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Trafficking among youth in conflict with the law in São Paulo, Brazil

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Abstract *Background* Engagement in drug trafficking may place a child or youth at risk for exposure to severe violence, drug abuse, and death. However, little is know about the nature of youth involvement in drug trafficking. The purpose of this study is to describe drug trafficking behaviour of delinquent youth and identify adverse experiences as potential predictors of trafficking. *Methods* Cross-sectional sample of youth (12–17 years of age) incarcerated in detention facilities for delinquent or criminal acts in São Paulo City, Brazil. Structured face-to-face interviews completed with 325 youth (289 boys, 36 girls). *Results* Approximately half of the boys and girls in this sample have had at least some role in drug trafficking prior to incarceration. Though youth who had engaged in drug trafficking activities did not differ on basic socio-demographic variables, they were more likely to have been exposed to a number of adverse experiences. Beyond heavy substance use, no longer attending school, gang involvement, witnessing violence, and easier access to guns, drugs and alcohol remained significantly related to trafficking involvement in the final regression model. Girls experienced a very similar pattern of adverse exposures as boys. *Conclusion* Special efforts may be required for rehabilitation of youth who engage in drug trafficking. Potential targets may include keeping or re-engaging delinquent youth in school for longer periods of time and reducing youth exposure to violence in poor urban communities.

Key words Brazil – street drugs – drug trafficking – adolescent – juvenile delinquency

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Introduction

Drug trafficking is a serious problem for youth in Brazil [13, 30] as it is in many other countries such as the United States [21]. Vulnerable children and youth are not infrequently caught up in this complex and dangerous enterprise. This is one life track which may lead youth into conflict with the law, as well as to other serious outcomes including death. However, critical details as to the roles of youth in trafficking and the factors predicting their involvement are not well known which impedes prevention and intervention efforts to decreased youth involvement in trafficking.

There is very limited information on the prevalence of youth involvement in trafficking. However, some data are available from the United States (US). There has been particular interest in the engagement in trafficking by urban youth in the US. In a large convenient cohort of African American youth recruited from recreational centres in a poor urban district in the Eastern US, 29% of males and 11% of females had engaged in drug selling and/or drug delivery at some point during a 2 years time interval [29]. A study of male 9th and 10th grade students from schools serving the poorest census tracts in Washington, DC, reported a rate of engagement of 10%, with a rate of 24% from neighbourhood recre-

ational centers in the same area [1]. Black and Ricardo [4] reported a rate of 12% involvement in trafficking among a sample of African American males recruited from recreation centres in low-income urban communities in the US.

A higher prevalence of trafficking is reported for delinquent populations. Sheley [23] reported that 73% of youth in maximum security reformatories from several sites in the United States had a role in trafficking. Eighty percent of a sample of "criminally involved" youth in Miami had some role in the crack business [15].

Though the above prevalence values provide some indication as to the extent of involvement in trafficking by youth, these are all US studies, most are more than a decade old, several of the studies used convenience samples and/or had limited operationalization of what constituted trafficking. With regard to the latter, youth may take on a variety of roles in the drug trafficking industry. Leviton et al. [18] referred to youth job categories of "lookouts" (watching for police by the youngest entry level youth), "runners" (transporting drugs from one site to another), and "dealers." Youth also engage in carrying drugs across country boundaries. Vale and Kennedy [26] reported on a case series of youth caught illegally importing illicit drugs into the United Kingdom.

Positions potentially open to children and youth in the drug trade in Rio de Janeiro, Brazil, have previously been described. These include, in increasing prestige and economic reward, (i) "*endoladores*" (packaging drugs), (ii) "*olheiro/fogueteiro*" (look outs to provide an early warning of police or enemy drug faction invasion), (iii) "*vapor*" (drug sales persons), (iv) "*gerente da boca*" (overseer of drug sales), (v) "*soldado*" (soldier, armed and employed to maintain order and protection), (vi) "*fiel*" (personal armed security guard for *gerente geral* (general manager), with the top being (vii) "*gerente geral*" or "*dono*" (owner or boss) [9, 10]. Another category, "*aviões*" or "*aviõezinhos*" (little airplanes) refers to children who deliver messages or drugs to customers. Though not described within the preceding hierarchical organization, it may represent a low, entry point position. In addition, it is the category that reportedly experiences the most arrests [9, 30]. The prevalence of these different types of jobs is unknown.

In addition, there is limited information on correlates of drug trafficking with the important exception of its relationship with personal use of drugs [e.g., 15, 19]. Traffickers are not necessarily all users. In the combined (school and recreational centers) Washington, D.C. sample, 9% only sold drugs, 8% only used drugs, while 4% sold and used drugs [1]. In the incarcerated sample reported by Sheley [23], 48% had sold but not used drugs while 25% had sold and used. One longitudinal cohort study reported a stronger path leading from initial drug trafficking to subsequent use than vice versa [20].

Despite the findings reviewed above, much is still unknown about drug trafficking by youth. The present study investigates the characteristics of trafficking among youth incarcerated in detention facilities in São Paulo, Brazil. It was hypothesized that (i) a substantial proportion of incarcerated youth in the detention centres in São Paulo would have had some trafficking experience, (ii) that youth who had trafficking experience would have been exposed to more adverse risk factors across multiple domains (school, work, peer, home/community), and (iii) that these relationships would hold after controlling for personal substance use.

Methods

Setting

The study was conducted in São Paulo City, Brazil. São Paulo is one of the largest cities in the world with a population of over 19 million in the greater metropolitan area with 33.7% under 20 years of age [11]. In 2004, 31.8 per 100,000 inhabitants died during robberies or intentional homicides in São Paulo metropolitan area [12].

Youth were recruited from locked detention units of *Fundação Estadual do Bem-Estar do Menor* (FEBEM) [São Paulo State Foundation for the Well-being of Minors], the state agency for managing juvenile delinquents. The Foundation name was recently changed to *Fundação Centro de Atendimento Sócio-Educativo ao Adolescente* (Fundação CASA SP) [Adolescent Socio-Educational Assistance Centre Foundation] to better express the concept of socio-educational support.

Sampling

At the time of the development of the sampling strategy, there were 36 units for boys in the locked detention system in the greater São Paulo area. Five were free standing units and 31 were clustered within five large compounds. Unfortunately, our original plan to randomly sample within these two strata (free standing units and units within compounds) could not be fully executed due to administrative activities not related to the study (e.g., two compounds not being accessible due to intermittent riots and some unit changes between compounds after sampling). In the end, we were able to include two free standing units (randomly selected from the five) and 7 units (randomly selected) within two of the compounds, with an eighth unit added to increase the sample-size of younger boys. The partnering agency recommended inclusion of at least some free standing male units as it was believed by them that outcomes would be better from these units. All incarcerated girls were housed in two free standing units which were both included in this study. No girls were housed in units on compounds.

All youth within the selected units were eligible if they met the following inclusion criteria: (i) aged 12–17 years at the time of the interview; (ii) last home address, prior to incarceration, in the greater metropolitan area of São Paulo, (iii) having the status of *Privação de Liberdade* (full-time locked status in one of the detention centres); and (iv) having the status *Aguardando Decisão Judicial* (ADJ) (staff report on youth having been filed with the judge which starts the process for deciding a release date). This last criterion was necessary as the next phase of the larger study planned to track outcomes of youth discharged from the incarceration facilities. ADJ status typically meant that the youth would be discharged sometime in the next few days to months.

The time period of recruitment was April to October 2004. As institutional staff arranged for interviews and did not provide data on the number or characteristics of the total eligible sample, nor the numbers that refused, we are not able to determine whether partici-

pants differed from the eligible population. The compounds experiencing riots tended to house older and recidivistic youth who had engaged in more serious crimes and hence excluding these compounds may have resulted in an under representation of these subgroups. We are not otherwise aware of any systematic biases in our sample.

Process

The study was reviewed and approved by the ethics committee of the Universidade Federal de São Paulo. The study was also reviewed and approved by a judge responsible for FEBEM youth. In addition, verbal assent was obtained from the youth after the voluntary nature of the study was explained.

All participating youth were individually interviewed by one of the trained research assistants using a structured interview survey. The interviews were conducted within the incarceration facilities in as most private an area as was available. The interview typically lasted between 50 and 75 min. There were 224 questions in the interview with some questions having subcomponents.

Measures

The interview instrument was composed of a series of questions, some drawn from pre-existing standardized instruments used in Brazil, some standardized instruments used elsewhere but not previously in Brazil, and a series of questions developed specifically for this study. The interview pertained to experiences of the youth prior to their incarceration and not during the current incarceration. The following is a description of the instruments that are reported in this paper.

Questions on drug trafficking were constructed specifically for this study. Each youth was asked whether they had ever been involved in any of the following drug trafficking related activities: (i) directly selling drugs, (ii) carrying drugs other than for personal use, (iii) having others selling drugs for them, and (iv) working as a lookout for a drug dealer. If the youth answered positively to any of the above, they were asked additional questions about duration and frequency of involvement with the given activity, as well as the types of drugs involved.

Additional items constructed specifically for this study and reported in this paper included questions on criminal history (e.g., type of crime resulting in current incarceration), exposure to extreme situations (e.g., sleeping on the street), school experience (e.g., whether recently attending), and questions about licit employment including job training.

A structured questionnaire developed by the *Associação Brasileira de Empresas de Pesquisa* (Brazilian Association of Research Companies) [3] based on the Brazilian Economic Classification Criteria was used to measure socio-economic/social class status. This instrument has been used in many other studies conducted in Brazil and uses a series of SES indicators such as the educational level of head of household and acquired consumer goods. Families are classified into five categories of economic class according to the questionnaire total score: A (25–34), B (17–24), C (11–16), D (6–10) and E (0–5) [the higher the score, the greater the family's SES].

The drug use screening inventory-revised (DUSI-R) is an instrument for youth covering the frequency of use of an extensive list of substances of abuse as well as factors related to drug use. Several studies have used this instrument in the United States [e.g., 17, 24]. The instrument has previously been translated into Brazilian Portuguese and used to study substance use in Brazilian students [8] and was found to have good psychometric properties [7]. An index of heavy (10 or more uses), light (1–9 uses), and no drug use in the last month, excluding tobacco and alcohol, was constructed from this instrument. In addition, a single question on gang involvement was extracted.

The social and health assessment (SAHA) is a broad instrument on youth health and experiences [22, 28]. This instrument has been translated into multiple languages and used in several countries [e.g., 27]. Several key components were translated into Brazilian Portuguese, back-translated, with disagreements resolved through further discussion. Previous studies of the SAHA have found several subscales with high internal reliability for several domains. Domains reported in this manuscript include: (i) Peer Deviance Composite, the extent to which the youth's peers engage in "deviant" behaviour (e.g., drug and alcohol use) measured by nine items rated on a scale of one (no friends engaged in the behaviour) to four (most or all of them engaged) [Cronbach internal consistency reliability alpha (α) of 0.84 for this sample]; (ii) Witnessing Violence Composite, youth's witnessing violence in the neighbourhood (e.g., seeing someone threatened with serious physical harm) measured by six items (one item dropped to increase α) on a scale of one (none) to five (10+ times) in the past year [$\alpha = 0.80$]; (iii) Experiencing Violence Composite, youth's personal experience of violence in the community, identical to the witness questions (six items) [$\alpha = 0.63$]; and (iv) the youth's belief in the ease of access to guns, alcohol and drugs composed of five items rated from one (very easy) to four (very difficult) [$\alpha = 0.79$].

Analysis

The sample was dichotomized by gender and then by any involvement in drug trafficking versus no involvement. Differences between youth involved and not involved in trafficking were initially assessed with χ^2 tests with continuity correction and Student t tests. Key variables demonstrating a significant relationship in bivariate analysis at the $P < 0.05$ level were entered into a logistic regression model, after entering gender and heavy substance, to identify variables demonstrating significant independent relationship to trafficking. All analyses were managed with PC version 13 of SPSS.

Due to changes in the units of sampling after the sampling design was derived, we chose not to weight for the original stratification and the slight oversampling of younger boys ($n = 12$ under 15 years of age).

Results

A total of 325 youth were recruited from FEBEM detention centres (289 boys, 36 girls). Forty-four percent of boys and 53% of girls reported at least some involvement in drug trafficking (Table 1). Selling and

Table 1 Frequency of different types of drug trafficking roles by age and gender

	Age (years)		Total
	12–14	15–17	
Boys	$n = 42$	$n = 247$	$n = 289$
Girls	$n = 5$	$n = 31$	$n = 36$
Drug traffickling activity	% (n)	% (n)	% (n)
Sold drugs			
Boys	42.9 (18)	31.6 (78)	33.2 (96)
Girls	0.0 (0)	41.9 (13)	36.1 (13)
Carried drugs (not for personal use)			
Boys	31.0 (13)	30.8 (76)	30.8 (89)
Girls	20.0 (1)	45.2 (14)	41.7 (15)
Others sold drugs for you			
Boys	21.4 (9)	17.0 (42)	17.6 (51)
Girls	0.0 (0)	16.1 (5)	13.9 (5)
Worked as a lookout for drug dealer			
Boys**	28.6 (12)	11.7 (29)	14.2 (41)
Girls	0.0 (0)	9.7 (3)	8.3 (3)
Any trafficking involvement			
Boys	52.4 (22)	42.5 (105)	43.9 (127)
Girls	20.0 (1)	58.1 (18)	52.8 (19)

**$P < 0.01$ (boys 12–14 versus boys 15–17)

carrying drugs were the most common trafficking activities reported by both boys and girls. More of the younger boys (12–14 years) reported involvement in trafficking than older boys (15–17 years), though this was only significant for the task of working as a lookout. Older girls reported more involvement than younger girls, though the differences were not significant partly due to the very small sample size for girls.

There was frequent overlap between trafficking job types. Selling and carrying drugs were the two behaviours with the greatest overlap, with 23% of the total sample engaging in both behaviours. Over half of those reporting having others sell drugs for them, working as a look-out and carrying drugs, also reported selling drugs. About one-third of those selling, having others sell for them and carrying drugs, reported a look-out role. About one-third of those reporting carrying drugs also had others sell drugs for them.

The most common drugs managed were marijuana, followed by cocaine and crack (data not shown but available from authors). Median duration of selling was eight months, with the most frequent modes at 2 and 12 months. Median duration of having others sell drugs for them was 10 months with the largest mode at 12 months. Frequency of having other sell drugs for them was low with modal responses of one and two and a median response of two. Two months was the median duration of working as a look-out with a modal response of one month. Median frequency for carrying drugs (not for personal use) was five times, with modal responses at one and two times.

Social classes C and D were the most prevalent for our sample and most youth described themselves as having coloured skin (*pele morena*) (Table 2). Ages ranged from 12 to 17 years with a strong mode at 17 (37%), while formal schooling ranged from 1 to 11 years with no single strong mode. The distributions of these socio-demographic variables were similar regardless of trafficking status with the exception of educational level, which was significantly lower for those involved in trafficking, for both boys and girls (Table 2).

Those involved in trafficking were more likely to have had heavy substance use and less likely to have no use within the month preceding incarceration (Table 3). Marijuana was the most frequently used substance with 74% reporting ever having used it and 33% reporting 10 or more uses in the month preceding incarceration. This was followed by snorting cocaine (36 and 10% respectively) and crack (21 and 6% respectively).

Robbery was the most common crime resulting in this incarceration for both boys and girls (Table 3). Under the "other" category, girls had a particularly high rate of compliance failure with previous judicial orders. Boys involved in trafficking had a lower rate of robbery and a higher rate of drug-related crimes versus those not involved in trafficking. In addition, those involved with trafficking were more likely to report being under the effects of drugs at the time of the crime and that the crime was related to drug use. Youth involved with trafficking were also more likely to have had past criminal experience including being under a previous juvenile justice correctional measure as well as having had an earlier age of conflict with police.

Those boys involved in trafficking were statistically more significantly likely to: (i) not be attending school, (ii) perceive problems in school, (iii) not be engaged in licit employment, (iv) be involved with a gang, (v) have more friends engaged in deviant or risk behaviours, (vi) have slept on the street, (vii) have

Table 2 Socio-demographic characteristics of youth by engagement in trafficking and gender

	Boys		Girls	
Characteristics	Trafficking (n = 127) % (n)	Not trafficking (n = 162) % (n)	Trafficking (n = 19) % (n)	Not trafficking (n = 17) % (n)
Social Class				
A	1.6 (2)	0.6 (1)	0.0 (0)	0.0 (0)
B	16.5 (21)	15.4 (25)	10.5 (2)	11.8 (2)
C	54.3 (69)	50.6 (82)	47.4 (9)	47.1 (8)
D	25.2 (32)	30.9 (50)	42.1 (8)	35.3 (6)
E	1.6 (2)	2.5 (4)	0.0(0)	0.0 (0)
Skin colour as reported by youth				
Morena (coloured)[a]	46.5 (59)	51.9 (84)	47.4 (9)	35.3 (6)
Branca (white)	27.6 (35)	26.7 (43)	15.8 (3)	23.5 (4)
Negra (black)	8.7 (11)	9.3 (15)	21.1 (4)	17.6 (3)
Parda (brown)	10.2 (13)	5.6 (9)	5.3 (1)	23.5 (4)
Other	7.1 (9)	6.8 (11)	10.5 (2)	0.0 (0)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age (years)	15.8 (1.2)	16.0 (1.1)	16.0 (0.9)	15.5 (1.1)
Last grade attended (years)	5.7 (2.0)	6.4 (2.1)**	5.5 (1.8)	6.9 (1.6)*
Number of siblings	3.4 (2.2)	3.5 (2.2)	4.0 (1.9)	4.3 (3.0)

*$P < 0.05$; **$P < 0.01$; [a]Morena is not an "official" skin color in Brazil

Table 3 Drug involvement and criminal history by engagement in trafficking and gender

Characteristics	Boys		Girls	
	Trafficking % (*n*)	Not trafficking % (*n*)	Trafficking % (*n*)	Not trafficking % (*n*)
Drug use in the last month				
None	12.6 (16)	57.4 (93)***	15.8 (3)	47.1 (8)
Light[a]	25.2 (32)	21.7 (35)	21.1 (4)	17.6 (3)
Heavy[b]	62.2 (79)	20.5 (33)***	63.2 (12)	35.3 (6)
Index crime[c]				
1. Violent crime	73.2 (93)	88.9 (144)**	57.9 (11)	70.6 (12)
a. Robbery	66.1 (84)	80.2 (130)*	52.6 (10)	58.8 (10)
b. Other	13.4 (17)	8.6 (14)	5.3 (1)	17.6 (3)
2. Property crime	10.2 (13)	9.9 (16)	15.8 (3)	11.8 (2)
3. Drug related crime	16.5 (21)	1.2 (2)***	15.8 (3)	5.9 (1)
4. Other crime	8.7 (11)	5.6 (9)	42.1 (8)	11.8 (2)
Under the effects of drugs at the time of the crime	32.3 (41)	8.1 (13)***	26.3 (5)	11.8 (2)
Youth reports crime linked to drug use	26.0 (33)	5.0 (8)***	21.1 (4)	17.6 (3)
Criminal history				
Previous juvenile justice correctional measure	53.5 (68)	37.0 (60)**	68.4 (13)	47.1 (8)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age of 1st crime	12.5 (2.0)	14.1 (1.7)***	12.7 (2.5)	13.4 (2.6)
Age of 1st conflict with police	13.8 (1.8)	14.6 (1.3)***	13.4 (2.0)	14.3 (1.8)

*$P < 0.05$; **$P < 0.01$, ***$P < 0.001$
[a]1–9 uses of any drug in the last month excluding tobacco and alcohol
[b]≥10 uses of any drug in the last month excluding tobacco and alcohol
[c]Youth could report more than one crime for this incarceration so total is greater than 100%

had a debt with a drug dealer, (viii) had a family member involved in crime, (ix) have witnessed and experienced community violence, and (x) have had greater access to illicit items (e.g., drugs and guns) (Table 4). In addition, those involved in trafficking were more likely to have experienced *jurado de morte* (being marked for death/death warrant). The latter is a belief held by the youth that he or she is targeted to be killed. Thirty-nine percent with a history of a drug debt also had a history of being marked for death versus 18% without a drug debt ($\chi^2 = 4.8$, $P < 0.05$). Only those with a trafficking history reported having had a drug debt. Girls demonstrated a similar pattern of results with similar rates of adverse exposures. Of

Table 4 The relationship between risk factors and engagement in trafficking

Characteristics	Boys		Girls	
	Trafficking % (*n*)	Not trafficking % (*n*)	Trafficking % (*n*)	Not trafficking %(*n*)
School experience				
Attending school prior to incarceration	50.4 (64)	70.8 (114)**	15.8 (3)	58.8 (10)*
Experienced a problem in school	40.2 (51)	24.2 (39)**	42.1 (8)	23.5 (4)
School perceived problem	47.2 (60)	27.3 (44)**	36.8 (7)	23.5 (4)
Work experience				
Participated in a job training course	25.3 (32)	27.2 (44)	26.3 (5)	35.3 (6)
Licit work prior to incarceration	63.0 (80)	82.1 (133)***	26.3 (5)	41.2 (7)
Peer experience				
Gang involvement	11.8 (15)	1.2 (2)***	10.5 (2)	5.9 (1)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Peer deviance composite	27.1 (5.6)	21.6 (5.5)***	27.6 (7.4)	24.7 (4.8)
Community and home experience	% (*n*)	% (*n*)	% (*n*)	% (*n*)
Has slept on the street	39.4 (50)	17.3 (28)***	73.7 (14)	23.5 (4)**
Ever had a debt with a drug dealer	16.5 (21)	0.0 (0)***	26.3 (5)	0.0 (0)
Ever "marked for death"	37.8 (48)	8.6 (14)***	10.5 (2)	5.9 (1)
Lack of food in the home (sometimes/frequently)	7.1 (9)	4.9 (8)	5.3 (1)	11.8 (2)
Family member involved in crime	53.5 (68)	36.5 (59)**	57.9 (11)	35.3 (6)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Witnessing violence composite	16.3 (5.3)	11.8 (4.7)***	15.5 (6.3)	11.4 (3.3)*
Experiencing violence composite	8.9 (3.1)	7.0 (1.7)***	8.7 (3.6)	7.3 (2.1)
Access to guns, drugs, alcohol	7.6 (3.0)	9.9 (3.7)***	9.0 (3.9)	12.1 (4.8)

*$P < 0.05$; **$P < 0.01$; *** $P < 0.001$

note, the girls in this sample were more likely to have experienced sleeping on the street and more likely to be out of school than boys ($\chi^2 = 7.1$, $P < 0.01$; $\chi^2 = 7.7$, $P < 0.01$, respectively).

A logistic regression was conducted to determine the extent to which adverse experiences, which potentially could have preceded trafficking behaviour, independently predicted engagement in trafficking. Those variables which had a significant bivariate relationship at a P value of <0.05 with trafficking from Table 4 were entered into a logistic regression model after an assessment of the relationship of trafficking with heavy substance use and gender. In the final model, the adverse experience variables with the greatest co-linearity with others were dropped (Table 5). With these variables dropped, all co-linearity values were below Spearman correlations of 0.36, χ^2 of 5.4, and t values of 3.7. In the final model, variables significantly increasing the odds of engagement in trafficking included not attending school, gang involvement, witnessing violence and easier access to illicit items (e.g., drugs and guns). Lack of licit work demonstrated a borderline significant relationship. The final model had a Nagelkerke R^2 of 0.419. Heavy substance use retained a strong, though weaker, relationship with trafficking behaviour once adverse experiences were factored into the model.

Table 5 Logistic regression of variables related to engagement in trafficking

	OR [95% CI]
Model 1	
Heavy drug use	5.90 [3.62–9.61]***
Model 2	
Heavy drug use	5.85 [3.59–9.54]***
Male gender	0.82 [0.38–1.76]
Model 3	
Heavy drug use	2.73 [1.41–5.28]**
Male gender	0.67 [0.22–2.05]
Adverse exposures	
Not attending school	2.17 [1.15–4.10]*
Experienced problem at school	1.46 [0.75–2.87]
Perceived school problem	0.86 [0.43–1.75]
No licit work	1.84 [0.91–3.74]
Belongs to a gang	3.03 [0.57–16.01]
Peer deviance composite	1.07 [1.00–1.13]*
Slept in the street	1.44 [0.68–3.05]
Witnessing violence composite	1.11 [1.03–1.20]**
Experience violence composite	1.16 [0.97–1.37]
Access to guns/illicit substances	1.13 [1.03–1.24]*
Family crime	0.98 [0.53–1.81]
Model 4	
Heavy drug use	3.01 [1.70–5.32]***
Male gender	0.81 [0.31–2.13]
Adverse exposures	
Not attending school	2.38 [1.34–4.22]**
Experienced problem at school	1.52 [0.85–2.73]
No licit work	1.88 [1.00–3.51]
Belongs to a gang	5.27 [1.14–24.4]*
Witnessing violence composite	1.14 [1.07–1.21]***
Access to guns/illicit substances	1.14 [1.05–1.23]**
Family crime	1.18 [0.68–2.06]

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$

The odds of heavy substance use increasing trafficking dropped from 5.85 to 2.73 suggesting that if the other significant adverse exposures are causal for trafficking and could be reduced, then a significant reduction in trafficking engagement might be seen through targeting these other variables.

Discussion

As hypothesized (#1), this study identified that a substantial proportion of the incarcerated youth in detention centres in São Paulo have had some involvement in drug trafficking (44% of boys and 53% of girls in our sample). These youth, however, generally appeared to hold positions at a low level of the drug trafficking hierarchy and to have engaged in relatively low volumes of activity and/or of short duration. This suggests that the youth detention system is tending to capture minor front-line players in the drug industry. As hypothesized (#2 and #3), youth involved in trafficking have often been exposed to a high rate of adverse experiences and more so than incarcerated youth who have not been involved in trafficking even after taking into account the level of substance use. These youth represent a particularly high-risk group within an already at-risk population.

Given the lack of data derived from representative population samples and differences in measures of trafficking, it is difficult to make any meaningful comparisons of the rates of trafficking in this sample versus other published reports. That approximately half of this sample has been involved in trafficking suggests that this is a common youth experience at least within this high-risk population. Of particular interest is that girls had a similar rate of involvement in trafficking, however, this is based on quite a small sample. Very little information has been reported about girls' involvement in trafficking. The girls in this sample had similar rates, and in some cases more frequent experiences of adverse life events compared to the boys such as school dropout and sleeping on the street.

Though the data are cross-sectional and hence no causality statement can be made with confidence, variables significant in the regression model may be used to speculate on possible causal relationships. One hypothesis may be that disengagement from school may increase a youth's risk to engage in trafficking. Lack of linkage to school may result in the loss of influence of more pro-social peers and adult models and loss of the structure and routine that schools provide. This relationship may also be a function of a general trend of youth to drop out of school with the intention of earning money, with trafficking being one option to realizing this goal. It could also be the case that trafficking involvement and/or engagement in other deviant behaviour may prompt expulsion from school. However, the youth's

experience of problems at school and perceptions that the school perceived a problem did not remain predictors in the regression analysis; hence, this alternative direction is less supported by this study's findings. On note, in contrast to many Western countries, children and youth in Brazil typically only attend school for 1/2 days (approximately 4 h) leaving substantial unsupervised time outside of school if key guardians are working outside of the home.

The relationship between witnessing violence and trafficking remained significant in the regression model. Potentially the exposure to violence habituates a youth to chronic violence reducing a hesitancy to engage in the additional risky behaviour of trafficking. Alternatively, the relationship could go in the other direction. For example, engagement in trafficking may lead these youth to be exposed to more violent events. Of course the relationship could also be bi-directional with each variable contributing to the magnitude of the other.

Having greater perceived ease of access to guns and drugs is related to trafficking. Thirty-six percent of the whole sample, and 51% of those involved in trafficking, reported that it was "very easy" to obtain a gun. Forty-five percent of the whole sample, and 58% of those involved in trafficking reported that it was "very easy" to obtain cocaine. Such access may make it easy to get into the drug trafficking business.

Though few endorsed involvement in gangs, most of those involved reported a role in trafficking. Entry into a gang may facilitate access to trafficking and indeed a core purpose of the gang may be its drug trafficking function. However, a study of a Mexican-American community in Texas suggests trafficking roles vary within and across gang types [25]. While another US study found that this linkage varied by jurisdiction [14].

As expected, many youth involved in drug trafficking also consume drugs. As with others [1, 23], some of those involved in trafficking are not users, though abstainers were infrequent in our trafficking sample. To what extent one proceeds the other in this sample is not known.

There are several limitations in this study. First is the reliance on youth self- reports. We were not able to verify reports of behaviour by a third party. It is unknown to what extent youth may have under or over-reported engagement in different behaviours. Several of the issues related to youth self-report of delinquency have been highlighted elsewhere [16].

A second limitation is the extent to which our sample is representative of youth incarcerated within the FEBEM system in the city of São Paulo. As noted in the methods, changes beyond the researchers' control altered the underlying sample from which there was an attempt to get a representative sample. In particular, the sample may not have captured some of the older more deviant boys due to exclusion of certain compounds which experienced intermittent violent riots. Potentially this may explain the unexpected trend for younger boys to be more involved in trafficking within our sample. However, the sample was moderately large and represented a broad spectrum of experiences, crime types, and ages and potentially captures the diversity of the underlying population.

A third limitation is the cross-sectional nature of the data which does not allow a determination of the sequencing of the related variables. A sub-sample of this cohort is being followed up after release which may allow some determination of sequencing of events.

Several authors have raised the concern that there has been limited work on prevention and intervention efforts to reduce youth involvement in drug trafficking, in contrast to drug use [e.g., 4, 6]. Specific inquiries into involvement in drug trafficking are required to guide efforts to aid youth in disengaging and avoiding involvement in drug trafficking. One approach may be attempting to retain more at-risk youth in school, particularly youth demonstrating disruptive and delinquent behaviour. Second, additional efforts may be required to re-engage youth who have dropped out of school, particularly those that have been incarcerated. Unfortunately, few resources or programs exist within the public school sector in Brazil to engage or re-engage youth with delinquent behaviour.

Rates of violence exposure are high for Brazilian children and youth. In addition to exposure rates to community violence, Bordin et al. [5] found a high prevalence (17.8%) of severe physical aggression towards children in the domestic environment in a community-based study in a low-income urban community in Brazil. In addition, a study in Recife City, northeast Brazil [2] found that homicide was the most common cause of death of children one month to 19 years of age (36.6%) and was increasing. Death was caused by firearms in 93.2% of cases, and most of the murder victims were 15–19-year-old males. Efforts to lower rates of violence exposure are sorely needed, not only to reduce potential contribution to moving youth towards trafficking, but for the many other sequela of such experiences.

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