prevalence of property crime in the multisite sample of regular opiate users outside of treatment in five Canadian cities.

METHODS

The present study examines data from an ongoing cohort study of regular, illicit opiate users outside of treatment from five Canadian cities, namely Edmonton, Montreal, Quebec City, Toronto, and Vancouver ("OPICAN-study," Fischer et al. 2005). The non-random sample of 677 study participants was recruited through snowball methods, such as peer/outreach recruitment, community advertisement, and distribution of flyers and posters in local health and social service agencies. As fully representative sampling of illicit opiate users as a "hidden population" (Watters and Biernacki 1989) is impossible (Eland-Goossensen et al. 1997), our data and findings may not be fully generalizable to other illicit opiate user populations or cities in Canada. Individuals were eligible if they had used illicit opiates

TABLE 1 Independent Variables

Variables	Categories	Mean/proportion	SD
Cocaine, past 30 days use	Number of times (ln) ¹	40.12 (1.72)	105.24 (1.96)
Crack, past 30 days use	Number of times (ln) ¹	132.88 (2.23)	488.27 (2.46)
Heroin, past 30 days use	Number of times (ln) ¹	70.88 (2.62)	209.35 (2.14)
Prescription opioids, past 30 days use	Number of times (ln) ¹	43.96 (2.14)	86.86 (1.97)
Drug Dealing income, past 30 days	0 = no 1 = yes	73.0%	
Sex work, hustling; past 30 days	0 = no 1 = yes	27.0% 79.8%	
Income from legal sources, past 30 days	1 = yes Amount of \$ (ln) ¹ from social assistance/welfare, disability, family/partner, friends, paid work	20.2% 747.98 (5.43)	889.36 (2.53)
Legal status (current)	0 = under no judicial restraint 1 = under any judicial restraint (on parole, probation, serving a conditional or community sentence, under bail/bench warrant/pending charges, carrying a criminal record)	28.2% 71.8%	

Housing situation	0 = permanent (apartment, house)	45.9%
Gender	1 = non-permanent (e.g., boarding house, hostel, street)	54.1%
	0 = female	33.4%
Ethnicity	1 = male	66.6%
	0 = white (R) ²	68.8%
	1 = First Nations people	15.9%
	2 = other ethnic group (e.g., black, Hispanic, Asian, Middle-Eastern origin)	15.3%
Study site	1 = Edmonton	13.8%
	2 = Montreal	23.4%
	3 = Quebec City	13.2%
	4 = Toronto	20.8%
	5 = Vancouver (R) ²	28.8%

¹Transformation with natural log: $x = \ln(x + 1)$.

²R: reference category. $n = 653$.

regularly (i.e., majority of days per week) for at least one year, and had not been in or seeking treatment in the past six months. After eligibility examination following a standard screening protocol, participants provided written informed consent for the study and were paid \$20 for their participation. Baseline data were collected in anonymous form by an interviewer-assisted standardized questionnaire in the local sites from March to November 2002. In addition, biological and clinical screen instruments for infectious disease and mental health measures were used (for details see Fischer et al. 2004).

The OPICAN baseline questionnaire included sections about detailed drug use, sociodemographic and -economic characteristics, the utilization of health care services and criminal justice involvement. The dependent variable, property crime, was asked in a section with other crime indicators (i.e., sex work/hustling and drug dealing) by an open-ended question labeled "other criminal activity." Given responses pertained to property crime and typically included remarks like "theft," "stealing," or "fraud." The information on crime in our sample thus relies exclusively on self-reports. Several studies, however, have demonstrated the validity of self-report data from illicit drug user populations, especially when collected in a trustworthy and non-coercive setting ensuring anonymity and confidentiality (Darke 1998; Landry et al. 2003). Table 1 gives an overview of the independent variables, including their definitions and distributions.² The drug use frequency variables have been transformed on the basis of the natural log (base $e = 2.718$) in order to reduce influences of extreme high values.

In order to assess the significance and relative strength of predictors of property crime prevalence, we estimated multiple logistic regression models (Hosmer and Lemeshow 1989). In our regression models, we included all the aforementioned variables and systematically tested whether the use of any drug had a significantly different influence on

²In our models we did not include the age of our participants, who on average were 35 years old. Because this average was much above the typical crime peak in late adolescence or early adulthood (Greenberg 1985), there was no reason to include age. However, we tested the models also including age, but it was found not to be significantly related with property crime.

property crime depending on the study site (i.e., interactions between drug use and the study site on property crime). In the same way we also tested if any drug had a different impact on property crime depending on the housing status of the participants (i.e., interactions between drugs used and housing situation). In the final regression model, as shown later, we included only significant interaction terms. It should be noted, however, that with our cross-sectional assessment we could not determine the causal relations among considered factors such as housing, drug use, and crime. Our sample for the present analyses consists of $n = 653$ participants due to missing values in the considered variables for the analyses.

RESULTS

Prevalence of Property Crime and Other Income Sources

Prior to presenting the results regarding property crime predictors, we compared the prevalence rates of both illegal and legal sources of income in our sample (Table 2). Of the total of 653 participants assessed, 16.5% reported that they committed a property crime in the past 30 days. A larger proportion, namely 27%, reported drug dealing as a source of income. About 20% had some income through sex work or hustling. With regard to legal income sources, 70% of the

TABLE 2 Prevalence of Legal and Illegal Activities as Income Sources

Sources of income	%
Property crime	16.5
Drug dealing	27.0
Sex work, hustling	20.2
Legal income	83.5
<i>of which:</i>	
Social assistance/welfare, disability benefits	69.5
Paid work (legal)	20.1
Family/partner, friends	19.1

Percentages do not sum up to 100% because several income sources could be indicated. $n = 653$.

sample received money from social assistance or disability benefits, 20% had legal income from paid work, and 19% had financial support from their family, partner, or friends. In total, 84% of the study sample reported some form of legal source of income. Overall, the prevalence of property crime stands at a relatively low rate in our sample compared to other forms of illegal income generation.

Multivariate Analyses of Predictors of Property Crime

The results of the logistic regression model are shown in Table 3.³

Among the drugs examined in our analysis, the frequency of crack, heroin, and cocaine use were highly significant predictors of property crime. The positive relations indicated that an increased use of these drugs led to an increased likelihood of having engaged in property crime among participants.⁴

Of the tested interactions between substances used and city, only the interaction between crack use and city was significant, meaning that the use of crack had a significantly different impact on property crime depending on the city. More specifically, participants who reported crack use had a substantially higher risk of involvement in property crime when living in Quebec City and Toronto compared to those in Vancouver (the latter was used as the reference group against which odds were calculated). In this regard, crack users in Quebec City were the most different from those in Vancouver, being almost eleven times more likely to commit property crime than their counterparts. However, as the wide-ranging confidence interval of the odds ratio indicates, this specific finding is somewhat unstable due to a very small number of crack users in Quebec City.

³Overall, our model fits the data fairly well. Nagelkerke's R^2 , an analog to the R^2 in OLS regression, has a value of .201, which means that property crime is moderately explained by the included variables.

⁴The odds ratios of these variables reflect changes per unit of the natural log scale. For example, an increase in heroin use from once a day ($\ln$ of 30 times = 3.40) to twice a day ($\ln$ 60 times = 4.09) equals an increase in the odds of involvement in property crimes of 22% (the $\ln$ -difference of .69 equals an odds increase of 22%, given the 32% increase of one unit heroin use, as indicated by the respective odds ratio). The same increase of crack and cocaine use result in increased property crime odds of 66% and 9%, respectively.

TABLE 3 Logistic Regression Model of Property Crime Prevalence

	Odds ratio	95% CI lower	higher	Sig. (p)
Cocaine use frequency (a)	1.13	1.002	1.27	0.046
Crack use frequency (a)	1.95	1.24	3.06	0.004
Heroin use frequency (a)	1.32	1.13	1.54	0.001
Prescription opioids use frequency (a)	1.11	0.96	1.28	0.17
City*Crack use frequency (a)				0.04
(1 Edmonton)	1.42	0.98	2.04	0.06
(2 Montreal)	1.21	0.87	1.70	0.26
(3 Quebec City)	9.79	1.18	81.02	0.03
(4 Toronto)	1.32	1.02	1.71	0.03
Housing	2.02	1.02	4.01	0.04
Crack use frequency (a)*Housing	0.81	0.67	0.99	0.04
Drug-dealing income	0.90	0.52	1.54	0.70
Sex work/hustling income	0.52	0.25	1.06	0.07
Legal income (ln of \$ amount)	0.93	0.85	1.02	0.10
Legal status	1.96	1.07	3.58	0.03
Male gender	1.93	1.06	3.51	0.03
Ethnicity				0.32
(First Nations)	0.63	0.29	1.37	0.24
(Other)	0.67	0.34	1.30	0.24
City				0.64
(1 Edmonton)	0.54	0.11	2.70	0.46
(2 Montreal)	0.76	0.27	2.13	0.60
(3 Quebec City)	0.78	0.22	2.79	0.70
(4 Toronto)	1.34	0.44	4.10	0.61

(a): logged frequencies. $n = 653$. Model- $\chi^2 = 82.960$ ($df = 21$; $p < .001$); Hosmer and Lemeshow Test: $\chi^2 = 7.533$ ($df = 8$, $p = 0.480$); Nagelkerke $R^2 = 0.201$.

Unstable housing emerged as a significant predictor of property crime. Participants living in non-permanent housing (i.e., in transitional housing or on the street) were about twice as likely to engage in property crime than users living in permanent housing conditions.

Furthermore, with regards to the tested influences of interactions between drugs used and housing situation, the interaction of crack use and housing was found to be a significant predictor. The odds ratio of this interaction (0.81) suggests that the influence of those participants who reported crack use as well as non-permanent housing is associated

with committing *less* property crime. A closer examination of this interaction revealed that increasing crack use had opposite effects on property crime for participants featuring permanent and non-permanent housing status. Although increasing crack use among permanently housed drug users led to a steep increase of the likelihood of having committed a property crime, this likelihood slowly decreased with more frequent crack use among non-permanently housed users.

Further analyses showed that the different impact of crack use on property crime depending on the housing situation can be traced back to the influence of the Vancouver sub-sample. It was found only in Vancouver that the likelihood of property crimes *decreased* with increasing crack use of drug users in non-permanent housing. In all other cities, this likelihood increased and had a roughly parallel slope compared to that of permanently housed users (also indicating that there was no interaction regarding housing status).⁵ Yet, further examinations showed that in Vancouver the different impact of crack use on property crime is due to a larger engagement in sex work among non-permanently housed users.⁶

Male drug users committed significantly more property crime than female users, with the odds being almost double (93% higher). Likewise, participants of our sample who are currently under any form of judicial restraint were significantly more likely to commit property crime.

The frequency of prescription opioid use was not significantly related to the involvement in property crime. Moreover,

⁵However, respective interactions tested in the sub-samples of Edmonton, Montreal, and Toronto were not significant ($p > .05$). Quebec City had too few crack users to be examined.

⁶We found in Vancouver that, compared to permanently housed drug users, non-permanently housed users were significantly more engaged in sex work and used less prescription opioids, but were not significantly different regarding the use of other substances or the rate of drug dealing and property crime. Hence, we assumed that a larger engagement in sex work of non-permanently housed users is related to the different impact of crack use on property crime in Vancouver. This assumption was supported by two additional results. First, crack use was significantly and positively correlated with sex work ($r = 0.29$; $p < .01$). Secondly, a cross-tabulation of property crime and sex work separated by groups of high and low crack use (split by the median) showed for the high-use crack group that a significantly higher proportion of those not involved in sex work committed a property crime (10 out of 43; 19%) compared to those involved in sex work (1 out of 40; 2%). No significant association between engagement in sex work and property crime was found for the low-use crack group.

neither the amount of funds received from legal sources nor the engagement in drug dealing or prostitution as revenue was a relevant predictor of property crime. Finally, participants' ethnicity had no influence on the chances of having committed a property crime.

DISCUSSION

Illicit drug use has long been categorically associated with criminal activity, and recent studies on the social costs of illicit drug use have emphasized the primary role of crime in the ensuing societal burden (Rajkumar and French 1997; Single et al. 1996; Wall et al. 2000). The specific crime category of property crime is of particular interest from a societal perspective, as the property affected typically belongs to community members, and thus imposes loss and harm on the community at large. On this basis, our study set out to more thoroughly examine the predictors of property crime involvement among a larger cross-Canadian sample of regular illicit opiate users outside of treatment at the time of assessment (OPICAN cohort).

First off, a notable finding is that property crime constituted only a *minor source* of income (16.5%) within our illicit opiate user sample, even when illegal sources only were considered. This represents one of the lowest rates found in the existing body of research on this topic and certainly is contrary to popular impressions. As a direct comparison, we refer to the findings from Fischer et al. (2001), where 47% of a local study sample of 114 untreated opiate users in Toronto reported some form of property crime in the last month and 68% reported drug offenses (dealing, distribution, or production). Although the prevalence of property crime in the Toronto sample is the highest (28%) of all OPICAN sites, these large differences are striking. Although we cannot rule out some methodological causes, such as sampling bias or a questionnaire artifact (because property crime data were collected in more detail by Fischer et al. [2001] than in the present study), we have no reason to assume that there is differential validity of the data collected in the OPICAN study compared to other studies. Evidently, there is a considerable diversity of income sources in this illicit drug user population, which has also been reported by other studies (Bretteville Jensen and

Sutton 1996; Maher et al. 2002). Nevertheless, for illegal income generation, participation in the illegal drug economy (i.e., drug dealing) forms the primary activity. This finding also suggests—at least within a Canadian context—that there are reasons for illicit opiate users that make them less compelled to commit property crime.

Nevertheless, consistent with previous research, we found that a higher frequency of heroin, crack, and to a minor extent also cocaine use, in our sample significantly increased the odds of property crime. Given that these drugs are both characterized by substantive addictive properties and are offered in illegal markets at highly inflated prices, property crime appears to be an important means of generating the funds required to purchase the required drug supply. The fact that this dynamic could not be observed for (illegally used) prescription opioids can likely be explained by the circumstances that such substances may predominantly be obtained from medical sources, and thus do not require property crime activities per se.

Although this finding supports an economic explanation of involvement in property crime, we also have somewhat contradictory findings regarding the impact of other income sources. Specifically, neither the availability of legal funds, nor other illegal income activities such as drug dealing or prostitution were significantly related to property crime. Hence the expected substitutional and mitigating effects of other illegal income activities—especially the dominant phenomenon of drug dealing—on property crime were not observed. This suggests that illicit drug users begin to engage in property crime (or commit more of this kind) when involvement in drug dealing or sex work no longer covers their drug consumption. Property crime may thus be interpreted as more of a “top-up” rather than an alternative illegal income strategy.⁷

The specific association of crack use and property crime seems to further underline the extreme degree of social *marginalization* reported for the distinct population of crack users in North America (Cross et al. 2001; Erickson and

⁷For our analysis we considered the prevalence rate of these activities. Substitutional associations may exist if the actual funds generated from drug dealing or sex work were considered.

Cheung 1999). One of the implications of such marginalized drug user subcultures may be the predominant lack of alternatives to criminal activity as a means of income generation. This, of course, does not fully explain the substantial differences in these specifically observed interaction effects between crack use and city on property crime; however, these dynamics may point to specific local dynamics between site environments and their specific drug use cultures that are not explicitly reflected in our data and thus hard to resolve in our analysis.

We can only speculate about these pronounced differences in income generation strategies between study sites. One particularly relevant factor is the different degree of social integration among participants. For example, participants from Vancouver may be characterized as the most marginalized illicit drug users in our sample. We found the largest proportion of non-permanently housed (about 75%), the least income from paid work, and the highest involvement in drug dealing and sex work among them. Conversely, the subsample from Quebec City may be characterized as the most integrated, with the lowest proportion of unstable housing (about 25%) and generally low crime involvement. Reasons for these differences may include that participants from the two smaller cities of Quebec City (700,000 inhabitants) and Edmonton (1 million) receive more legal income (mostly from social welfare) than users from the remaining cities. Thus, users from Quebec City are far more socially integrated and can possibly still rely on social networks. There is an exception to such an explanation though. Crack using participants from Quebec City were much more likely to have committed a property crime than those in Vancouver (although crack use is very rare in Quebec City). This may be explained by a far stronger involvement in criminal subcultures among crack using participants compared to those who did not use crack. Again, this leads us to the importance of future (quantitative and qualitative) research on local drug cultures and their overlap with criminal subcultures.

The predictive role of participants' unstable housing status for property crime similarly supports assumptions that increased marginalization is related to criminal subcultures and/or lack of alternative means for resource generation.

This also emphasizes the fact, again, that social determinants and drug-related harms—even within an already marginalized population of illicit drug users—are closely intertwined and deserve close attention (Fischer et al. 2004; Strathdee et al. 1997). However, our analysis did not observe the expected amplifying effect of the interaction between crack use and unstable housing status on property crime. The combination of the two factors was linked to less property crime activity, which was, however, due to special characteristics of the Vancouver subsample. As further analyses showed, Vancouver participants who reported crack use and unstable housing were more engaged in sex work. For this specific group we observed a substitution effect of sex work on property crime.

Our analysis also demonstrated that there are *gender* differences with regards to the nature of criminal activity within our sample. Male participants indicated much higher odds of property crime activity than females, suggesting that females relied more on legal or other illegal sources for income generation, much of which occurred in the form of sex work as further analysis demonstrated. On the other hand, drug users' *ethnicity* had no independent effect on the commitment of property crime, although it is strongly evidenced in Canada that Aboriginal people typically are overrepresented within the criminal justice system (Moore 2003). It may be that Aboriginals resort more to other forms of income generation, for example, drug dealing. Further research will have to clarify this tentative finding.

Finally, the predictive value of existing *criminal justice restraints* on property crime activity may suggest that people who reported property crime activity have been in conflict with the law before, may have stronger affiliations with criminal subcultures and thus engage in crime as a learned or expected regular—and existentially necessary—behavior (Byqvist and Olsson 1998). On the other hand, it points to the fact that being on parole or probation does not prevent drug users from engaging in criminal activities such as property crime. Thus, the deterrent effects of judicial restraints are very limited within our sample of regular illicit drug users, which leads our discussion to the need for treatment interventions.

Our findings have some key implications for *interventions*. The association between specific drug use frequency and

property crime emphasize the need for widely available and effective treatment interventions that help to reduce the extent of illicit drug use (not necessarily dependence per se) and thus the need to purchase and fund drugs illegally. Opioid maintenance programs (e.g., methadone or other opioid prescription treatment programs) have shown substantive effects in reducing drug-related criminal activity in their patients (Hubbard et al. 2003; Gossop et al. 2003; Hall et al. 1998; Killias and Rabasa 1998; Van den Brink et al. 2003). Given that the majority of Canadian opiate users are not in or not consistently retained in treatment, there is a strong need for an expansion of viable treatment options also from the end of a lessened societal crime burden. At the same time, it must be acknowledged that very little promising treatment interventions exist for the phenomenon of crack or cocaine use at this point, rendering targeted harm reduction with an effect on crime difficult.

Our study clearly illustrates the need for more research. Specifically, further research should investigate why crack use in Toronto is more strongly associated with property crime than in any other site. Moreover, the role of local differences concerning distinct local drug cultures, markets, and enforcement practices, and their specific influence on crime needs to be investigated here.

Evidently, illicit opiate and other drug use are strongly linked with crime in the Canadian context, resulting in considerable harms to the community, yet the identified predictors of property crime suggest some specific target points for urgently necessary interventions.

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