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**Correlates and Consequences of Juvenile Exposure to Violence:  
A Replication and Extension of Major Findings from the  
National Survey of Adolescents.**

Executive Summary

August 8, 2003

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**FINAL REPORT**

Approved By: M Battle

Date: 11/13/03

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This study examines the impact of exposure to violence on juveniles using data from the 1995 National Survey of Adolescents. Specific concerns are how exposure to violence serves as a risk factor for problems of juvenile use of drugs and alcohol, perceptions of violence in schools and communities, and juvenile participation in delinquent activities. This study is organized around two primary goals: (1) determine the impact of exposure to violent acts on juvenile use or abuse of drugs and (2) determine the context and consequences of witnessing violence in schools.

To address the first goal, reanalysis of a study based on a nationally representative sample of juveniles seeks to determine whether exposure to violence increases the risk of juveniles abusing or being dependent on drugs or alcohol. In addition to adding new controls to the models, the reanalysis also determines whether exposure to violence influences regular use of alcohol or drugs.

Hypothesis 1: Exposure to violence will increase abuse or dependence on drugs or alcohol, while controlling for demographic characteristics, family substance use, and peer deviance.

Hypothesis 2: Exposure to violence will increase regular use of drugs or alcohol, while controlling for demographic characteristics, family substance use, and peer deviance.

The second objective of this study is to understand the context of violence that occurs within schools and the consequences witnessing such violence has on juveniles. Contextual information includes the types of violence that are witnessed, how recently such incidents occurred, the relationship of both the offender and victim to the witness, and whether the witness felt at risk during the incident. In addition, consequences of this exposure, in the form of juveniles' perceptions of schools and communities as violent places and on juvenile deviance, are examined.

Hypothesis 3: Witnessing violence in school will increase the likelihood of juveniles believing their schools and communities are violent places.

Hypothesis 4: Witnessing violence at school will increase the risk of juveniles engaging in deviant activities.

## DATA AND METHODS

The data for this project are drawn from Kilpatrick and Saunders National Survey of Adolescents in the United States, 1995 (NIJ grant 93-IJ-CX-0023). These data were collected through a national probability telephone sample of 4,023 juveniles between the ages of 12 and 17 (see Kilpatrick et al. 2000 for a full description of the data). The data for the NSA, available through the National Archive of Criminal Justice Data, includes measures of most of the key variables for the current study. However, several of the dependent variables of alcohol or drug abuse / dependence had to be recoded in the reanalysis due to problems in exactly replicating the measures in the original study.<sup>1</sup> New controls for family income, peer deviance and the location of witnessed violence are developed for the extension of the original study. In addition, a series of new dependent variables are developed to assess alcohol and drug using behaviors. Each of these new variables is described briefly below.

### NEW CONTROLS

Family income is a preexisting ordinal variable in the data ranging from “\$0-5,000” to “\$100,000 or more.” Friends’ deviance is an additive scale developed from thirteen survey items, ranging from using alcohol to sexual assault. Respondents reported whether their friends had ever engaged in each of the thirteen acts, with a sample mean of

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<sup>1</sup> Please see the technical report for this study for a full description of the differences in coding between the two studies.

3.17. Witnessing violence in the original study was measured as a positive response to witnessing any of five acts of violence: shooting, stabbing, threat with a weapon, sexual assault or rape, and mugging or robbery. Although this same measure is used to replicate the original study in the first part of the current study, two important modifications to witnessing violence are performed for later analyses. First, a sixth type of witnessed violence, having seen someone beat up, hit, punch or kick someone else so that they were hurt pretty badly, was included. Second, this measure of witnessing violence was divided into the locations where such events took place. Respondents were able to report witnessing such acts in the home, the school, in the neighborhood, or “somewhere else.” Therefore, four variables are created to measure whether the respondent had ever witnessed any of the six acts of violence within each location.

#### NEW DEPENDENT VARIABLES

In order to determine whether exposure to violence puts juveniles at risk for a range of drug or alcohol behaviors, five new variables are created. These additional variables provide measures of binge drinking, and both experimental and non-experimental use of marijuana and hard drugs. Appendix A provides the full coding for each of these variables.

The remaining set of dependent variables is developed specifically to assess the importance of witnessing violence at school. Respondents are asked how serious of a problem violence is in their schools and in their neighborhoods, with those reporting violence is not a problem or only a “small” problem being coded as zero and those indicating they believe violence is a “middle sized” or “large” problem coded as one.

The final consequence of witnessing violence in school examined in this study is the respondents' own delinquency. Seven items are available in the data representing fairly serious crimes: stealing something worth more than \$100, motor vehicle theft, breaking and entering, gang fighting, robbery, sexual assault and attacking someone "with the idea of seriously hurting or killing that person." Due to the serious nature of these acts, respondents reporting participation in any of these acts was coded as delinquent.

## METHODS

Frequencies, cross-tab and correlation analysis are performed to provide univariate and bivariate data for key variables in this study. Logistic regression analyses are performed to both replicate the original analysis on drug abuse / prevention and to extend the analysis by incorporating the new controls and dependent variables. In addition, structural equation models using AMOS 4.0 are examined to compare different models of association between the key variables of exposure to violence, PTSD, peer deviance, and drug behaviors. Finally, logistic regression analyses are performed to assess the effects of witnessing violence at school.

## FINDINGS

### DRUGS AND ALCOHOL

The analysis examined the importance of exposure to violence and symptoms of post-traumatic stress disorder (PTSD) on juvenile alcohol and drug abuse or dependence, assessed using DSM-IV criteria. The descriptive statistics for the dependent variables for the original and current study are shown on Table 1. Kilpatrick et al. (2000)

concluded that exposure to violence and PTSD are significant risk factors for both marijuana and hard drug abuse or dependence. However, the current findings introduce several problems for these conclusions.

<Table 1 about here>

Tables 2 through 4 provide the results of logistic regression analysis for the replications and extensions of the models for alcohol and drug problem behaviors. Each table provides the findings from four different models. The coefficients in the first model are taken directly from the original study findings. The second model is as close to a direct replication as possible to the original analysis. Problems in replicating the coding of the dependent variables produced slightly different measures of abuse/dependence. The remaining models are extensions of the original study. The first extension includes new controls for the location of witnessed violence and peer deviance on the various forms of substance abuse or dependence, and the remaining extension models change the dependent variable to measures of substance use.

For alcohol abuse / dependence (See Table 2), all measures that are statistically significant in the original analysis are also significant in the reanalysis. However, extending the analysis by controlling for peer deviance and specification of the location of witnessed violence produces several changes in the findings. As in other models of alcohol abuse / dependence, African-Americans are at less risk for abuse/ dependence than Caucasians. The significant predictors of greater alcohol abuse/dependence are age (OR=1.66), African-American (OR=.30), family alcohol problems (OR=1.68), sexual assault victimization (OR=2.03) and peer deviance (OR 1.30). Although the odds ratio for peer deviance is lower than other risk factors, this represents the effect of each

increase in peer deviance. Since peer deviance is a continuous variable, the OR's increase exponentially for each unit increase. Therefore, a respondent who reports that their peers have engaged in all 13 of the possible acts of deviance, in comparison to one who reports no peer deviance, is 3,029% more likely to exhibit alcohol abuse or dependence.

<Table 2 about here>

The final model in Table 2 provides the findings from the analysis on a new conceptualization of problem drinking. This variable assesses whether the juvenile is a regular binge drinker, having 5 or more drinks at one time, or being drunk, at least 12 times in the past year (approximately once per month). As in most models, older juveniles and those who have been a victim of sexual assault have a greater probability of being a binge drinker, and being female lessens this probability. Each increase in peer deviance increases the likelihood of regular binge drinking by 37%. In addition, three of the locations of witnessed violence, at home, in the neighborhood, and somewhere else, are also significant risk factors. Witnessing violence at home has the highest odds ratio (3.85), indicating this type of exposure to violence has a larger effect on binge drinking than sexual assault victimization or other forms of exposure to violence.

Models predicting various forms of marijuana use are displayed in Table 3. Although there are slight differences between the original and replication models, these changes do not appear to substantially change the conclusions. Exposure to violence and PTSD symptoms remain as significant risk factors for marijuana abuse/dependence. However, the first extended model radically changes the findings. PTSD and most other forms of exposure to violence fall to non-significance while peer deviance is established



as one of the most important risk factors. The only forms of exposure to violence that are significant risk factors are witnessing violence in school and somewhere else. Therefore, where juveniles encounter violence has different impacts on their behaviors.

<Table 3 about here>

In the final two models predicting experimental and non-experimental marijuana use, the clear pattern is that having friends or family members that engage in deviant behaviors increases the risk of marijuana use. Family alcohol problems increase the likelihood of experimental use by 51% and family members with a drug problem increases the risk of non-experimental use by 130%. In addition, each increase in the deviance of peers increases the risk of experimental and non-experimental marijuana use by 15% and 48% respectively. Exposure to violence is more predictive of non-experimental use as only witnessing violence in school is significant for experimental use while sexual assault, witnessing violence in neighborhood and witnessing violence somewhere else are all significant in the model of non-experimental use. In addition, PTSD is never significant in either of these models of marijuana use.

The fourth table provides the findings for hard drug measures. Several variables that were significant in the original model fail to remain as significant risk factors in the replication (physical assault, PTSD and family alcohol problem in particular). This is likely due to the small number of respondents who reported hard drug abuse/dependence and difficulties in exactly replicating this measure. Controlling for peers and location of witnessed violence again results in PTSD being non-significant and the only forms of exposure to violence that significantly increases hard drug abuse/dependence are having been a victim of sexual assault and witnessing violence.

<Table 4 about here>

Exposure to violence increases the risk of both measures of hard drug use but different types of exposure are important in the two models. Sexual assault is significant in both models, physical assault only increases the risk of ever trying hard drugs, and although witnessing violence is important for both, the significant locations change. Witnessing violence in the neighborhood and elsewhere increase the likelihood of trying hard drugs while home and neighborhood are the key locations for non-experimental use. Finally, as in every other model with peer deviance, this variable is a substantial risk factor for both measures of hard drugs while PTSD is not significant.

The main findings from the extension and replication are that the affect of PTSD in predicting juvenile drug behaviors is not strong enough to remain significant when peer deviance is controlled. In addition, although the relationship between witnessing violence and problem drug behaviors was very strong in the original analyses, it is apparent that the location where these acts take place have different impacts. Therefore, further studies should investigate the experiences of violence in different contexts.

#### SCHOOL VIOLENCE

The second objective of this study begins such an investigation by attempting to understand the context and consequences of violence that is witnessed at school. Violent incidents are witnessed fairly regularly by this sample, with nearly 48% of the sample witnessing at least one of six different acts of violence at school. Although fights are the most common type of incident at school (69% of all acts), shootings and cuttings or stabbings made up 5% of all incidents witnessed (see Figure 1). These acts of violence occur fairly regularly, with nearly 30% of the acts occurring within the last month.

Although many juveniles have witnessed violence at school, only 12% of these indicate they had been afraid for themselves during the incident. Perhaps one reason for this is that the combatants were typically juveniles whom the respondents knew, either friends of the respondents (22% of victims and 12% of offenders) or other children (55% of victims and 62% of offenders).

<Figure 1>

Even if they do not report being afraid, these acts of violence do impact juveniles in several important ways. Results of logistic regression analysis indicate witnessing violence in school has serious impacts on juvenile deviance as well as on perceptions of community and school safety (Table 5). Juveniles are 172% more likely to report that there is a problem with violence in school if they have actually witnessed such an even in this setting. Such exposure also increases the perception that violence is a problem in the community (OR=1.58). Therefore, witnessing violence at school does serve as a risk factor for negative perceptions of schools and communities.

The final model in this study examines the relationship between exposure to violence and the respondents' own deviance. Two of the greatest risk factors for participation in delinquency are deviant family members (OR 1.75 for family drinking problem and 1.56 for family drug problem), and deviant peers (OR 1.37). Even while controlling for peer and family deviance, and witnessing violence in other locations, witnessing violence at school increases the likelihood of engaging in serious forms of deviance by 50%.

<Table 5 about here>

## DISCUSSION

Juvenile delinquency has been studied so extensively that development of new ideas, especially any that inform criminal justice policy, guide counselors, or help to implement prevention programs, are fairly rare. The data in the NSA may bring some new and important ideas to light. The emphasis on exposure to various forms of violence in the survey allow researchers to both study the causes of such exposure and the possible consequences on the juveniles' behaviors, including what impact this exposure may have on drug behaviors. In addition, the original study using the NSA was the first national survey to examine the effects of post-traumatic stress disorder (PTSD) on drug abuse or dependence (Kilpatrick et al. 2000: 26). Juveniles exhibiting such symptoms were found to be at greater risk for various forms of drug abuse or dependence. If school officials, counselors, or family members are able to identify juveniles suffering from PTSD symptoms one source of problem drug behavior could be curtailed.

However, findings from the current study question the importance of PTSD for juvenile abuse or dependence on drugs. PTSD is not significant in any models when the affect of peer deviance is controlled. Kilpatrick et al. referred to peer deviance as an important potential addition for further study by acknowledging that exposure to violence, one type of stressful event that could generate PTSD symptoms, may be influenced by association with peers who engage in deviance (2000:26). Therefore, one conclusion of the current study is that PTSD and other forms of exposure to violence are associated to drug behaviors at least partially through association with deviant peers.

Witnessing violence was the form of exposure to violence that had the greatest impact on alcohol and drug abuse/dependence in the original study. Kilpatrick et al.

argued that witnessing such events, particularly in the home environment where such violence is "typically ongoing" and the juvenile has limited "ability to escape" (2000: 26) the situation, generates a great deal of stress that is managed through maladaptive coping strategies of drug abuse/dependence. If such affects of this type of exposure may be more potent in some settings than others, it is important to examine the relative effects separately. This attention to where violence is witnessed is an important contribution of the current study.

The current analyses indicate that the locations where violence is witnessed have different impacts on a variety of perceptions and behaviors. Witnessing violence in the home rarely serves as a risk factor for increased drug or alcohol measures and is not significant in any of the models predicting juvenile delinquency or perceptions of schools and communities. In contrast, witnessing violence in schools, neighborhoods or somewhere else are significant risk factors for many of these outcomes.

One setting where juveniles are exposed to violence that needs further attention is the school. Juveniles spend a great deal of their day in this setting and are regularly exposed to the potential for violence. This study provides a more complete picture of the context of violence that occurs within the school. Instead of only reporting how many juveniles witness such incidents or what types of violence are problems in school, the contextual examination also provides information on who is involved as the victim and offender and whether witnessing such acts generate fear. However, due to the nature of the survey collection procedures, the data provided by this study does not include all acts of violence that are witnessed at school and is therefore still an underestimation of the extent of this problem.

Finally, the importance of families cannot be overlooked in this study. Family members that have problems with alcohol or drugs are significant risk factors for many types of alcohol and drug problems as well as serious delinquency. Family deviance may increase juveniles' deviant behaviors in several ways. First, family members serve as a model for juveniles' behaviors. Second, problem use of drugs or alcohol by parents or other family members may also provide opportunities for juveniles to participate in drug use, by providing direct access to substances within the home setting, or by not providing adequate monitoring of juveniles' behaviors when they leave the house. Finally, as speculated by Kilpatrick et al. (2000: 26), parents who have problem with drugs or alcohol may also increase the risk of exposing the juvenile to physical or sexual abuse by family members. The NSA is an excellent source of future research to better examine the role of families on juvenile deviance, providing data both on the offenders in all acts of exposure to violence and other forms of family deviance.

## POLICY IMPLICATIONS

Research in drug use and school violence often fails to make clear conceptual distinctions among the adolescent activities that are being studied. Drug problems can range from experimentation to abuse. School violence may be limited to acts involving weapons or include bullying such as teasing and name-calling. The causes and consequences of drug use or school violence, and what can be done about these problems, may vary widely depending on how these activities are conceptualized. The findings of this study have direct policy implications for two separate areas: working with juvenile drug problems, and preventing problems of violence in school.

How juvenile drug use is conceptualized is crucial in determining the risk factors for the behavior. Predictors of drug or alcohol abuse/dependence are very different than those of using these substances. If the focus of anti-drug policies is on preventing experimentation with drugs, the findings of this study indicate that programs should work with family members to emphasize the importance of providing good role models to their children and work more extensively with juveniles who have been victims of sexual assault or physical violence. If regular drug use is the concern, the emphasis should shift slightly to provide intervention programs to juveniles who experience violence in the home, as this type of exposure to violence is one of the most substantial risk factors for binge drinking and non-experimental use of hard drugs. Finally, programs to rehabilitate juveniles who are abusing or dependent on drugs should emphasize how to cope with stressful events without relying on the escapist qualities of drugs and alcohol. In sum, it is erroneous to assume that factors that lead a juvenile to experiment with drugs are the same factors that push the individual into problematic levels of use or dependence. Prevention, intervention or rehabilitation policies need to be clear about what form of "drug problem" is being addressed in order to tailor the policy to focus on the relevant risk factors and most effectively meet the needs of the juveniles.

Although there are distinct risk factors for the different conceptualizations of drug problems, one consistent finding is the influence of deviant peers. Association with deviant friends significantly increases the risk of abusing or being dependent on drugs, of experimenting with marijuana or hard drugs, and of regularly using alcohol, marijuana and hard drugs. Therefore, helping juveniles resist the influence of deviant friends, the mainstay of most current programs, remains an important element for preventing all types

of juvenile drug problems. However, this study also demonstrates that only focusing on peers is not enough to prevent alcohol and drug problems. It is also important to enhance the ability of juveniles to resist poor models at home.

Family members with alcohol or drug use problems increase the risk of juvenile substance problems. Any anti-drug policy that only works with juveniles and does not address the needs of their families is therefore unlikely to be successful. Schools or other anti-drug program providers should encourage or even require parental participation and ideally provide adolescents' family members with information and access to rehabilitation or counseling. Although this may not always be feasible, addressing families as a risk factor, along with emphasizing resistance to deviant peers and coping with stress, may create anti-drug programs that are much more successful than our current models.

The second policy implication of this study is to suggest changes in how schools prevent violence. Any type of violent behavior in schools can create an atmosphere of intimidation that disrupts the ability of students to succeed in school. School policies must find ways of addressing the needs of students who are witnesses to violence. Instead of simply stopping fights and reprimanding those directly involved, school officials should evaluate all those who witnessed these acts. This would allow the schools to identify juveniles who may be indirectly involved in the event, through encouraging their friends toward violence, or provide counseling or other assistance to those who feel traumatized.

Any school policy to prevent violence will have only limited success if it fails to account for the experiences the students have within their families and communities. According to the findings of this study, although violence within the home is rare, a



significant amount of violence is witnessed in the communities. Although schools are not responsible for protecting students in such settings, it is important to convey to students that the school administrators and teachers are concerned with their students' safety (Gottfredson and Gottfredson 1985). Schools need to provide students with accessible resources for coping with violent incidents, no matter where such events may occur. Having a person or place to turn for advice and counseling may prevent students who have felt traumatized by violence from turning to drugs or other deviant coping responses. Overall, schools must continue to acknowledge the different impacts that such violence has on the students and seek out new ways of addressing this problem.

## CONCLUDING REMARKS

This study proposes that the association between exposure to violence and deviant behaviors is not related to how traumatized the juvenile may be but by the routine activities and opportunities for delinquency the juvenile encounters. That is not to say that stress generated by exposure to violence has no impact on juveniles. Being a victim or witnessing violence in settings such as the home or school may increase stress levels and lead juveniles to use drugs that are fairly accessible to them as a way of coping with the stress. However, witnessing violence in other settings, while arguably still stressful, is likely to be connected to deviant behaviors through other mechanisms. Juveniles spending a greater amount of time in locations away from home, and even out of their neighborhoods, may be more exposed to violence and have increased opportunities to partake of drugs as part of their routine lifestyles and activities. The relationship between witnessing violence and problem behaviors may simply be an indication of the level of

opportunity or of the juveniles' own deviant tendencies. A challenge for future research is thus to examine the context of where violence occurs in greater detail.

The current study points to several new areas of necessary investigation and suggests important changes are needed within current anti-drug and school safety programs. More research needs to be conducted to understand why violence in some settings has greater impact on drugs and delinquency than others and the role of deviance within the family needs further exploration. One task for schools and other policy makers is to develop programs that incorporate the risk factors of exposure to violence and family influences into those that already focus on peers. Such changes may provide more successful approaches for addressing the needs of juveniles.

## Sources Used

Kilpatrick, Dean G., Ron Acierno, Benjamin Saunders, Heidi S. Resnick, Connie L. Best and Paula P. Schnurr. 2000. "Risk Factors for Adolescent Substance Abuse and Dependence: Data from a National Sample." *Journal of Consulting and Clinical Psychology*. 68(1):19-30.

Table 1: Descriptive Statistics for Dependent Variables

<u>Dependent Variables<sup>1</sup></u>	<u>Frequency</u>	<u>Percent</u>
<i>Original study</i>		
Alcohol abuse/dep	179	4.4
Marijuana abuse/dep	165	4.1
Hard drug abuse/dep	41	1.0
<i>Replication</i>		
Alcohol abuse/dep	173	4.3
Marijuana abuse/dep	168	4.2
Hard drug abuse/dep	40	1.0
<i>Extension</i>		
RegDrinking	182	4.5
ExpMarijuana	216	5.4
NexpMarijuana	365	9.1
EverHard	211	5.2
NexpHard	103	2.6
<i>School Violence</i>		
SchViolProblem	1233	30.7
CommViolProblem	1399	34.8
Delinquency	491	12.2

<sup>1</sup> Dependent variables are all dichotomous. Except for the measures of abuse / dependence for both the original and replicated items, frequencies are weighted by age, sex and race based on 1995 census data.

Table 2: Final Model Odds Ratios for Original, Replicated and Extended Analyses for Alcohol: Logistic Regression Analyses<sup>1</sup>

<u>Variable</u>	Abuse or Dependence			
	Original <sup>2</sup> <u>OR</u>	Replication <u>OR</u>	Controls <sup>3</sup> <u>OR</u>	Binge Drinking <u>OR</u>
Age	1.91***	1.94***	1.66***	1.64***
Female	0.58**	0.61*	0.74	0.52***
African-Am	0.34**	0.34***	0.30**	0.06***
Hispanic	0.62	0.63	0.59	1.00
Native-Am	0.50	0.53	0.60	1.05
Family Alcohol	2.13***	2.15***	1.68*	1.26
Family Drug	0.85	0.77	0.65	1.15
Physical Assault	1.71**	1.97***	1.55	0.98
Sexual Assault	2.40**	2.43***	2.03**	1.83*
Witness Violence	2.73***	1.94***	---	---
PTSD	1.56	.613	0.81	1.01
Family Income			0.99	1.00
Peer Deviance			1.30***	1.37***
Witness Home			1.47	3.85**
Witness School			0.96	0.81
Witness Neigh			1.50	1.89***
Witness Else			1.16	1.53*

\*p<.05, \*\*p<.01, \*\*\*p<.001

<sup>1</sup> To be consistent with Kilpatrick et al (2000), analysis is limited to cases with complete data for age and race (N=3,904) and cases are weighted by age, sex and race.

<sup>2</sup> Original model figures are taken from Table 4 in Kilpatrick et al (2000: 25).

<sup>3</sup> The extended model drops the original measure of witnessed violence and adds in new controls of location of witnessed violence, family income, and peer deviance.

Table 3: Final Model Odds Ratios for Original, Replicated and Extended Analyses on Marijuana: Logistic Regression Analyses<sup>1</sup>

Variable	Abuse or Dependence			Use Measures	
	Original <sup>2</sup> OR	Replication OR	Control <sup>3</sup> OR	Experiment OR	Non-Exp OR
Age	1.52***	1.61***	1.33***	1.34***	1.43***
Female	0.59**	0.63*	0.66	1.19	0.87
African-Am	0.25***	0.22***	0.33**	1.11	0.45***
Hispanic	1.06	0.97	0.95	1.39	0.97
Native-Am	1.08	0.91	1.30	1.77	1.88
Family Alcohol	1.42	1.50	1.22	1.51*	1.23
Family Drug	2.11***	2.02**	1.48	0.86	2.30***
Physical Assault	1.76**	1.92***	1.36	0.84	1.17
Sexual Assault	1.56	1.58	1.42	1.28	2.08***
Witness Violence	4.58***	3.75***	---	---	---
PTSD	2.86***	2.78***	1.52	0.61	0.85
Family Income			1.00	0.99	1.00
Peer Deviance			1.48***	1.15***	1.48***
Witness Home			2.08	1.51	1.61
Witness School			1.65*	1.38*	1.30
Witness Neigh			1.31	1.29	1.46*
Witness Else			1.60*	1.13	1.95***

\*p<.05, \*\*p<.01, \*\*\*p<.001

<sup>1</sup> To be consistent with Kilpatrick et al (2000), analysis is limited to cases with complete data for age and race (N=3,904) and cases are weighted by age, sex and race.

<sup>2</sup> Original model figures are taken from Table 4 in Kilpatrick et al (2000: 25).

<sup>3</sup> The control and new dependent variable models drop the original measure of witnessed violence and add in new controls of location of family income, witnessed violence and peer deviance.

Table 4: Final Model Odds Ratios for Original, Replicated and Extended Analysis on Hard Drugs: Logistic Regression Analyses<sup>1</sup>

Variable	Abuse or Dependence			Use Measures	
	Original <sup>2</sup> OR	Replication OR	Controls <sup>3</sup> OR	Ever Used OR	Non-Exp OR
Age	1.61***	1.97***	1.69**	1.13	1.50***
Female	0.63	0.36**	0.38*	0.87	0.61
African-Am	0.10**	0.00	0.00	0.16***	0.00
Hispanic	0.67	0.82	0.81	0.64	0.73
Native-Am	0.94	0.96	1.51	1.09	1.10
Family Alcohol	2.57*	2.39*	1.40	1.32	1.47
Family Drug	2.54*	1.79	1.64	2.02***	2.06*
Physical Assault	3.28**	1.64	0.97	1.71**	1.12
Sexual Assault	2.56*	4.88***	5.69***	2.21***	3.78***
Witness Violence	4.15*	3.42**	---	---	---
PTSD	2.41*	1.84	0.72	0.92	0.66
Family Income			1.00	0.99	0.99
Peer Deviance			1.95***	1.44***	1.59***
Witness Home			0.00	2.16	3.55*
Witness School			1.08	1.15	1.45
Witness Neigh			0.99	1.64*	2.04**
Witness Else			1.54	1.62*	1.34

\*p<.05, \*\*p<.01, \*\*\*p<.001

<sup>1</sup> To be consistent with Kilpatrick et al (2000), analysis is limited to cases with complete data for age and race (N=3,904) and cases are weighted by age, sex and race.

<sup>2</sup> Original model figures are taken from Table 4 in Kilpatrick et al (2000: 25).

<sup>3</sup> The extended model drops the original measure of witnessed violence and adds in new controls of location of witnessed violence, family income and peer deviance.

Table 5: Odds Ratios from Logistic Regression Analysis Examining the Consequences of Witnessing Violence at School<sup>1</sup>.

<u>Variables</u>	<u>School Violence OR</u>	<u>Community Violence OR</u>	<u>Delinquent Involvement OR</u>
Age	0.94*	0.96	0.94
Female	1.31***	1.35***	0.23***
African-American	1.18	1.52***	1.60**
Hispanic	1.14	1.46**	1.76**
Native-American	1.42	1.13	3.67***
Income	1.00	1.00	1.00
Peer Deviance	1.02	1.03*	1.37***
Family Drink	1.03	1.04	1.75***
Family Drugs	1.32*	1.33*	1.56*
Sexual Assault	0.79	0.94	1.29
Physical Assault	1.56***	1.39**	3.22***
Witness Home	1.07	1.18	1.64
Witness Neighborhood	1.58***	2.64***	2.64***
Witness Else	1.26*	1.42***	2.34***
Witness School	2.72***	1.58***	1.50**

\*p<.05, \*\*p<.01, \*\*\*p<.001

<sup>1</sup> To be consistent with Kilpatrick et al. (2000), analysis is limited to cases with complete data for age and race (N=3,904) and cases are weighted by age, sex and race.



Figure 1: Type of Violence Witnessed at School

