

Antisocial Behavior: Its Relation to Selected Sociodemographic Variables and Alcohol and Drug Use among Mexican Students

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ABSTRACT

This study is part of the National School Survey on drug use by high school students in Mexico. The validity, reliability, and results of the Antisocial Acts Scale in Mexico City ($n = 3,501$) are discussed. Using factorial analyses of the Antisocial Acts Scale, two major sources of variability were observed. The first one is related to antisocial acts with severe social consequences, in which violence and drug selling are included, and the second one is related to thefts. Significant differences were found in the number of offenses among groups of different gender, age, and occupation during the previous year. More antisocial acts were perpetrated by alcohol and drug users than by nonusers. In a logistic regression model, it was found that the main risk factors for perpetrating antisocial acts were being male, using alcohol, and using other drugs. [Translations are provided in the International Abstracts Section of this issue.]

Key words: Antisocial acts; Alcohol and drug use; Students; Mexico

INTRODUCTION

Recent studies in Mexico have shown that some environmental elements such as family, social, legal, and cultural factors are related to alcohol and drug use, and that one of the most important activities related to alcohol and drug use is to perpetrate delinquent acts (Medina-Mora et al., 1991). These authors mention the fact that drug use is closely related to antisocial behavior and that drug users are more "at risk" of perpetrating antisocial acts than nonusers. They also mention that users of drugs, such as cocaine and heroin, and alcohol drinkers who report 5 or more drinks per sitting have the highest rates of antisocial behavior (Medina-Mora et al., 1991).

Castro et al. (1988) reported that alcohol use and the use of such drugs as marijuana, inhalants, amphetamines, and cocaine are significantly related to involvement in delinquent behavior. They also point out that drug use and antisocial behavior can also be interpreted as the interaction between the individual and the environment, and that students use drugs and perpetrate antisocial acts because it is the only possible response to a society that does not listen or attend to their social nonconformities. In addition, the attitude of those sectors of society responsible for contending with the problem, including teachers, is always negative and fearful. Furthermore, there is no social prevention program upon which those sectors can rely in order to help students solve these problems.

Castro et al. (1988) further reported that the legal corrective systems have only favored the grading of delinquent activities, and that youth who have been apprehended for engaging in these acts usually recidivate in the same behavior. That is why the authors consider it important to change the outlook of teachers and to develop a program that supplies the tools for intervention, as well as includes follow-up surveys to measure the impact of this program—instead of merely supplying information.

The goals of this study were to: 1) determine the validity and reliability of the Antisocial Behavior Scale for a sample in Mexico City; 2) learn the relationship between antisocial acts, selected sociodemographic variables, and alcohol and drug use; and 3) evaluate a model of the "risk" of performing delinquent behaviors, based on selected sociodemographic variables and alcohol and drug use. After presenting our findings, their implications for prevention program development will be discussed.

BACKGROUND ON SURVEYS

Since 1974 The Instituto Mexicano de Psiquiatría (Mexican Institute of Psychiatry) together with the Secretaría de Educación Pública (Ministry of Public Education) has conducted research on drug-use-related factors among Mexican

high school students. Two surveys, one in 1976 and another in 1986, were conducted in urban areas of Mexico. A third survey, in 1991, was conducted within the framework of the National Survey on drug use among high school students, and for the first time rural areas were also taken into account. Surveys have been conducted in Mexico City every 2 years (Medina-Mora et al., 1992).

The data discussed in this paper were obtained in a survey conducted using a self-administered questionnaire designed by the Centro Mexicano de Estudios en Farmacodependencia (Mexican Center of Pharmacodependence Studies) and the World Health Organization (WHO). Students were asked about their drug use and selected variables related to it. This method has been used for a number of years and has undergone reliability and validity tests on the following issues: appraisal of low response, congruity of responses, rates of no response, degree of confidence of the student in order to report his/her use rate, and comparison between the responses of users and nonusers. Acceptable validity and reliability rates have been found (Castro and Valencia, 1978; Medina-Mora et al., 1981; Caetano and Medina-Mora, 1986; Castro, 1987). The section developed by the Addiction Research Foundation of Canada for probing delinquent behavior was annexed to the questionnaire in 1986 in order to measure delinquent acts by the students (Castro et al., 1988, 1989).

MATERIAL AND METHODS

Sample

Three thousand five hundred and one ($n = 3,501$) junior high and high school students were selected in Mexico City according to a two-stage stratified sample design. In the first stage, schools were selected at random; in the second stage, groups in the selected schools were also selected at random. The sample framework consisted of schools registered at the Ministry of Public Education for the 1991-1992 school term (Medina-Mora et al., 1992).

Instrument

A previously tested self-administered questionnaire (Medina-Mora et al., 1981) were used. It includes WHO core items for student drug use surveys (Smart et al., 1980). The following variables are included: 1) nonmedical drugs: marijuana, cocaine, inhalants, hallucinogens, opium, heroin, and other opiates; 2) medical drugs: amphetamines, tranquilizers, and sedatives; and 3) alcohol use. The questionnaire also included selected sociodemographic variables about the students such as: gender, age, occupation during the previous year, study and work, and place where he/she has lived most of his/her life (Table 2).

A section to measure antisocial acts by students was also included. It consisted of 13 questions related to their involvement in thefts, fights, drug selling, and assaults on persons or the belongings of others (Table 1). The student was asked about the number of times in which he/she engaged in each behavior during the previous year. In previous surveys, Castro et al. (1989) classified the items into three categories: (a) thefts, which include taking money and cars without the owner's authorization; (b) performing acts that may have more severe legal and social consequences, such as selling marijuana and other drugs, hitting and hurting someone, and forcing locks; and (c) performing aggressive acts on persons and objects, such as participating in fights and hitting persons or objects.

Procedure

Forty-five persons were trained to administer the questionnaire to selected groups of students in their schools and to conduct the survey. The surveyor carried out the following tasks: (a) selected the groups and assured the students of the confidentiality and anonymity of their answers; (b) administered the questionnaire; and (c) coded the answers. Coordinators were assigned to conduct activities related to the collection of data and the supervision of surveyors. A program for the verification of answers was used once the data were collected, in order to detect any errors in the codification of questionnaires and to correct them if necessary (Medina-Mora et al., 1993).

Questionnaires were administered during a normal class period. Teachers were asked to leave the room. A trained interviewer was present to give instructions and provide answers on an individual basis to any question. Interviewers were psychology students (both sexes, mean = 20 years). Students were asked to participate on a voluntary basis. They were also told that it was important not to leave any question blank, but that they could choose not to answer any of them if they preferred not to do so. A brief explanation was given on the purpose of the study and on how their group was selected. Anonymity was ensured; students did not write their names in the questionnaire. All students agreed to participate; 0.4% of the questionnaires were eliminated due to 6 or more inconsistent responses or blanks.

RESULTS

Validity and Reliability of the Antisocial Behavior Scale

A factor analysis was conducted in order to determine the way in which the Antisocial Behavior Scale items clustered. Table 1 shows the two varimax factors that were found in these data, together with the loadings of the items on the two factors. Items reflecting drug selling, hitting persons, involvement in fights, setting objects on fire, and using arms against persons load highly on the first

Table 1.
Factor Loadings of the Antisocial Behavior Items^a

Item	Factor 1	Factor 2
1. Take a car without owner's authorization		.33866
2. Hit or damage (on purpose) objects belonging to others		.65844
3. Sell marijuana or hashish	.90029	
4. Take money or objects that have a value of 25.00 pesos or less that do not belong to you	.78513	
5. Take money or objects that have a value of 25.00 pesos or more that do not belong to you	.72443	
6. Hit or hurt someone on purpose, aside from arguments with sibling	.46524	.34071
7. Force locks to enter some place that is not your home	.32442	.36010
8. Sell drugs other than marijuana or hashish	.88589	
9. Participate in fights	.49374	.45170
10. Set fire on purpose to objects belonging to someone else	.72902	
11. Hit a teacher or trainer		
12. Take merchandise from a store without paying for it		.55251
13. Use a knife or gun to get an object from a person	.50361	
Alpha per factor	.7068	.6112
Alpha total scale		.7481

^aData obtained from the total of the Mexico City sample.

factor. Behavior scale items tapping taking a car without the owner's authorization, taking money, forcing locks, taking merchandise, and hitting objects load highly on the second factor. As to the scale's reliability, an alpha coefficient of .707 was obtained for the first factor and .611 for the second factor; for the total scale the alpha coefficient was .748. These results reflect reasonable reliability.

Consistent with the classification of Castro et al. (1989), the items that load highly on the first factor reflect two types of antisocial behavior: acts of severe legal and social consequences and aggressive acts toward persons and objects. Items loading highly on the second factor stress theft behavior. Based on this classification, the first factor was called antisocial behavior with severe social consequences, and the second factor was labeled thefts. At the same time, hitting a teacher was not included in either factor. It was decided to consider this behavior independently, because we thought that it was a very important problem within the school community.

Antisocial Behavior and Its Relation to Sociodemographic Variables and Alcohol and Drug Use

Table 2 shows the students' distribution with respect to the sociodemographic variables included in this study. It should be pointed out that there were nearly

Table 2.

Selected Background Data of the Mexico City Sample^a (n = 3,501)

	%
Gender:	
Male	50.8
Female	48.9
Age:	
13 year of age or under	44.2
14	15.8
15	11.8
16	9.8
17	8.5
18	4.7
19 years of age or over	4.4
Did study the previous year?:	
No	4.8
Yes part time	29.4
Yes full time	63.7
Did you work the previous year?:	
No	81.7
Yes part time	9.3
Yes full time	7.8
Most of your life you have lived in:	
Rural settlement	0.8
Village	6.5
Small town	6.9
Medium size town	25.4
Big city	56.7

^aData obtained from the total of the Mexico City sample.

Percentages do not reach 100% due to nonresponses.

equal numbers of men and women represented in the data. Most students were 13 years of age or under, and they have lived most of their lives in a big city. During the year preceding the survey, most students were full-time students who did not work.

Table 3 presents data regarding the students' alcohol and drug use, as well as the antisocial acts in which they reported participating. As can be seen, more than half of the students used alcohol, and 11.3% used other drugs: 5.8% used nonmedical drugs, 3.7% used medical drugs, and 1.8% used both nonmedical and medical drugs.

Of the total sample, 32.2% engaged in antisocial acts. The frequency of participating in these acts averaged 2.4 offenses per student. Twenty-seven percent

Table 3.

Alcohol, Drug Consumption, and Antisocial Behavior^a (n = 3,501)

	%	
Alcohol		
Nonuser	31.2	
User	65.5	
Drugs:		
Nonuser	88.8	
Illegal drugs	5.8	
Legal drugs	3.7	
Both	1.8	
Antisocial behavior with severe social consequences:		
Did not perpetrate	76.9	
Perpetrated	17.6	
Mean		0.883
Standard deviation		4.433
Thefts:		
Did not perpetrate	67.6	
Perpetrated	26.8	
Mean		1.561
Standard deviation		5.230
Hit a teacher or trainer:		
Did not perpetrate	93.6	
Perpetrated	6.4	
Mean		0.057
Standard deviation		1.354
Antisocial behavior: Total scale:		
Did not perpetrate	61.8	
Perpetrated	32.2	
Mean		2.424
Standard deviation		8.414

^aData obtained from the total of the Mexico City sample. Percentages do not reach 100% due to nonresponses.

of the sample perpetrated thefts, which is equivalent to 1.6 thefts per individual; 17.6% of the total sample participated in severe offenses for an average of 0.88 times. Only 6.4% of the students hit a teacher, and the incidence of this behavior was quite low.

The youths' involvement in antisocial acts with severe social consequences, theft behavior, hitting a teacher or trainer, and their total antisocial behavior (the sum of the antisocial behavior items) was examined in regard to their gender, age, place where they lived most of their lives, occupation during the previous year, study or work, and their alcohol and other drug use (Tables 4, 5, 6, and 7).

Table 4.

Comparison among Groups:^a Antisocial Acts with Severe Social Consequences

	Mean	Standard deviation	Significant differences ^b
Gender:			
Male	1.3528	5.745	
Female	0.4002	2.346	Male > female
Age:			
13 years of age or under	0.6998	2.9683	18 > 15
14	0.9467	3.2499	18 > 13 years or under
15	0.6624	2.4287	18 > 19 years or over
16	0.9110	3.0007	18 > 16
17	1.0799	4.0291	18 > 14
18	2.5813	14.9184	18 > 17
19 year of age or over	0.7679	2.3291	
Studied the previous year:			
Did not study	1.2375	4.8519	Part time > full time
Yes part time	1.1937	6.4243	
Yes full time	0.7355	3.1213	
Worked the previous year:			
Did not work	0.8158	4.4512	
Yes part time	1.4197	4.7788	
Yes full time	1.0198	4.0370	
Place where has lived:			
Big city	1.0352	5.2677	
Medium size town	0.7527	3.3489	
Small town	0.5877	2.1581	
Village	0.5172	2.2807	
Rural settlement	0.0417	0.2041	
Drug use:			
Nonuser	0.5830	2.5049	Both > nonuser
Illegal drugs user	2.4105	5.0511	Both > legal
Legal drugs user	1.4797	3.0898	Both > illegal
Both types user	9.6441	24.6840	Illegal > nonuser
Alcohol use:			
Nonuser	0.3022	2.482	User > nonuser
User	1.1780	5.153	

^aData obtained from the total of the Mexico City sample.^b $p \leq .05$.

It can be observed that, on average, male students engaged in a significantly higher number of antisocial acts than females in all areas. Alcohol users reported more involvement in antisocial behavior than did nonusers, although the "hitting a teacher" comparison does not reach statistical significance.

With respect to drug use, illegal and legal drug users participate in a significantly higher number of severe antisocial acts than those who do not use drugs.

Table 5.

Comparison among Groups:^a Thefts

	Mean	Standard deviation	Significant differences ^b
Gender:			
Male	2.1178	6.448	Male > female
Female	0.9809	3.446	
Age:			
13 years of age or under	1.2434	3.8635	
14	1.7882	6.3832	
15	1.5139	4.1196	
16	1.9508	7.5644	
17	1.8497	4.6258	
18	2.5190	8.9547	
19 year of age or over	1.5629	4.3333	
Studied the previous year:			
Did not study	1.1553	3.8723	Part time > full time
Yes part time	1.9929	6.4469	
Yes full time	1.4168	4.7178	
Worked the previous year:			
Did not work	1.4743	5.2409	Part time > full time
Yes part time	2.6961	6.4148	Part time > did not work
Yes full time	1.2039	3.2612	
Place where has lived:			
Big city	1.8292	4.8469	
Medium size town	1.3801	5.9788	
Small town	1.3026	5.9187	
Village	1.1634	5.2012	
Rural settlement	1.7500	5.2771	
Drug use:			
Nonuser	1.2490	4.4761	Both > nonuser
Illegal drugs user	3.5211	7.3547	Both > legal
Legal drugs user	2.7213	5.5778	Both > illegal
Both types user	8.6316	15.5502	Illegal > nonuser
			Legal > nonusers
Alcohol user:			
Nonuser	0.4118	1.973	User > nonuser
User	2.1529	6.212	

^aData obtained from the total of the Mexico City sample.^b $p \leq .05$.

A similar pattern of difference occurs for their offenses and for total antisocial behavior. Legal drug users engage in a significantly high number of antisocial acts of each type than those who do not use drugs, and the users of legal drugs perpetrate more theft and total antisocial behavior offenses than do nonusers.

Table 6.

Comparison among Groups:^a Hitting a Teacher or Trainer

	Mean	Standard deviation	Significant differences ^b
Gender:			
Male	0.0882	1.861	Male > female
Female	0.0239	0.390	
Age:			
13 years of age or under	0.0268	0.3707	19 years or over > 17
14	0.0531	0.4500	19 years or over > 13 years or under
15	0.0353	0.3744	
16	0.0638	0.5622	19 years or over > 15
17	0.0207	0.1651	19 years or over > 14
18	0.0311	0.1740	19 years or over > 16
19 year of age or over	0.4583	5.7875	
Studied the previous year:			
Did not study	0.0497	0.3123	
Yes part time	0.1029	2.4007	
Yes full time	0.0360	0.4139	
Worked the previous year:			
Did not work	0.0264	0.3123	Full time > did not work
Yes part time	0.0942	0.6996	
Yes full time	0.3086	4.6882	
Place where has lived:			
Big city	0.0418	0.4416	
Medium size town	0.0262	0.2749	
Small town	0.0524	0.4461	
Village	0.0000	0.0000	
Rural settlement	0.0000	0.0000	
Drug use:			
Nonuser	0.0264	0.3520	Illegal > nonuser
Illegal drugs user	0.4526	5.4516	
Legal drugs user	0.0726	0.4801	
Both types user	0.2881	0.9658	
Alcohol use:			
Nonuser	0.0203	0.397	
User	0.0766	1.646	

^aData obtained from the total of the Mexico City sample.^b $p \leq .05$.

In regard to hitting a teacher or trainer, illegal drug users report a significantly higher rate of engaging in this behavior than do nonusers. No differences can be observed with regard to other types of drugs or among illegal or legal drugs users.

Table 7.

Comparison among Groups:^a Antisocial Behavior Total Scale

	Mean	Standard deviation	Significant differences ^b
Gender:			
Male	3.5361	10.938	Male > female
Female	1.3867	5.235	
Age:			
13 years of age or under	1.9620	5.9825	18 > 13 years or under
14	2.7261	8.5529	18 > 15
15	2.1862	5.8989	18 > 14
16	2.9317	9.1155	
17	2.8873	7.7168	
18	5.1392	23.1741	
19 year of age or over	2.7831	9.4337	
Studied the previous year:			
Did not study	2.4313	7.7878	Part time > full time
Yes part time	3.2462	11.8065	
Yes full time	2.1729	6.9307	
Worked the previous year:			
Did not work	2.2938	8.4662	Part time > did not work
Yes part time	4.2204	10.2575	Part time > full time
Yes full time	2.4701	9.0811	
Place where has lived:			
Big city	2.7884	9.1898	
Medium size town	2.1472	8.1194	
Small town	1.8062	6.6357	
Village	1.6832	6.6541	
Rural settlement	1.7917	5.2913	
Drug use:			
Nonuser	1.8453	6.0491	Both > nonuser
Illegal drugs user	6.3842	12.8827	Both > legal
Legal drugs user	4.1393	6.9059	Both > illegal
Both types user	18.3684	38.9306	Illegal > nonuser
			Legal > nonuser
Alcohol user:			
Nonuser	0.6923	4.294	User > nonuser
User	3.3948	10.151	

^aData obtained from the total of the Mexico City sample.^b $p \leq .05$.

With regard to age, the 18 years of age group perpetrated a significant higher number of severe antisocial acts than the rest of the age groups; the same holds for thefts even when these were not significant. Students 19 years of age or over hit a teacher more often than students of younger ages. As to the total antisocial

behavior scale, students 18 years of age perpetrated a higher number of offenses, than those 15 years of age or less.

It was found that students who only studied part time during the previous year perpetrated a significantly higher number of severe antisocial acts, thefts, and total offenses than those who studied full time. Students who reported they had not studied the previous year did not show any significant differences with regard to their involvement in various antisocial acts than did those that studied.

On the other hand, students who worked part time the previous year reported perpetrating more offenses than those who worked full time or those who did not work. These difference held with regard to the total scale and thefts. As to the number of times they hit a teacher, it is interesting to note that the students who said they worked full time during the previous year reported that they hit a teacher a significantly higher number of times than those who had not worked during the previous year.

The place where students lived most of their lives does not relate significantly to their involvement in the antisocial acts we probed. Nevertheless, it is worth mentioning that, with the exception of hitting a teacher or trainer, students who lived in a big city most of their lives reported participating in a larger number of antisocial acts than those living in other locations.

Logistic Regression

A logistic regression analysis was conducted for each antisocial act area. In each analysis the dependent variable was a dichotomous (ever/never) representation of each antisocial act scale (i.e., antisocial behavior with severe social consequences; thefts) or the item probing hitting a teacher. The predictor variables included the youths' gender, age, the place the students lived most of their lives, whether he/she worked or studied the previous year, and their drug and alcohol use. Table 8 shows the statistically significant risk factors identified in each analysis.

With regard to antisocial behavior with severe social consequences, it was found that the main "at risk" related factors were: being a man, using medical drugs, using nonmedical drugs, using both types of drugs, and using alcohol. Having worked the previous year was a "protective factor" in this model.

These same associated variables were highlighted in the risk factor analyses including thefts and the Total Antisocial Behavior Scale. In both these analyses, having studied and worked the previous year were "protective factors" restraining participation in antisocial acts. With regard to hitting a teacher or trainer, being a male continues to be one of the main risk factors, as does using both legal and illegal drugs. Living in cities is also a risk factor.

CONCLUDING REMARKS

The results show that the Antisocial Behavior Scale has as adequate level of reliability and validity, permitting its useful application in samples of the high school population of Mexico City. Students engage in a high number of thefts, severe antisocial acts (to a lesser degree), and (at a much lower level of frequency) hitting teachers or trainers.

The data show a close relationship exists between alcohol and drug use and antisocial behavior. These findings replicate the results obtained in previous surveys (Castro et al., 1988, 1989). Through logistic regression is a limited tool for analyzing complex phenomenon, such as imputed "risk"/"protective factors" for antisocial acts and drug use, interesting findings were derived which need to be confirmed in future studies. Even though not all users perpetrate antisocial acts, and it is not necessary to be under the influence of alcohol or drugs to engage in these acts, our results show that the consumption of alcohol or other drugs might facilitate participating in these behaviors. Users perpetrate more delinquent acts than nonusers. Further, alcohol and other drug use are highly related to engaging in the antisocial acts we studied, except hitting a teacher or a trainer. In regard to type of drug, it was found that users of drugs such as marijuana, cocaine, hallucinogens, or heroin were in general involved in more antisocial acts than the users of drugs such as amphetamines, tranquilizers, or sedatives. These drugs might be related to antisocial behavior due to their illegal status as a consequence of the activities involved in obtaining these drugs: the illegal status of cocaine and marijuana and their cost can lead to illegal behaviors (e.g., stealing and selling drugs) to get money to buy them. These circumstances are accentuated by the economic status of the students; most of them are not working and are financially dependent on their parents. Students who report using both types of drugs are involved in a greater number of antisocial acts than are students who use only one type. This relationship can be explained by more involvement in drug use as well as a greater necessity to get a drug by any method.

There are other factors that are associated with antisocial behavior. Males perform more antisocial acts than females. This situation is probably related to Mexican educational patterns; men are supposed to be brave, strong, and aggressive, and to display these traits to peers—which may be an important influence in their perpetration of antisocial acts which often occur in groups. As our logistic regression analyses showed, males are at higher risk for performing antisocial acts than females. Although no strong relationship were found between the place where the student lived most of the time and their involvement in antisocial behavior, a higher mean offense rate was found among those who lived in cities (see Tables 4 to 7). Logistic regression analyses showed (with the exception of hit-

Table 8.
Logistic Regression Models Related to Involvement in Antisocial Acts^a

Variable	B	S.E.	Wald	Sig.	R	Odds ratio
Antisocial Acts with Severe Social Consequences						
Gender (male)	0.8654	0.1060	66.6003	.0000	.1482	2.3759
Age (16 year or age or over)	-0.0824	0.0281	8.5801	.0034	-.0473	0.9209
Worked	-0.3361	0.1280	6.8927	.0087	-.0408	0.7146
Place where has lived (city)	0.1395	0.0589	5.6083	.0179	.0350	1.1497
Legal drugs user	1.0090	0.2104	22.9950	.0000	.0845	2.7428
Illegal drugs user	0.9621	0.1691	32.3562	.0000	.1016	2.6171
Both types user	2.1753	0.3152	47.6208	.0000	.1245	8.8048
Alcohol user	1.2279	0.1418	74.9876	.0000	.1575	3.4142
Constant	-2.0727	0.4668	19.7145	.0000		
Thefts						
Gender (male)	0.4634	0.0879	27.7870	.0000	.0843	1.5894
Age (16 year or age or over)	-0.0835	0.0248	11.3714	.0007	-.0508	0.9199
Studied	-0.6491	0.2269	8.1816	.0042	-.0413	0.05225
Worked	-0.3035	0.1173	6.6966	.0097	-.0360	0.7382
Place where has lived (city)	0.1498	0.0499	9.0249	.0027	.0440	1.1616
Legal drugs user	0.8516	0.1987	18.3657	.0000	.0672	2.3433
Illegal drugs user	0.7505	0.1642	20.8982	.0000	.0722	2.1180
Both types user	1.6172	0.3177	25.9163	.0000	.0812	5.0391
Alcohol user	1.3307	0.1143	135.6632	.0000	.1920	3.7838
Constant	-1.2635	0.4024	9.8585	.0017		
Hitting a Teacher or Trainer						
Gender (male)	0.4350	0.1540	7.9780	.0047	.0644	1.5449
Place where has lived (city)	-0.2526	0.0705	12.8468	.0003	-.0867	0.7768
Both types	1.2525	0.3602	12.0925	.0005	.0836	3.4991
Constant	-2.2017	0.2492	78.0271	.0000		
Antisocial Behavior: Total Scale						
Gender (male)	0.6541	0.0850	59.1485	.0000	.1214	1.9233
Age (16 year or age or over)	-0.0666	0.0240	7.6701	.0056	-.0382	0.9356
Studied	-0.5461	0.2120	6.6347	.0100	-.0346	0.5792
Worked	-0.3994	0.1153	11.9931	.0005	-.0508	0.6707
Place where has lived (city)	0.1705	0.0479	12.6648	.0004	.0525	1.1859
Legal drugs user	1.0325	0.2027	25.9501	.0000	.0786	2.8081
Illegal drugs user	0.8894	0.1700	27.3592	.0000	.0809	2.4336
Both types user	1.7803	0.3618	24.2088	.0000	.0757	5.9317
Alcohol user	1.3500	0.1066	160.2958	.0000	.2021	3.8576
Constant	-1.3337	0.3903	11.6763	.0006		

^aData obtained from the total of the Mexico City sample.

ting a teacher or trainer) that city inhabitants were at a slightly higher risk to perpetrate antisocial acts than students living in other areas.

Further studies should consider more sensitive variables to assess environmental impact. This paper is a first attempt to study the relation between drug use and antisocial behavior among Mexican students using cross-sectional survey data. Future studies, should not only consider more sensitive variables and more complex statistical analysis, but should include questions that explore age of first occurrence of antisocial behavior, as well as longitudinal designs.

In addition, students who worked part time performed more antisocial acts (again, with the exception of hitting a teacher or trainer) as compared to students who worked full time. According to our logistic regression models, having a productive activity lowers the risk of being involved in antisocial acts. This lowered risk is probably due to the reduced free time available to employed students.

Similar studies among nonstudents or homeless/displaced youth have not been conducted. Though some related studies (Gutiérrez and Vega, 1995; Gutiérrez et al., 1995; Leal et al., 1978), have obtained similar findings to the present study, suggesting that both drug use and antisocial behavior are related, they might be more a result of lifestyles. Street children, more often than students, use drugs and perform antisocial acts, but both behaviors do not always come together. Both behaviors are also more common among males and especially among these not enrolled in school.

There are no adequate intervention programs for antisocial behavior and drug consumption. Consequently, it is necessary to develop such programs to help teachers and other social agents who are responsible for the prevention of these behaviors. A first step in designing programs is to identify the population most at risk. This will allow the main target groups to be identified and help in devising alternatives to drug and alcohol use and their related delinquent behaviors in Mexico City. Delinquent behavior has become increasingly severe, and has not been reduced through the implementation of existing programs.

APPENDIX 1: QUESTIONNAIRE*

Are you a male or a female?

- ☐ 1. Male
- ☐ 2. Female

What is your age?

- ☐ ☐ years

For most of the last 12 months, were you a student, full-time or part-time?

- ☐ 1. I was not a student during most of the last 12 months

*A 258-question self-administered questionnaire was used in the survey. Only the questions used for this analysis are presented here.

- ☐ 2. I was a part-time student
- ☐ 3. I was a full-time student

For most of the last 12 months, have you worked on a paid job, full-time or part-time?

- ☐ 1. I have not worked on a paid job during most of the last 12 months
- ☐ 2. I have worked on a part-time paid job
- ☐ 3. I have worked on a part-time paid job

Most of your life you have lived in:

- ☐ 1. Rural settlement
- ☐ 2. Village
- ☐ 3. Small town
- ☐ 4. Medium size town
- ☐ 5. Big city

Have you ever taken any cannabis (Marijuana, pot, hashish, grass, bhang, ganja)?

- ☐ 1. Yes
- ☐ 2. No

Have you ever taken any cocaine?

- ☐ 1. Yes
- ☐ 2. No

Have you ever sniffed or inhaled things (such as glue, aerosol sprays, or other gases) to get high? (Do not include smoke)

- ☐ 1. Yes
- ☐ 2. No

Have you ever taken any hallucinogens (LSD, mescaline, peyote, psilocybin, PCP)?

- ☐ 1. Yes
- ☐ 2. No

Have you ever smoked or eaten any opium without a doctor or health worker telling you to do so?

- ☐ 1. Yes
- ☐ 2. No

Have you ever taken any heroin (horse, smack, H)?

- ☐ 1. Yes
- ☐ 2. No

Have you ever taken any other opiate (methadone, morphine, codeine, Demerol, paregoric) without a doctor or health worker telling you to do so?

- ☐ 1. Yes
- ☐ 2. No

Have you ever taken any amphetamines or other stimulants (uppers, bennies, speed, pep pills, diet pills) without a doctor or health worker telling you to do so?

- ☐ 1. Yes
☐ 2. No

Have you ever taken any tranquilizers (Librium, Valium, Miltown) without a doctor or health worker telling you to do so?

- ☐ 1. Yes
☐ 2. No

Have you ever taken any sedatives (barbiturates, downers, goofballs, Seconal) without a doctor or health worker telling you to do so?

- ☐ 1. Yes
☐ 2. No

Have you ever drunk any alcoholic beverage (including beer, wine and spirits)?

- ☐ 1. Yes
☐ 2. No

In the previous year, did you:

Take a care without the owner's permission	_____ times
Hit or damage (on purpose) objects belonging to others	_____ times
Sell marijuana or hashish	_____ times
Take money or objects that have a value of 25.00 pesos or less that do not belong to you	_____ times
Take money or objects that have a value of 25.00 pesos or more that do not belong to you	_____ times
Hit or hurt someone on purpose, aside from arguments with a sibling	_____ times
Force locks to enter someplace that is not your home	_____ times
Sell drugs other than marijuana or hashish	_____ times
Participate in fights	_____ times
Set fire on purpose to objects belonging to someone else	_____ times
Hit a teacher or trainer	_____ times
Take merchandise from a store without paying for it	_____ times

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