Violence and Rural Teens

Teen Violence, Drug Use, and School-Based Prevention Services in Rural America

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At the Heart of Public Health Policy

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Executive Summary

This study had three main purposes: (1) to explore the prevalence of violence-related exposures and drug use among rural teens, (2) to investigate the effects of race and gender on the risk of exposure to violence and drug use, and (3) to compare the policies and mental health care services of rural and urban schools. The sections below summarize the results of this research:

<u>Exposure to Violence:</u> This study found no evidence to support the common assumption that rural youth are protected from exposure to violence.

- Of the 15 measures of violence activities, none showed a significantly lower prevalence among rural teens when compared to suburban and urban teens. In fact, rural teens were more likely than urban or suburban teens to have carried a weapon within the last 30 days. These results suggest that rural teens are equally or more likely than suburban and urban teens to be exposed to violent activities.

<u>Drug Use:</u> Rural teens are at significantly greater risk of using drugs than both suburban and urban teens.

- Five of the 13 measures of drug use showed a significantly higher prevalence rate among rural teens: chewing tobacco (11.5%), chewing tobacco at school (7.6%), smoking cigarettes at school (14.8%), using crack/cocaine (5.9%), and using steroids (7.4%). Only one measure showed a significantly higher prevalence rate among urban teens (smoking marijuana at school at 6.8%). The remaining seven measures showed no differences by residence.

- Of important note is the prevalence of crystal meth use among rural teens. The proportion of rural teens who reported every using crystal meth (15.5%) was almost double the proportion of urban (8.8%) and suburban teens (9.5%). Crystal meth was the 4th most commonly used drug among rural teens after alcohol, cigarettes, and marijuana, making it more popular among rural teens than chewing tobacco.

<u>Effects of Race:</u> Racial differences for exposure to violence and drug use are negligible among rural teens.

- Non-white rural teens were no more likely than white rural teens to experience the 15 measures of exposure to violence. This result was similar to comparable comparisons among urban teens but not suburban teens, where non-white teens were more likely than white teens to experience 9 of the violence exposure measures.

<u>Exposure to Violence</u>

Weapons Carrying
- Carried any weapon
- Carried a gun
- Carried weapon to school

Fear of Violence
- Feared to attend school
- Threatened with weapon at school

Fighting
- In a fight
- Injured in a fight
- In a fight at school
- Hit by dating partner
- Coerced into sex

Suicide
- Considered suicide
- Planned suicide
- Attempted suicide
- Injured in attempt
- Injured who attempted

<u>Drug Use</u>

Outside of School
- Cigarettes
- Chewing tobacco
- Alcohol
- Marijuana

On School Grounds
- Cigarettes
- Chewing tobacco
- Alcohol
- Marijuana

Street Drugs
- Cocaine or crack
- Inhalants
- Heroin
- Crystal meth
- Steroids

- Among rural teens, only one measure of drug use differed by race: rural non-white teens were less likely to report chewing tobacco compared to rural white teens. This pattern was strikingly different from the racial differences found among urban teens (9 differences) and suburban teens (7 differences).

Effects of Gender: Exposures to violence and drug use vary by gender among rural teens.

- Among rural teens, females are more likely than males to be coerced into sex or engage in suicide behaviors, while males are more likely than females to use weapons, be threatened at school, or engage in fighting behaviors. Male teens are also more likely than female teens to chew tobacco and smoke marijuana, both on and off school grounds.

Teen Violence Services: Rural schools offer somewhat fewer teen violence services than rural schools.

- Rural schools were less likely than urban schools to offer peer counseling and self help services, but just as likely to offer 14 other violence prevention and treatment services.

- There were very few significant differences between rural and urban school in the way these services are delivered. Out of the 66 possible combinations of violence-related services and service delivery option, only 6 showed significantly lower utilization rates for rural schools. The remaining 60 combinations showed no differences by location. (See page 24)

Teen Violence Services

Mental Health
- Violence prevention
- Suicide prevention
- Crisis intervention
- Stress management
- Referral for abuse

Drug Use
- Alcohol/drug prevention
- Tobacco use prevention
- Alcohol/drug treatment
- Tobacco use treatment

Treatment Modality
- Case management
- Family counseling
- Group counseling
- Individual counseling
- Comprehensive assessment
- Peer counseling
- Self help

Teen Violence Services Personnel: Mental health care staff in rural schools are available for fewer hours, have fewer hiring requirements, and receive training for fewer teen violence services than their counterparts in urban schools.

- Rural and urban schools were equally likely to have a guidance counselor, a psychologist, and a social worker on staff. However, all three of these professionals were available for significantly fewer hours per week in rural schools.

- Rural and urban schools were equally likely to require a graduate degree, board certification, and a state license for newly hired guidance counselors and for newly hired psychologists. However, rural schools were significantly less likely than urban schools to require a graduate degree or a state license for newly hired school social workers.

- Mental health care staff from rural schools were less likely than their counterparts in urban schools to receive training for certain teen violence services. Specifically, Mental Health Care Coordinators were less likely to receive training in suicide prevention, family counseling, peer counseling, and self help, while Health Education Coordinators in rural schools were less likely to receive training in tobacco use prevention.

School Environment: Overall, rural schools report fewer policies and security practices that prevent violence and drug use than do urban schools.

- Rural schools were less likely than urban schools to report using five (5) administrative policies to prevent student violence: prohibiting gang paraphernalia, student education on suicide prevention, violence prevention, and tobacco use prevention, and having a council for school health. The remaining 13 measures showed no differences by school location.

- In response to student fighting, rural schools were less likely than urban schools to encourage or require participation in a student assistance program.

- Rural schools were more likely than urban schools to monitor school hallways and to arm their security staff, but less likely to use a closed campus, prohibit bookbags, require school uniforms, use surveillance cameras, use uniformed police, use undercover police, and use security guards. The remaining seven school security measures did not differ by school location.

Violence Prevention Policies

Weapons in school
- Weapons prohibited policy
- Weapons off campus prohibited

Fighting in school
- Fighting prohibited policy

Gangs in school
- Gangs prohibited policy
- Gang paraphernalia prohibited

Violence education
- Emotional or mental health
- Suicide prevention
- Violence prevention
- Alcohol/drug prevention
- Tobacco use prevention

School policies
- Have a council for school health
- Council on violence prevention
- Council for school climate
- Council for mental health svcs
- Written violence plan
- Anti-harassment policy
- Alcohol/drug prevention
- Tobacco use prevention

School Security
- Closed campus
- Monitored halls
- Monitored bathrooms
- Monitored school grounds
- Conduct bag/locker checks
- Prohibit bags/backpacks
- Required school uniforms
- Required dress code
- Student ID badges
- Surveillance cameras
- Metal detectors
- Uniformed police
- Undercover police
- Security guards
- Armed security staff
- Armed, those w/security staff

Policy Recommendations

- **Quality of Violence-Related Services:** Rural schools are just as likely as urban schools to provide mental health services that address violence and drug use activities. However, in rural schools, staff receive less training, have lower hiring requirements, and are available for fewer hours each week. The Rural Health Outreach Grant Program includes many initiatives addressing mental or behavioral health components, but no FY04 grantees specifically address teen violence. ORHP should encourage applicants to address teen violence services in rural areas. It is important, however, to understand why this disparity exists before trying to reduce it. For example, if rural schools have fewer resources available for staff training, then funding would be the priority. But if rural school officials perceive a lower need for these services, then raising awareness of the problem might motivate a re-allocation of training for mental health care staff.

- **School-Based Health Centers and School-Physician Partnerships:** ORHP and State Departments of Health should facilitate physician education regarding (1) teen violence and drug use in rural areas, (2) warning signs and symptoms of violence and drug use, (3) need for communication between medical providers and local schools, particularly mental health

care professionals who work for the school system. School Based Health Centers, funded under the Health Centers Consolidation Act of 1996, are potential new access points for service expansion in the areas of mental health and substance abuse services. Rural program planners, particularly in existing Community Health Centers, are encouraged to consider offering violence and drug abuse screening and prevention services to youth through this funding mechanism.

- **Technology:** Technology offers two important avenues for improving mental health care in rural areas. First, telecommunications provides another way for mental health providers to connect with clients. HRSA's existing Telehealth Network Grant Program can be used to encourage research into distance care that includes teen violence prevention and treatment components. Research should also consider outcomes evaluation and financial hurdles to adopting telehealth programs at the local level. Second, telecommunications offers low-cost, flexible-access venues for training current mental health care staff in rural areas. This is an excellent opportunity for a professional organization like the National Rural Health Association or the American Public Health Association to develop on-line training programs for rural mental health providers.

- **Community-Based Programs:** The Model Programs section of this report describes five approaches to teen violence that have been highly rated by several agencies. These models could easily be adopted by individual communities to help address teen violence and drug use. Most of these programs recommend an integrated approach that involves mental health and medical providers, schools, local authorities, and families. Local health clinics could provide the leadership needed to develop and maintain these collaborations, while HRSA and some of the evaluating agencies (i.e., SAMSHA) could provide technical assistance as needed.

- **School Policies:** Rural schools report using more punitive school policies, while urban schools report using more preventive school policies (see School Policies in previous section). Initiatives at the federal or state level could provide guidance to rural schools on how to modify current policies to be more preventive in nature and less punitive. Successful prevention policies can help reduce both the incidence of teen violence/drug use and the need for treatment services.

- **State Offices of Rural Health:** State Offices of Rural Health (SORHs) have a unique opportunity to foster teen violence and drug abuse prevention programs through the Medicare Rural Hospital Flexibility Grant Program. ORHP can ensure that teen violence is addressed in the State Rural Health Plan by making it a priority element in funding decisions. Critical Access Hospitals could require early identification for at-risk youth for EMS and emergency department staff. ORHP, NRHA and SORHs should advocate for rural violence and drug abuse intervention program to potential federal partners, particularly the Centers for Disease Control and Prevention (CDC). CDC programs appear to target urban areas, as in the recent RFA 05042, "Urban Networks to Increase Thriving Youth through Violence Prevention." Based on the findings from the current study, CDC should consider investments in rural communities with regards to teen violence and drug use prevention.

Introduction

In the wake of tragedies like the fatal shootings in Columbine high school, concern with prevention and treatment of teen violence has become a priority in health promotion for youth. Healthy People 2010 lists reductions in physical fighting and carrying weapons at school as two objectives for health improvement among adolescents (Office of Disease Prevention and Health Promotion, 2005). Nationwide in 2002, 33.2% of adolescents were in a physical fight, 17.4% carried a weapon, 8.9% were threatened or injured with a weapon at school, and 9.5% experienced dating violence (Grunbaum et al., 2002). In the 15-19 age group, homicide and suicide are the second and third leading causes of death, accounting for 25.9% of all deaths (Anderson & Smith, 2003).

Teen Violence and Psychosocial Health

Exposure to violence is linked to a variety of damaging effects, including psychological trauma, violent behaviors, and drug use. For example, adolescent exposure to violence (sexual and physical assault and witnessing violence) increases the risk of posttraumatic stress disorder, major depressive episode, and substance abuse (Kilpatrick et al., 2003). Youth exposed to gun violence report significantly more anger, dissociation, posttraumatic stress, and total trauma than youth not exposed (Slovak & Singer, 2001). Children of abused mothers exhibit significantly more behaviors consistent with suicidal risk than age- and race-matched children of non-abused mothers (McFarlane, Groff, O'Brien, & Watson, 2003). It is estimated that violence exposure variables explain up to 35% of total psychological trauma symptoms, including anxiety, depression, post-traumatic stress, dissociation, and anger (Slovak & Singer, 2002).

Exposure to violence is also associated with increased risk of drug use, including increased levels of reported smoking, alcohol use, marijuana use, and hard drug use (Dukarm,

Byrd, Auinger, & Weitzman, 1996; Vermeiren, Schwab-Stone, Deboutte, Leckman, & Ruchkin, 2003). Selling drugs also has a strong dose-response relationship with gun carrying, and should be considered a high risk behavior (Steinman & Zimmerman, 2003). According to CDC national statistics, certain types of drug use are on the rise. During 1991-2001, for example, self-reported lifetime use of marijuana, cigarettes, and cocaine in adolescents increased to 42.4%, 36.4% and 9.4% respectively (Grunbaum et al., 2002).

Research suggests a circular relationship between violence exposure, violent activities, and psychological health. For example, dissatisfaction with life is associated with increases in both exposure to violence and engagement in violent activities (Valois, Zullig, Huebner, & Drane, 2001). Being the victim of bullying is also consistently related to violent behaviors (Nansel, Overpeck, Haynie, Ruan, & Scheidt, 2003). Violence exposure and trauma variables together explain up to 50% of the variance in violent behavior (Song, Singer, & Anglin, 1998).

Rural and Minority Teen Violence

Conventional wisdom assumes that rural communities protect youth and teens from exposure to violence. Recent research, however, has started to question that assumption. Several regional studies have found that rural youth are exposed to high levels of violence (Osgood & Chambers, 2003; Slovak et al., 2001; Slovak et al., 2002). Rural teens are also more likely than urban teens to be victims of dating violence (Spencer & Byrant, 2000) and exposed to gun violence (Slovak et al., 2001).

Teens attending rural schools in upstate New York showed a significantly higher risk than teens attending urban schools of carrying a weapon at school, carrying a gun on or off school grounds, and using tobacco, alcohol, or other drugs (Atav & Spencer, 2002). Another

study of youth in rural Ohio found that children exposed to gun violence were more likely to be exposed to violence in other areas of their lives (Slovak et al., 2001).

Differences in the prevalence of teen violence between racial and ethnic groups are unclear in current research. A meta-analysis conducted by Stein at al reviewed over 37 research articles concerning youth exposure to community violence (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003). Of these 37 articles, only 9 compared exposure to violence across racial or ethnic groups: 7 found higher prevalence of exposure to violence for minority youth, while 2 found no difference. Nationwide youth risk behavior statistics show that black students were significantly more likely than other students to be injured in a fight and forced into sex, while white and Hispanic students were significantly more likely to plan suicide and report cocaine use (Grunbaum et al., 2002).

Significant relationships between violence and mental health measures appear to remain significant for both whites and racial minorities (Stein et al., 2003; Valois et al., 2001), but these relationships may vary by minority group. For example, Kilpatrick et al found that among teens exposed to violence, minority status was significantly associated with post-traumatic stress disorder and substance abuse, but not with major depressive disorder (Kilpatrick et al., 2003).

Evaluations of the joint effects of race and rural residence on teen violence are rare, leaving the question of interaction unanswered.

Teen Violence Services

Youth exposed to violence rarely receive mental health interventions. One study found that only 58% of hospitalized adolescent assault victims received any psychosocial counseling and only 9% were referred for mental health care after discharge (Shuchman, Silbernagel, Chesney, & Villarreal, 1996). Delivery of mental health services to youth, in both rural and

urban areas, is hindered by the limited number of child and adolescent psychiatrists, and the reluctance of children or their families to use mental health services not provided within a school setting (Koplewicz, 1999).

Nationwide, 78% of schools have a mental health services coordinator, while only 52% have referral arrangements with local mental health providers (Brener, Martindale, & Weist, 2001). However, estimates of the proportion of rural schools providing mental health services remain unclear in the available literature. Surveys of school administrators suggest that rural schools offer more mental health services but rate student problems as less serious than urban schools (Weist et al., 2000).

Almost 87% of schools nationwide report providing violence prevention programs for students and 93% offer referral services for physical, sexual, or emotional abuse (Brener et al., 2001). Currently, there are no comparisons of offerings across rural and urban schools to estimate differences in availability.

Research Questions

The purpose of the present study was to explore the prevalence of exposure to violence among rural and minority teens and to compare the availability of mental health services between rural and urban schools. The primary research questions are as follows:

1. *Do rural teens have a different risk than urban and suburban teens of exposure to violence and drug use?*
2. *Do rural minority teens have a different risk than rural whites of exposure to violence and drug use?*
3. *Do male and female rural teens experience differences in their risk of violence or drug use?*
4. *Do rural teens have the same access to mental health services as urban and suburban teens?*

Chapter 1: Exposure to Violence and Drug Use

A. Background: Rural and Urban Demographics

Demographic characteristics of teen respondents, as recorded on the Youth Risk Behavior Survey (YRBS), were compared across residence and race. Rural respondents were more likely to be white than suburban and urban respondents (89.9% vs. 28.7% and 47.3%; p=0.007). Across all respondents, the lower grades tend to be more highly represented than the upper grades, due to drop-outs, differential willingness to complete the survey, or other factors. However, the decline was lower among white respondents (28.1% in ninth grade to 22.5% in 12th grade) than among non-white youth (33.3% in 9th grade to 18.6% in 12th). [See Appendix C: Table 1a]

Within the urban, suburban and rural residence categories, only one race-based difference was found (Table 1b). Among suburban teens, the fall-off in representation with increasing grade level was lower than among nonwhite youth, paralleling the national finding. While the trends in grade level were similar in rural and urban respondents, they did not reach statistical significance. There were no race- or residence-based differences in age, sex, or region of the country (Table 1b).

Violence related activities were measured using 28 reported attitudes or behaviors in five major areas: weapons carrying, fear of violence, violent activities, suicide, and drug use. (See Appendix B for specific survey items.) For this analysis, all 28 outcome variables were compared three ways.

- Across all residence groups – rural, suburban, and urban
- Across racial groups within rural – white vs. non-white
- Across gender groups within rural – male vs. female

A total of 13,482 respondents from the YRBS 2001 were included in the analysis: 1,239 living in rural areas, 7,096 living in suburban areas, and 5,067 living in urban areas. This final sample excluded records that were missing data on age, sex, or grade in school. Although the YRBS does include specific race/ethnicity classifications, minority youth were collapsed into a single "non-white" category due to small cell sizes (see Methods section for further details)

B. Violent Activities

1. Effects of Residence

Weapons Carrying

Rural teens were more likely to carry a weapon of any kind, in any setting, during the last 30 days than were suburban or urban teens (22.9% vs. 17.3% and 15.3%; p=0.0006). There were no significant differences by residence in carrying a gun during the last 30 days or carrying any weapon to school in the last 30 days (Table 2a). It is important to note, however, that between 6% and 8% of students overall did indicate carrying a weapon to school within the last 30 days.

Fear of Violence

Fear of violence was measured by expressed fear of attending school within the last 30 days and having been threatened with a weapon at school within the last 12 months. There were no significant differences between rural, suburban, and urban teens found on either of these two measures, although the trend for fear in attending school approached significance (p=0.0592) with urban teens more likely to report fearing to attend school than rural teens (Table 2a).

Physical Violence

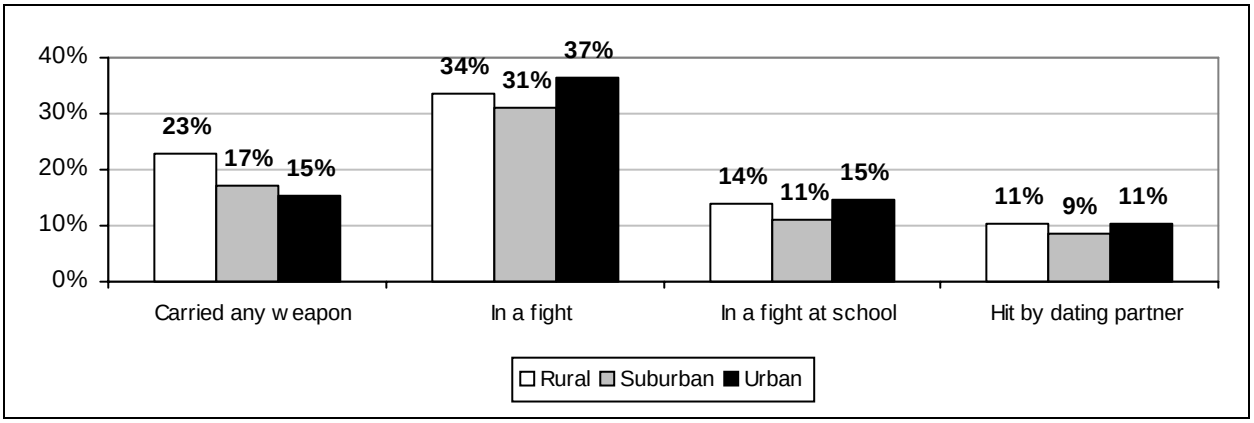
Urban teens were significantly more likely than rural and suburban teens to have been in a fight during the last 12 months (36.6%, vs. 33.6% and 31.2%; p=0.0067). Suburban teens were significantly less likely than rural and urban teens to be in a fight at school (10.9% vs. 13.8% and 14.7%; p=0.011) and to be hit by a dating partner (8.7% vs. 10.5% and 10.5%; p=0.0477). However, there were no significant differences in the proportion of rural, suburban, and urban

teens who reported being in a fight at school or coerced into sex (Table 2a). This pattern suggests that for four of the five measures of physical violence, rural residence offers no protective effect when compared to urban residence. Suburban children are protected on three of five measures when compared to their rural and urban counterparts.

Suicide

Measures of suicide included having considered suicide within the last 12 months, having planned suicide within the last 12 months, having attempted suicide in the last 30 days, and having sustained injury in a suicide attempt within the last 12 months. No significant differences were found between rural, suburban, and urban teens on any of these four variables, suggesting that rural teens are just as likely as suburban and urban teens to consider, plan, and attempt suicide (Table 2a).

Figure 1.1: Significant differences in prevalence of violent activities by residence



2. Effects of Race and Residence

The results reported in this section compare results for white and nonwhite teens living in rural areas, with brief comments on the same comparisons among suburban and urban teens. It is important to note that YRBSS 2001 contained several classifications for race, including African American, Hispanic, and Native American. However, when the analysis was limited to rural

youth, many of the cell sizes fell below values considered to be statistically reliable. Therefore, racial groups were collapsed into *white* and *non-white*. Even with the use of this aggregated category, some comparisons below included a very small number of rural/non-white respondents and should be interpreted with caution.

Weapons Carrying

There were no significant racial differences in weapons carrying behaviors among rural teens, or within suburban or urban teens (Table 2b).

Fear of Violence

Among rural teens, there were no statistically significant racial differences in either fear-of-violence variables. (These results should be interpreted with caution, due to unreliable estimates for rural non-white teens.) This pattern, however, did not extend to urban and suburban teens. Urban non-whites were more likely than urban whites to fear going to school (10.1% vs. 5.9%; $p=0.0008$) and suburban non-whites were more likely than suburban whites to fear going to school (10.1% vs. 4.7%; $p<0.0001$) and to be threatened with a weapon at school (10.7% vs. 8.2%; $p=0.0164$) [Table 2b].

Physical Violence

There were no differences detected between the proportions of rural nonwhite teens and rural white teens who engaged in physical violence activities (Table 2b). The same finding was true among urban teens. In suburban areas, however, non-white teens were significantly more likely than white teens to have been in a fight (35.8% vs. 29.5%; $p<0.0001$), injured in a fight (5.3% vs. 2.9%; $p=0.0002$), in a fight at school (14.8% vs. 9.5%; $p<0.0001$), hit by a dating partner (9.8% vs. 8.3%; $p=0.0376$), and coerced into sex (10.0% vs. 6.4%; $p=0.0092$) [Table 2b].

Suicide

Among rural teens, non-whites were less likely than whites to plan suicide (9.1% vs. 19.2%; p=0.0159). The other three variables did not differ (Table 2b). Urban whites were more likely than urban non-whites to consider suicide, while suburban non-whites were more likely than suburban whites to attempt suicide and be injured in a suicide attempt (Table 2b). However, when injuries are compared among only those teens who attempted suicide, no differences emerged between racial groups (Table 2b).

3. Effects of Gender

Weapons Carrying

Weapons carrying was predominantly a male behavior among rural teens. Rural males were significantly more likely than rural females to carry a weapon (41.7% vs. 6.0%; p=0.0001), carry a gun (15% vs. 2.2%; p=0.0009), and carry a weapon to school (14.4% vs. 2.7%; p=0.0001) within the last 30 days (Table 2c).

Fear of Violence

Perhaps because of the higher prevalence of weapons carrying among male youth, rural males were more likely than rural females to be threatened with a weapon at school (10.8% vs. 5.6%; p=0.025). Both sexes were equally likely to fear going to school (Table 2c).

Physical Violence

Among rural teens, males were significantly more likely than females to be in a fight (42.5% vs. 25.4%; p=0.0049) and be in a fight at school (19.8% vs. 8.2%; p=0.0017), but less likely than females to be coerced into sex (3.8% vs. 10.8%; p=0.0178). [Table 2c]

Suicide

Rural females were significantly more likely than rural males to consider suicide (26.9% vs. 13.0%; p=0.0008), plan suicide (22.4% vs. 13.2%; p=0.0054), attempt suicide (11.9% vs. 5.8%; p=0.0027), and sustain injury in a suicide attempt (4.2% vs. 2.1%; p=0.0076). When injuries are compared among only those who attempted suicide, however, these differences were not significant (Table 2c).

Figure 1.2: Violent behaviors more prevalent among female rural teens

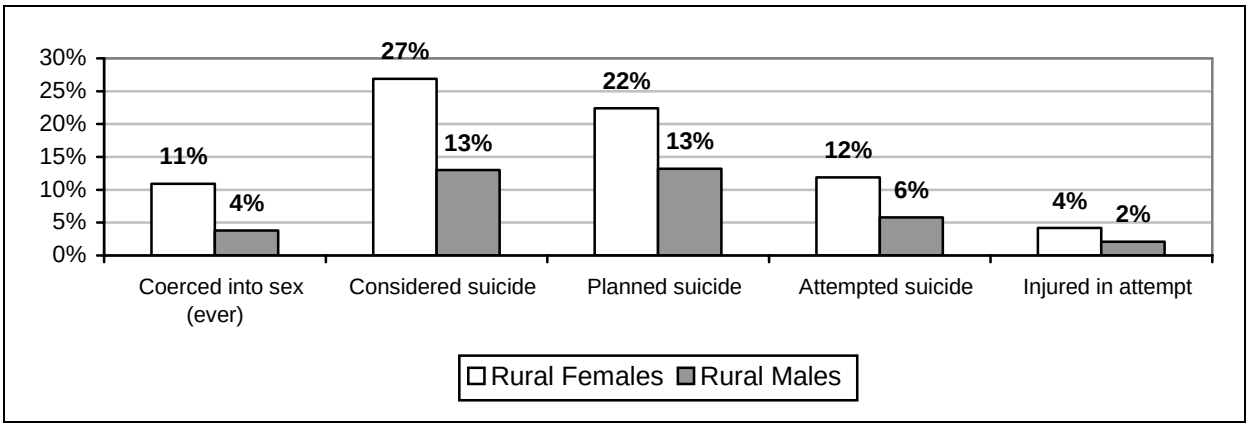
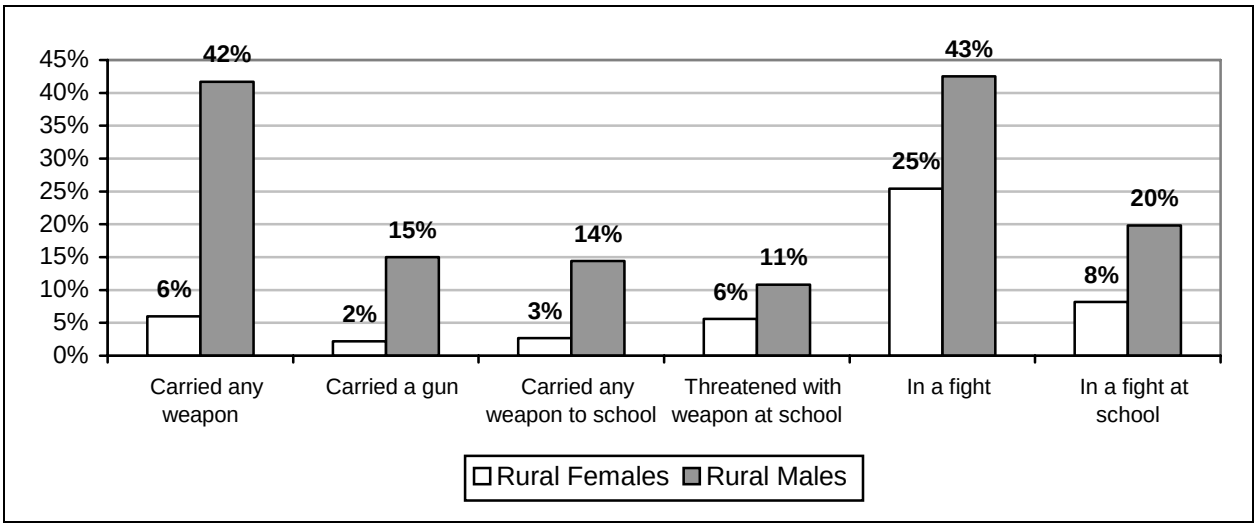


Figure 1.3: Violent behaviors more prevalent among male rural teens



C. Drug Use

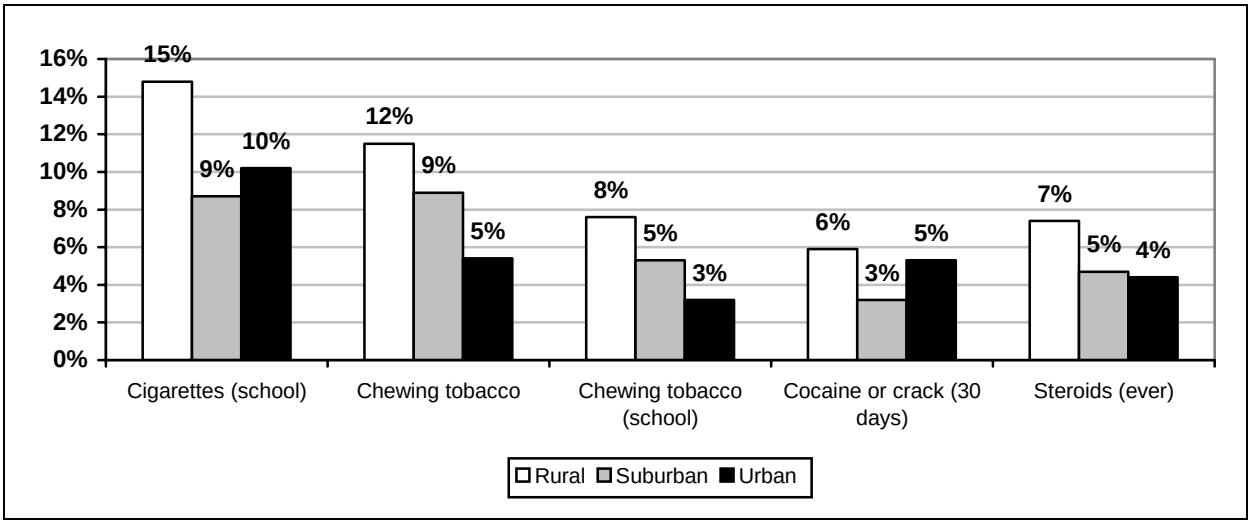
Drug use was measured using 13 reported behaviors in three sub-areas: common drug use, common drug use at school, and hard drug use (see Appendix B). Common drugs were defined as cigarettes, chewing tobacco, alcohol, and marijuana. Hard drugs were defined as cocaine (or crack), inhalants, heroin, methamphetamines ("crystal-meth") and steroids. The time period for measuring drug use was during the last 30 days, except for heroin, crystal-meth, and steroid, which were lifetime use measures.

1. Effects of Residence

Rural teens were more likely than suburban and urban teens to smoke cigarettes on school grounds (14.8% vs. 8.7% and 10.2%; p=0.0113), chew tobacco (11.5% vs. 8.9% and 5.4%; p=0.001), chew tobacco on school grounds (7.6% vs. 5.3% and 3.2%; p=0.0045), use crack or cocaine (5.9% vs. 3.2% and 5.3%; p=0.0107), and use steroids (7.4% vs. 4.7% and 4.4%; p=0.0483).

There were no significant differences by residence found in the use of cigarettes (off school grounds), alcohol (on or off school grounds), marijuana (off school grounds), inhalants, heroin, or crystal meth. However, differences in cigarette smoking and use of crystal meth and inhalants all approached significance (see Table 3a). Of particular note is the surprisingly high rate of rural teens who have used crystal meth (15.5% vs. 8.8% and 9.5%; p=0.0722). These data suggest that overall, rural teens are just as likely or more likely than both suburban and urban teens to use common and elicit drugs. This data refutes the common assumption that rural teens experience less exposure to drugs.

Figure 1.4 - Significant Differences in Drug Use by Residence



2. Effects of Race and Residence

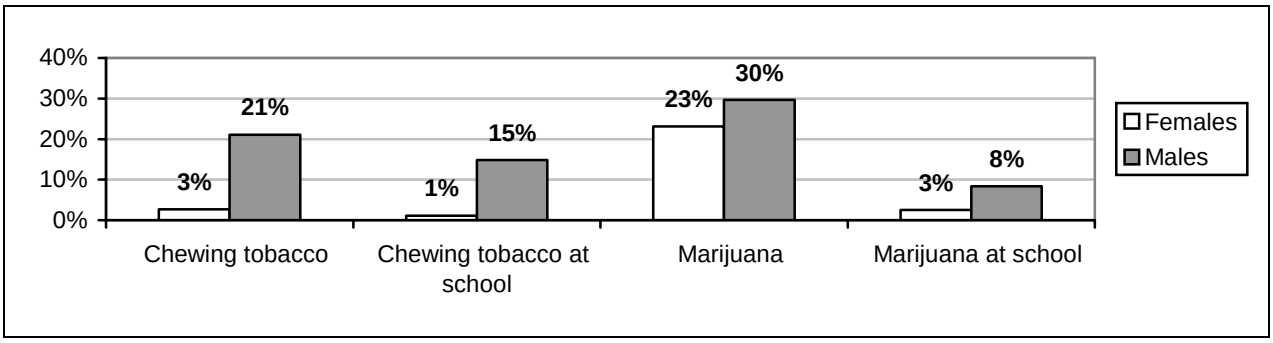
Looking only at rural teens, white students were somewhat more likely than non-white students to use chewing tobacco (11.9% vs. 8.7%, 0.0295). However, this result should be interpreted with caution, because the number of rural non-white respondents fell below 30. No other racial differences emerged among rural teens. This pattern was strikingly different from the racial differences found among suburban and urban teens. Suburban teens differed significantly by race on 7 of the 14 variables and urban teens differed significantly by race on 9 of the 14 variables (see Table 3b). The absence of race-based differences for rural youth is not a statistical artifact stemming from low numbers. The proportions of rural teens reporting different types of drug use were more similar across races than was the case for urban or suburban youth.

3. Effects of Gender

Rural male teens were significantly more likely than rural female teens to use chewing tobacco (21.1% vs. 2.7%; p=0.0008), chewing tobacco at school (14.8% vs. 1.1%; p=0.0003),

marijuana (29.7% vs. 23.1%; p=0.0085), and marijuana at school (8.4% vs. 2.5%; p=0.0118). The remaining 9 measures of drug use did not differ significantly by gender (see Table 3c).

Figure 1.5 - Significant Gender Differences in Drug Use among Rural Teens



D. High Risk Youth: Alternative School Students

Analysis from the YRBS 2001 for Alternative Schools (YRBS-ALT) was included to capture the experience of teens not participating in the mainstream school system. The YRBS-Alt analysis included data from 7,914 respondents: 302 rural, 3,258 suburban, and 4,354 urban residents. Findings from the YRBS-ALT must be used with particular caution, since the survey is less uniformly used than is the YRBS. For example, 94% of rural respondents to the YRBS-ALT came from the West, suggesting that those schools are more likely to be surveyed. Unlike traditional high schools, alternative schools have a population that is disproportionately male and minority. Information on respondent demographics from the 2001 YRBS-ALT is provided in Table 4a.

Similar to the YRBS, the YRBS-ALT survey contained 28 violence related activity measures in five major areas: weapons carrying, fear of violence, violent activities, suicide, and drug use. (See Appendix B for specific survey items.) The only difference in measures between the two surveys were as follows: The YRBS-ALT survey contains a question on binge drinking

behavior that the YRBS survey does not; and the YRBS survey asks about crystal meth use and heroin use in separate questions, while the YRBS-ALT combines these into a single question.

Due to the small number of female respondents, the analysis of YRBS-ALT was limited to rural, suburban, and urban comparisons among male respondents. In this group, there was only one significant difference among the 28 measures of violence/drug-related activities: Urban male teens were less likely than rural or suburban male teens to chew tobacco (8.1% vs. 14.2% and 14.6%; p=0.0191). These results suggest that for this population, living in a rural area provides no protection against exposure to violence or drug use (see Tables 4b and 4c).

It is interesting to compare Tables 4b and 2c, which report on violence exposure among rural youth in alternative and traditional schools, respectively. The proportion of youth reporting weapons carrying or fear of violence is not substantially different between the two school categories. The proportion of youth reporting actual physical violence, however, is much higher among rural males in alternative schools. It is possible that acting out of violent behaviors is a principal reason that youth are referred to alternative schools.

Chapter 2: Teen Violence Resources at School

A key policy question regarding teen violence is the availability of violence prevention and intervention resources within schools. The YRBS contains no information that can directly link a student to his/her school, making direct assessment of the link between high prevalence areas and services impossible. However, we were able to assess the availability of mental health and social services at the school level using the 2000 School Health Policies and Programs Study (SHPPS) conducted by the Center for Disease Control and Prevention.

The 2000 SHPPS collected information regarding characteristics of school health programs, school staff responsible for coordinating and delivering health services, and school collaborations with government and community agencies to support health services. Data were collected at the state, district, school, and classroom level. School-level data were collected from a nationally representative sample of 1,331 public and private elementary, middle/junior, and senior high schools. Participating schools and districts represent all 50 states and Washington, DC.

A total of 546 middle and high schools were included in the analysis of school resources, representing a weighted total of 47,826 schools across the country. Of these, 199 schools were in rural areas and 347 were in urban areas, representing 19,080 and 28,746 schools respectively. (The SHPPS 2000 data did not include a suburban category.) Therefore, our analysis compares rural schools to urban schools. Rural schools were significantly more likely than the urban schools to be public (85% vs. 63%; p=0.0001), small (76% vs. 51%; p=0.0000), and poverty designated (67% vs. 46%; p=0.0000). The proportion of charter school and middle schools were equally represented in the rural and urban samples (Table 5).

A. Teen Violence and Drug Use Services

1. Service Availability

Provision of teen violence prevention and treatment in rural schools was measured across 16 categories: violence prevention, suicide prevention, crisis intervention, stress management, referral for abuse, alcohol/drug use prevention, tobacco use prevention, alcohol drug/use treatment, tobacco use treatment, case management, family counseling, group counseling, individual counseling, comprehensive assessment, peer counseling, and self help.

Comparisons between rural and urban schools found significant differences in only two of the 16 measures of violence related services (Table 6). Urban schools were significantly more likely than rural schools to offer peer counseling (76% vs. 64%; p=0.0215) and self help (67% vs. 51%; p=0.0080). This suggests that rural teens and urban teens have equal access to most school-based services related to violence prevention and treatment (see Table 6). Percentages of schools offering these services were consistently high in every service for both rural and urban schools.

Figure 2.1 – Provision of School-Based Mental Health Services by Residence

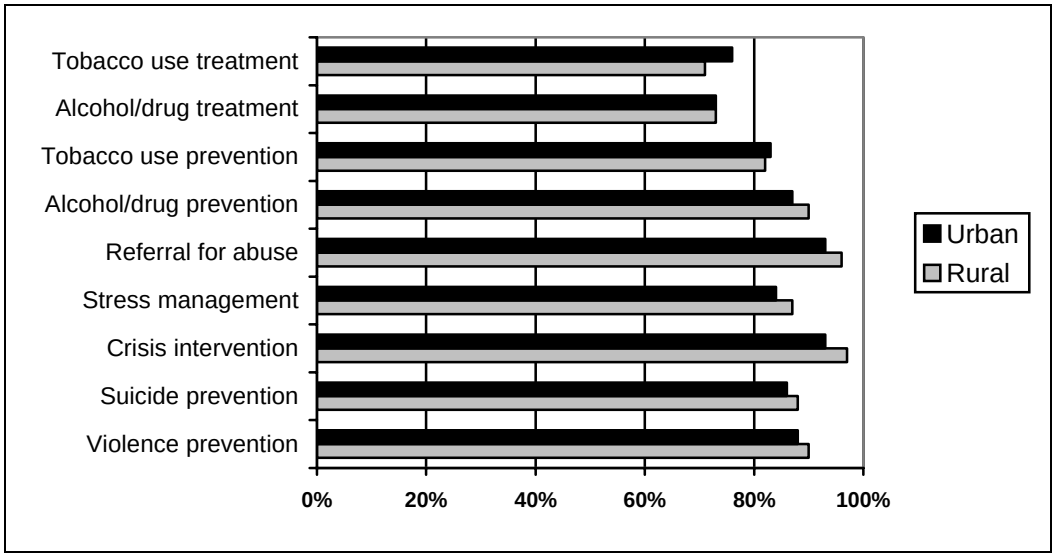
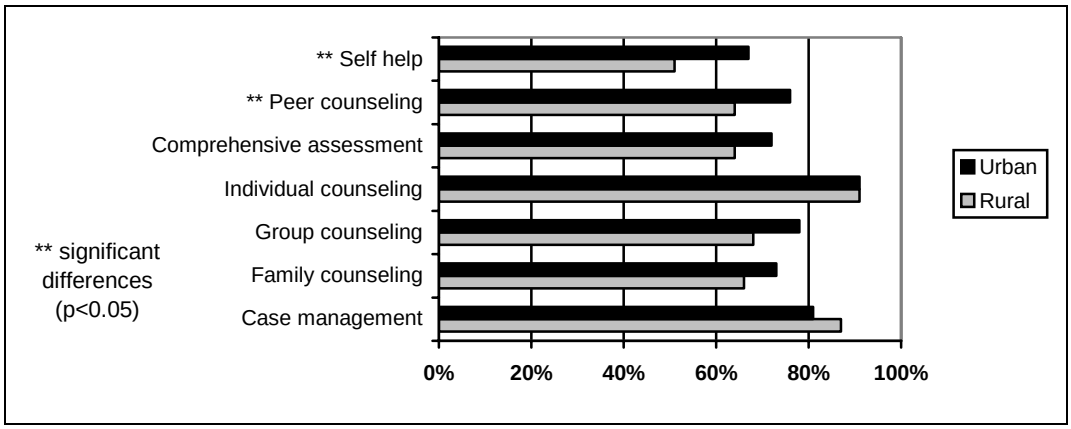


Figure 2.2 – Provision of School-Based Mental Health Treatment Modalities by Residence



2. Service Delivery

Teen violence prevention and treatment can be provided or arranged using a number of different personnel and location configurations. For example, services can be delivered by mental health staff or medical staff. They can also be delivered directly by school staff, through a school-based primary care health center, or through arrangements with community professionals. This means that the way students receive teen violence services can vary by school. This study compared the degree to which rural and urban schools reported using five different service delivery options for teen violence prevention and treatment services. The service delivery options included are as follows:

SB/MH – School-based services delivered by mental health care providers, not in the context of a school health center

SB/MD– School-based services delivered by medical providers, not in the context of a school health center.

CB/MH – Community based services delivered by mental health care providers.

SHC/MH – School health center based services provided at a school health center, delivered by mental health care providers. (A school-based health center is defined in the SHPPS as "a health center on school property where students from the school enrolled in the health center can receive primary health care." Only 5.3% of schools reported having a school-based health center.)

SHC/MD – School health center based services delivered by medical providers.

We compared the proportion of urban and rural schools that reported using any of the five service delivery options across nine (9) violence and drug use services: violence prevention, suicide prevention, crisis intervention, stress management, referral for abuse, alcohol/drug use prevention, tobacco use prevention, alcohol/drug use treatment, and tobacco use treatment. These service delivery categories are not mutually exclusive, and many respondents indicated using more than one (see Table 7a). Because so few schools, either urban (5.7%) or rural (4.5%), reported having primary care health centers, discussion of important findings (below) is limited to school-based and community-based services.

Delivery of Violence and Drug Use Services

Delivery of preventive and treatment services at school, using mental health professionals, was the most commonly reported approach. A large majority of schools report providing school-based services delivered by mental health professionals (SB/MH) for violence, stress, and drug problems, with no significant differences between rural and urban schools (Figure 2.3; Table 7a). It is interesting to note that more schools provide services for mental health problems than for tobacco or alcohol/drug problems, although the prevalence of the latter is much higher (preceding chapter).

Patterns for the provision of services through community-based mental health professionals are different from those for school-based services. First, most schools do not report delivering services through community-based mental health providers (Table 7a). The proportion of schools reporting use of off-campus providers ranges from 30% for tobacco treatment in urban schools through 53% for alcohol and drug treatment in rural schools; the latter is the only community-based service reported by more than half of urban or rural schools. Next, the pattern in school-based services (mental health problems being more commonly addressed

than tobacco or alcohol/drug problems) is not found in community-based services. Like school-based services, however, community-based service patterns show no significant rural/urban differences.

Figure 2.3 – Proportion of schools reporting school-based services provided by mental health professionals by location

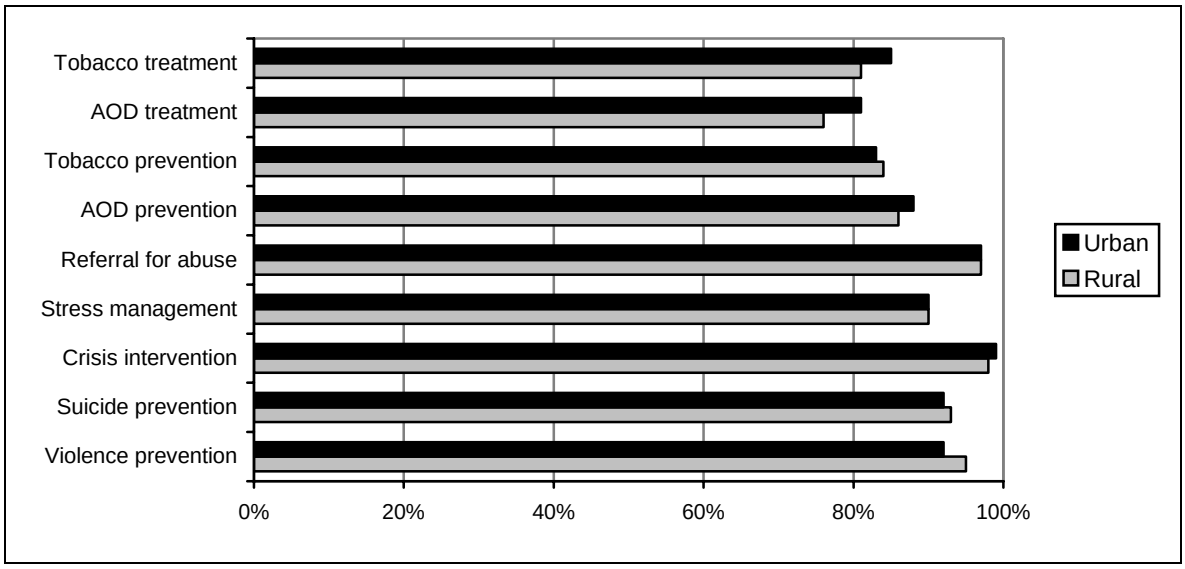
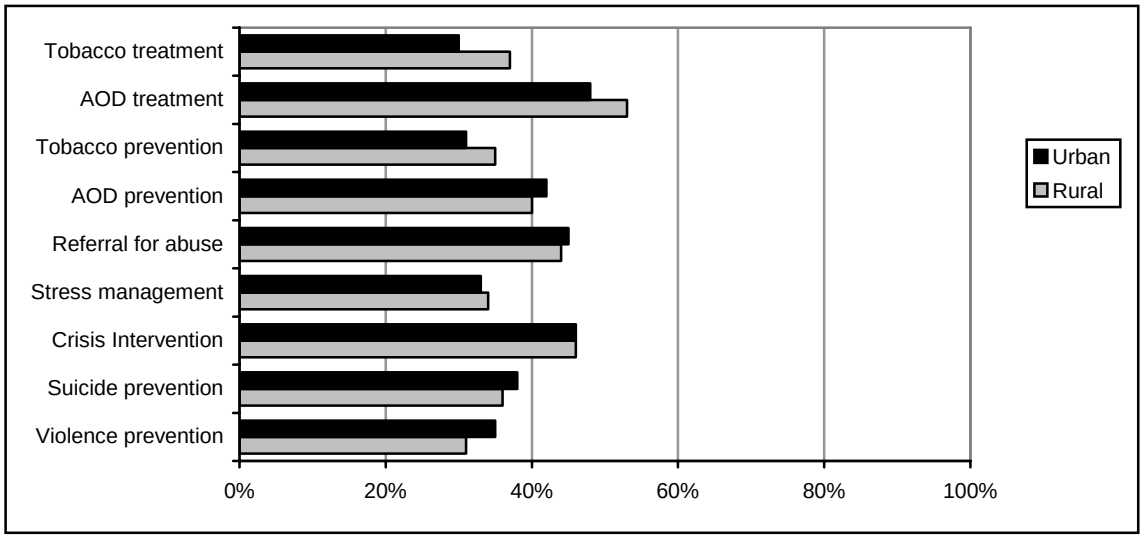


Figure 2.4 – Proportion of schools reporting community-based services provided by mental health professionals, by location



There were two significant differences between rural and urban schools in the proportion providing school-based services using medical personnel (SB/MD). Rural schools were significantly less likely than urban schools to report delivering crisis intervention (55% vs. 67%; p=0.0361) and stress management services (35% vs. 51%; p=0.0111) in a school-based setting using medical personnel (Table 7a). However, since virtually all rural and urban schools reported providing these services in a school-based context using mental health personnel, students in both settings appear to have equal access to some care mode for these problems.

Treatment Modalities

We also examined the degree to which schools reported using three of the five service delivery options (SB/MH, CB/MH, and SHC/MH) across 7 treatment modalities: case management, family counseling, group counseling, individual counseling, comprehensive assessment, peer counseling, and self help (see Table 7b.) Since all three of these service delivery options included mental health care staff, and so few schools report having a health center, the important point of comparison is between school-based and community-based service delivery.

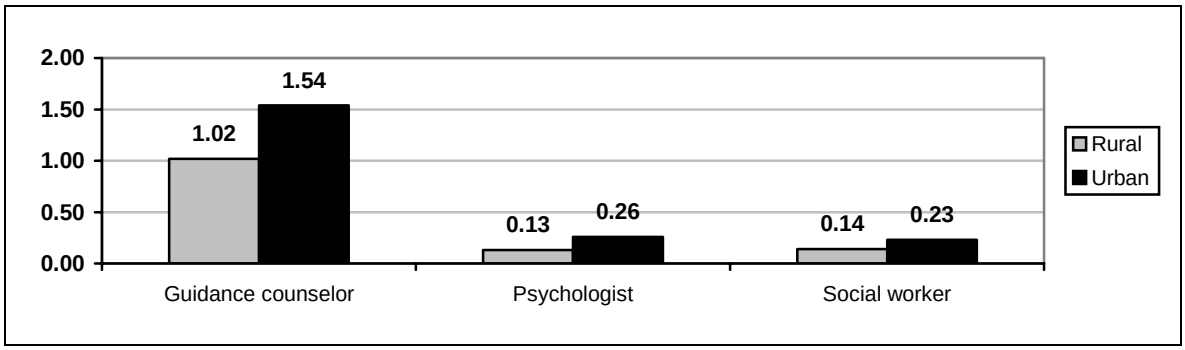
Most schools report providing these treatment modalities at school (MH/SB), with proportions ranging from 85% to (comprehensive assessment) to 98% (individual counseling). These proportions did not differ by location. The proportion of schools that deliver treatment services through working agreements in the community varied greatly across modality, from 28% (peer counseling) to 62% (comprehensive assessment). However, these proportions did not differ between rural and urban schools. These results suggest fairly consistent service delivery mechanisms across types of treatment modalities offered and location of the school.

B. Mental Health Personnel

1. Availability

Rural and urban schools were equally likely to have a guidance counselor, a psychologist, and a social worker on staff at the school (see Appendix, Table 8a). The availability of these mental health professionals, however, differed significantly by locality. Full time equivalency (FTE) was calculated for each professional at each school. These FTEs reflect the average number of hours each professional was available to students per week, divided by a typical 40-hour work week. Urban schools reported higher FTEs for guidance counselors (1.54 vs. 1.02; $p<0.0001$), psychologists (0.26 vs. 0.13; $p=0.0003$), and social workers (0.23 vs. 0.14; $p=0.0450$). These results suggest that mental health care professional are more available to meet with students in urban schools than in rural schools (see Table 8a).

Figure 2.5 – Full Time Equivalent Mental Health Care Staff Available at School

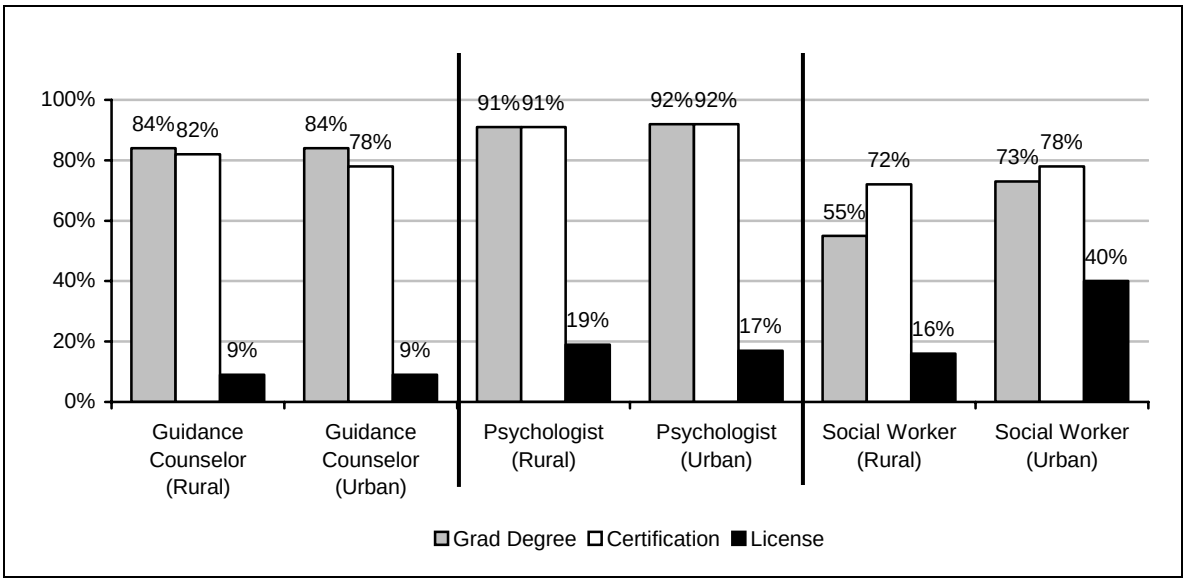


2. Credentials

Rural and urban schools were equally likely to require a graduate degree, board certification, and a state license for newly hired guidance counselors and psychologists. The only differences found in mental health staff requirements were for social workers. Rural schools were significantly less likely than urban schools to require a graduate degree (55% vs. 73%; $p=0.0174$) or a state license (16% vs. 40%; $p=0.0028$) for newly hired school social

workers. There was no difference in the number of schools that require board certification for newly hired social workers (see Appendix, Table 8b).

Figure 2.6 – Requirements for New Hires of School Mental Health Care Staff



3. Training

School-based coordinators of appropriate student services were asked whether they received training* in violence prevention or treatment services during the past two years. Staff training in teen violence prevention and treatment was measured across 32 combinations of topics and personnel: 16 regarding training received by school coordinators of mental health services; 9 regarding training received by school coordinators of medical services; and 7 regarding training received by school coordinators of health education.

The most commonly reported topic for training received during the past two years was crisis intervention training among mental health care coordinators (88% rural, 87% urban schools, no significant difference; See Table 9). Violence prevention training for mental health

* "Training" includes workshops, conferences, continuing education, graduate courses, or any other kind of in-service.

care coordinators was the next most common topic (75% of rural, 85% urban schools; no significant difference). Coordinators of mental health care services in rural schools were less likely than their urban counterparts to receive training in suicide prevention (59% vs. 74%; p=0.0368), family counseling (32% vs. 51%; p=0.0039), peer counseling (52% vs. 67%; p=0.0232), and self-help techniques (29% vs. 50%; p=0.0037). The remaining 12 measures of mental health care staff training did not vary significantly between the two groups (see Table 9).

Coordinators of student medical services in rural schools were as likely as their urban counterparts to receive staff training in all nine categories of mental health services, including violence prevention, suicide prevention, and tobacco, alcohol, and drug prevention and treatment (see Table 9). However, it should be noted that training levels are low for health care workers. For example, violence prevention training was reported for only 54% of rural and 60% of urban heath care staff. Since health care staff are likely to be involved in treating the results of in-school violence, they have a unique opportunity to provide pro-active counseling for violence reduction among at-risk youth. Similarly, only 43% of rural and 47% of urban health care staff received training in stress management. Stress can manifest as vague somatic disorders such as stomach distress or backache, which in turn may be encountered directly by school health staff.

Health education coordinators in rural schools were less likely their urban counterparts to participate in educational activities with mental health care staff (34% vs. 45%; p=0.0280) and to receive training in tobacco use prevention (40% vs. 56%; p=0.0146). Given that rural children are no less likely to smoke than urban students, and in fact were more likely to report smoking on school grounds, training gaps for rural schools are disturbing. There were no significant rural/urban differences in the percentage of health education coordinators who participated in educational activities with community mental health agencies or received training in mental

health, suicide prevention, violence prevention, or alcohol/drug use prevention (see Table 9). Again, levels of training were low. For example, only 30% of rural, and 36% of urban, health education staff had received suicide prevention training in the past two years.

C. School Environment

1. Policies on Student Violence

School Violence Policies: School violence policies were measured across five areas: weapons in school (4 measures); fighting in school (2 measures); gangs in school (3 measures); violence education (5 measures); and general policies (8 measures). Virtually all schools have policies regarding weapons in school or fighting in school, with no differences between rural and urban institutions (see Table 10).

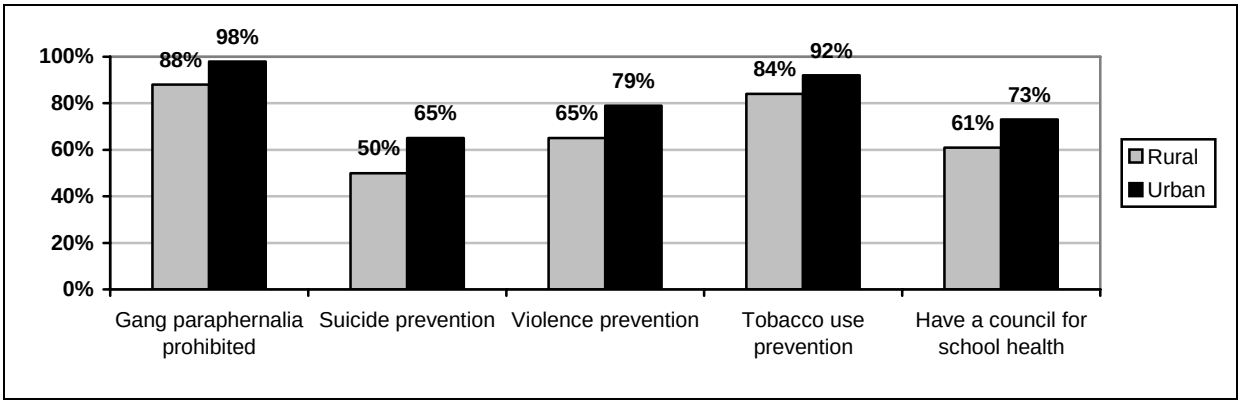
Rural schools were less likely than urban schools to have policies prohibiting gang paraphernalia (88% vs. 98%; p=0.0018). Gangs may be less of a problem in rural areas, as rural schools reported a significantly lower ratio of gang policy violations per student than did urban schools (0.47 vs. 1.05; p=0.0370). There was no significant difference in the number of schools with policies prohibiting gangs in school (see Appendix, Table 10).

Rural schools were less likely than urban schools to have official policies regarding student education on suicide prevention (50% vs. 65%; p=0.0057), violence prevention (65% vs. 79%; p=0.0055), and tobacco use prevention (84% vs. 92%; p=0.0229). There were no significant differences between rural and urban schools with policies regarding student education on emotional/mental health or alcohol/drug use prevention (see Table 10). Both the low proportion of schools with policies on suicide and violence prevention and rural/urban differentials are cause for concern. Suicide is the third leading cause of death among children

age 10 – 14 and 15-19. Intentional violence is the fourth highest cause of death among younger children (ages 10-14) and the second cause of death among children age 15-19.

Rural schools were less likely than urban schools to have a school council on student health (61% vs. 73%; p=0.0249). Of those schools that have school health councils, however, rural and urban schools were equally likely to have a council on violence prevention, a council for school climate, and a council for mental health services. Rural and urban schools in general were also equally likely to have written violence response plans, anti-harassment policies, and policies on alcohol/drug use prevention and tobacco use prevention (see Table 10).

Figure 2.7 – Significant Rural/Urban Differences in School Policies on Violence

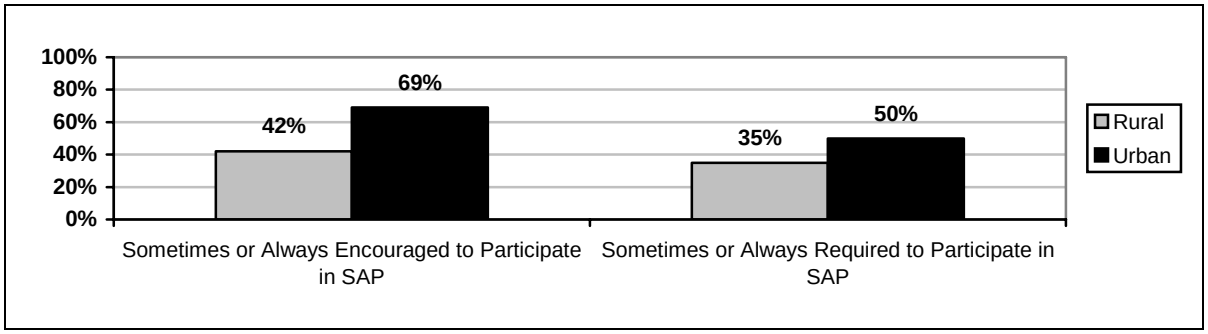


Response to Policy Violations: There were few significant differences between rural and urban schools in their standard response to violation of the weapons policy. Both rural and urban schools regard fighting from a disciplinary rather than a mental health perspective. While nearly all urban and rural schools "always" inform parents of an incident of fighting (96% rural, 97% urban), only about two of every five schools "always" refer students in a fighting incident to a counselor (39% rural, 43% urban).

Rural and urban schools were also equally likely to offer Student Assistance Programs to help students with behavioral problems (60% vs. 65%; p=0.3862). However, rural schools were significantly less likely than urban schools to "sometimes" or "always" *encourage* students who

fight at school to participate in a SAP (42% vs. 69%; p=0.0018) and less likely than urban schools to "sometimes" or "always" *require* students who fight at school to participate in a SAP (35% vs. 50%; p=0.0390). [See Table 11]

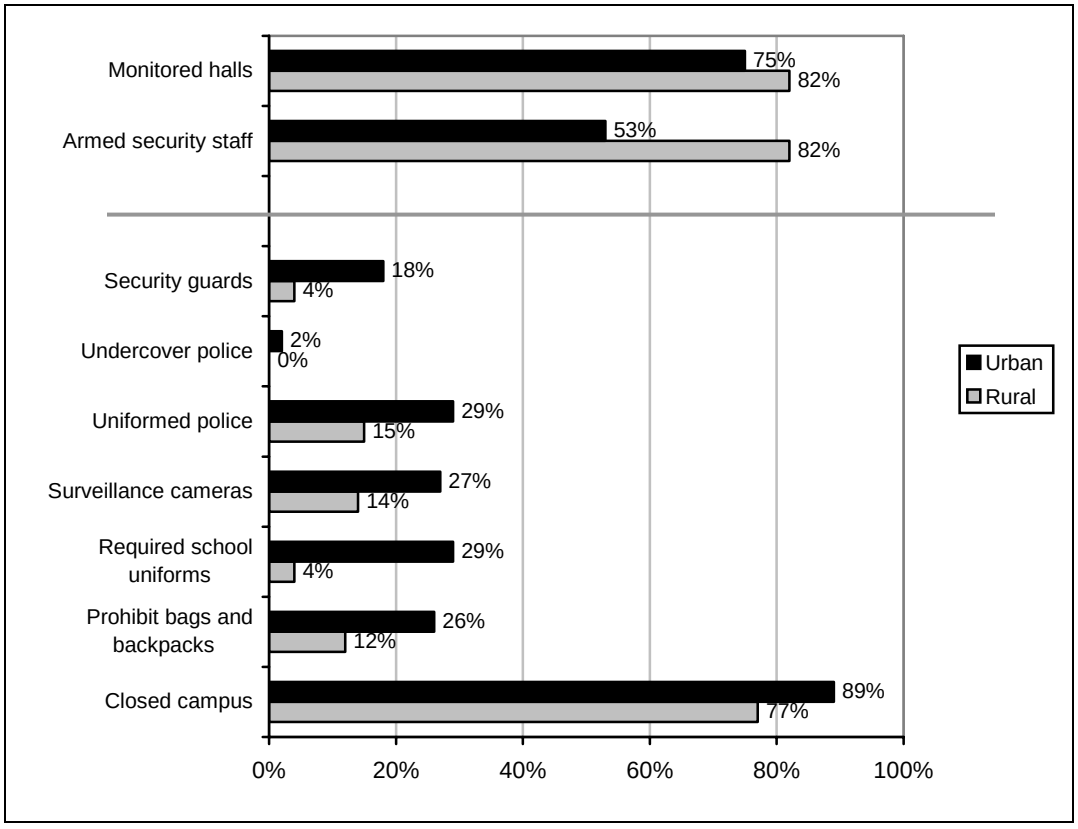
Figure 2.8 – Significant Rural/Urban Differences in School Responses to Student Fighting



2. School Security

Rural schools appear to take a less structured approach to campus security than urban schools. Rural institutions were more likely to report monitored school hallways than urban schools (82% vs. 75%; p=0.0431), but less likely to use other security modes, including a closed campus (77% vs. 89%; p=0.0120), prohibition of bags and backpacks (12% vs. 26%; p=0.0004), requiring school uniforms (4% vs. 29%; p=0.0000), and use of surveillance cameras (14% vs. 27%; p=0.0054). Rural schools were also less likely than urban schools to employ security personnel, including uniformed police (15% vs. 29%; p=0.0026), undercover police, (0% vs. 2%; p=0.0136) and security guards (4% vs. 18%; p=0.000). Rural schools were just as likely as urban schools to have armed security staff (14% vs. 20%; p=0.1977), however, when compared among only those schools that do use security personnel, rural schools were more likely than urban schools to have armed security staff (82% vs. 53%; p=0.0040). There were no differences by location in the remaining six measures of school policies (see Table 12).

Figure 2.9 – Significant Rural/Urban Differences in School Security



Chapter 3: Model Community Programs

To assist mental health and school professionals in rural areas, who are interested in programs to counteract teen violence, we attempted to identify model programs that could be adapted. Our key resource for identifying model programs was the School Violence Resource Center (SVRC) at the National Center for Rural Law Enforcement at the University of Arkansas, which provides a clearinghouse of information on school violence. The SVRC has developed a matrix (School Violence Resource Center, 2004) of community programs that have been highly rated by five national violence program evaluation centers. These evaluation centers include the Center for the Study and Prevention of Violence, the Substance Abuse & Mental Health Services Administration, the Safe and Drug-Free Schools Program, Strengthening America's Families Project, and the U.S. Surgeon General's Office. (These Centers are described briefly at the end of this chapter.)

From the SVRC matrix, we identified the community programs receiving the highest numbers of top ("model" or "exemplary") ratings. These five programs are presented as possible models for addressing teen violence issues in rural areas.

Program Descriptions

Multisystemic Therapy (MST)

Multisystemic Therapy (MST), a family- and community-based intervention, views individuals as being nested within a network of interconnected systems, including the individual, their family, peers, school, and neighborhood. The delivery setting is the home environment, which "helps to overcome barriers to service access, increases family retention in treatment, allows for the provision of intensive services (i.e., therapists have low caseloads), and enhances the maintenance of treatment gains" (Center for the Study and Prevention of Violence, 2004a).

The target population of MST includes chronic, violent, or substance abusing juvenile offenders between the ages of 12 to 17 at high risk of out-of-home placement and their families. MST encourages a positive behavior change in the youth's natural social environment, using the strengths of each system (e.g., family, peers, school, neighborhood, indigenous support network) to promote change.

MST focuses on augmenting social skill sets via therapist-issued "developmentally appropriate demands on the adolescent and family for responsible behavior… Intervention strategies are integrated into a social ecological context and include strategic family therapy, structural family therapy, behavioral parent training, and cognitive behavior therapies" (Center for the Study and Prevention of Violence, 2004a).

- Designated as a Model Program by the Center for the Study and Prevention of Violence
- Model Program by the Substance Abuse and Mental Health Services Administration
- Exemplary (Level I) program by the Strengthening America's Families Project
- Model (Level I, Violence Prevention) program in "Youth Violence: A Report of the Surgeon General"

Functional Family Therapy (FFT)

FFT uses multiple types of personnel (mental health specialists, probation officers, nurses, psychiatrists, psychologists, doctors, social workers, etc.), placing them in direct contact with youth and their families who are either at-risk for or have previously presented with violent behavioral problems, delinquency, oppositional defiant and disruptive behavior disorders, and substance abuse problems.

This program consists of five phases: engagement, motivation, assessment, behavior change, and generalization. The engagement phase is designed to protect participants from early

program dropout through stressing the importance of familial factors in youth behavioral problems. The motivation phase focuses on altering negative inter- and intra-personal reactions to increase trust and hope for behavioral changes. The assessment phase provides a holistic overview of the forces and relationships present in familial interactions. The behavior change phase involves focused training in improving communication and parenting skills. Finally, generalization involves the tailoring of provided program content to individualized family needs by way of a case management system.

Overall, this program is an outcome-guided family intervention designed to reduce the prevalence of maladaptive behavior and its resulting increased utilization of behavioral treatment systems and correctional institutions.

- Designated as a Model Program by the Center for the Study and Prevention of Violence
- Exemplary (Level I) program by the Strengthening America's Families Project
- Model (Level I, Violence Prevention) program in "Youth Violence: A Report of the Surgeon General"

The Incredible Years Series (IYS)

This program is divided into three curriculum paths. The first series includes the BASIC, ADVANCE, and SCHOOL programs, and it targets the parents of high-risk children. The topics covered in this series include using effective praise, limit-setting, and encouraging academic success through activities at home. The second series is a training program for teachers that teaching strategies and classroom management skills used in handling inappropriate behavior in the classroom. The third series, the "Dinosaur" curriculum, is targeted at students who have exhibited disruptive behavior and is delivered in small group settings. It teaches anger management, empathy, and other interpersonal communication skills.

- Designated as a Model Program by the Center for the Study and Prevention of Violence
- Model Program by the Substance Abuse and Mental Health Services Administration
- Exemplary (Level I) program by the Strengthening America's Families Project
- Promising (Level II, Risk Prevention) program in "Youth Violence: A Report of the Surgeon General"

Life Skills Training (LST)

LST targets middle and junior high school student audiences. It is a three-year long set of curricula aimed at preventing gateway drug use (such as tobacco or marijuana). The training sessions are held in school and led by teachers. The content of the program is delivered in 30 sessions over the three years of the program and focuses on self-management skills, social skills, and information and skills specifically related to drug use. It has been found to reduce tobacco, drug, and alcohol use by 50-75% in the short term, with smaller reductions in use continuing up to six years later.

- Designated as a Model Program by the Center for the Study and Prevention of Violence
- Model Program by the Substance Abuse and Mental Health Services Administration
- Exemplary program by the Safe and Drug-Free Schools Program
- Model (Level II, Risk Prevention) program in "Youth Violence: A Report of the Surgeon General"

Strengthening Families Program (SFP)

The target population of SFP includes 6-12 year old children and their families, and focuses on strengthening "family skills" through training sessions. Originally designed to target families with parents in substance abuse treatment programs, it has been adapted to service different ethnic groups here in the U.S. as well as in other countries, and has been used in a wide

range of settings including: “faith communities, housing communities, mental health centers, jails, homeless shelters, protective service agencies, and social and family services agencies” (Substance Abuse and Mental Health Services Administration, 2004b).

SFP attempts to improve familial relationships, parenting skills, and social skills through training program sessions. Initially, parents and their children meet separately with a trainer; the parents are instructed on methods to reward positive behavior, while the children learn how understand and control their feelings and communicate effectively. Later, parents and their children are involved in constructive ventures such as family meetings, structured play, and planning family activities outside of the program.

- Designated as a Model Program by the Center for the Study and Prevention of Violence
- Model Program by the Substance Abuse and Mental Health Services Administration
- Exemplary program by the Safe and Drug-Free Schools Program
- Model (Level II, Risk Prevention) program in “Youth Violence: A Report of the Surgeon General”

Program Evaluation Centers

Below is a brief description of the five national organizations included as national program evaluators in the School Violence Resource Center’s summary of model programs. Each of these organizations can serve as a resource for rural schools attempting to develop or improve violence prevention programs.

The Center for the Study and Prevention of Violence (CSPV)

CSPV is a Research Center housed within the Institute of Behavioral Science at the University of Colorado, Boulder. It was founded in 1992 with a grant from the Carnegie Corporation of New York, to encourage the understanding and prevention of violence across the

life course (Center for the Study and Prevention of Violence, 2004b). CSPV's mission is to (1) develop a clearinghouse of current literature, (2) offer technical assistance in the evaluation and development of violence prevention programs, and (3) conduct research on the causes of violence and the effectiveness of violence prevention programs.

The Substance Abuse & Mental Health Services Administration (SAMHSA)

SAMHSA was established by an act of Congress in 1992 as an agency within the U.S. Department of Health and Human Services to improve the lives of people with or at risk for mental and substance abuse disorders (Substance Abuse and Mental Health Services Administration, 2004a). SAMHSA provides support through grant programs, in particular through the Mental Health and Substance Abuse Prevention and Treatment Block Grant Programs.

The Office of Safe and Drug-Free Schools (OSDFS)

OSDFS is an agency within the U.S. Department of Education that reports to the Secretary of Education. Its mission is to (1) provide financial assistance for school-based drug and violence prevention activities, (2) participate in the development of education policy related to violence and drug prevention, (3) participate in interagency committees, groups, and partnerships related to drug and violence prevention, (4) administer the Department's programs relating to citizenship and civics education, and (5) provide national leadership on issues and programs in correctional education (Office of Safe and Drug-Free Schools, 2004).

Strengthening America's Families Project (SAFP)

SAFP is a collaborative partnership between the Office of Juvenile Justice and Delinquency Prevention, part of the U.S. Department of Justice, and the Center for Substance Abuse Prevention, in the U.S. Department of Health and Human Services. The Project evaluated

effective “family strengthening programs” based on “theory, fidelity of the interventions, sampling strategy and implementation, attrition, measures, data collection, missing data, analysis, replications, dissemination capability, cultural and age appropriateness, integrity and program utility” (Strengthening America's Families, 2004).

The Office of the Surgeon General

In 2001, the OSG published Youth Violence: A Report of the Surgeon General. This report “examines the factors that lead young people to gravitate toward violence, reviews the factors that protect youth from perpetrating violence and identifies effective research-based preventive strategies” (Office of the Surgeon General, 2004).

Chapter 4: Conclusions and Implications

Rural Teens at Risk

Four research questions regarding the prevalence of exposure to violence among rural teens, and the availability of services to prevent or counteract violence, formed the basis for the present study. Questions about students were explored using the Youth Behavioral Risk Factor Survey, and questions regarding school resources and school policies were addressed through the School Health Policies and Programs Study. Both of these data sets were obtained from the Centers for Disease Control and Prevention. In the first section of this chapter, we summarize results across the four research questions.

1. Do rural teens have a higher or lower risk than urban and suburban teens for exposure to violence and drug use?

Analytic results undermine the assumption that rural teens are somehow protected from the violence experienced by urban teens. None of the 15 measures of weapons carrying, physical violence, fear of violence, and suicide showed significantly lower prevalence among rural teens when compared to suburban and urban teens. Rural teens were more likely than urban and suburban teens to carry a weapon, while suburban teens were less likely than rural and urban teens to be in a fight, be in a fight at school, and be hit by a dating partner. This suggests that suburban residence, not rural residence, may offer some limited protection against exposure to violence.

Most surprising was the reported drug use activity. The prevalence of using cigarettes (off school grounds), alcohol (on and off school grounds), marijuana (off school grounds), inhalants, heroin, or crystal meth was equal across rural, urban, and suburban teens. This

suggests that rural teens are not protected from access to drugs. Further, rural teens were more likely than both urban and suburban teens to smoke cigarettes (on school grounds), chew tobacco (on and off school grounds), use cocaine, and take steroids. Urban teens showed a higher risk of smoking marijuana in school, while suburban teens showed no higher risks on any of the measures of drug use.

One explanation for the lack of differences in violence exposure by residence could be that urban schools are more likely to remove students with violent behavior out of mainstream schools and into alternative schools. To test this hypothesis, we also compared the violence-related activities of teens in alternative schools across residence. Due to small numbers of female respondents in alternative schools, the analysis was limited to males only. Among male respondents, there was only one significant difference in the 28 measures of violent and drug use by residence: Urban teens were less likely than rural and suburban teens to chew tobacco. Consistent with the results from mainstream school systems, there was no evidence that rural teens in alternative schools experienced less exposure to violence or drug use. The concurrence of these results suggests that urban and rural schools are genuinely similar with regard to risk of exposure to violence. The finding is not an artifact caused by differential use of alternative schools by urban school districts.

In summary, rural teens are not protected from exposure to violence and display higher risks for carrying weapons. Further, the prevalence of drug use problem among rural teens equals or exceeds that in urban areas. Since drug use is both a result of and a risk factor for violent behaviors, these findings should alert parents, public officials, and school personnel to the need for appropriate preventive and intervention services for rural teens.

2. Do rural minority teens have a higher or lower risk than rural whites of exposure to violence and drug use?

Across all students nationally, non-white students were more likely than white students to report having feared to attend school, been in a fight, been injured in a fight, been in a fight at school, been coerced into sex, attempted suicide, and been injured in a suicide attempt. It is important to note that non-white teens report increased risk for both participating in violent activity, such as being in a fight, and being victims of violent activity, such as fear of going to school and being coerced into sex. Non-white teens were also more likely to drink alcohol at school and smoke marijuana at school. However, white teens were more likely than non-white teens to smoke cigarettes, smoke cigarettes at school, chew tobacco, chew tobacco at school, drink alcohol, and use crystal meth. These results suggest that drug use is a more prominent problem in white teens than in non-white teens.

Among rural teens, however, racial comparisons yielded only two significant differences: rural white teens were more likely than rural non-white teens to plan a suicide and chew tobacco. None of the other measures of violence-related activities and drug use showed a significant difference by race. This pattern was noticeably different than the racial differences among urban and suburban teens. Urban teens showed racial differences on 2 of the 15 measures of violence activities and 9 of the 13 measures of drug use. Suburban teens showed significant racial differences on 9 of the 15 measures of violent activities and 7 of the 13 measures of drug use. This difference in patterns of racial differences suggests in interactive effect of race and residence. Race appears to be a risk factor for exposure to drug use among urban teens and a risk factor for both violent activities and drug use among suburban teens. However, race does not appear to be risk factor for violence or drug use among rural teens.

3. Do rural male and female teens experience differences in their risk of violence or drug use?

Rural females were more likely than rural males to report having been coerced into sex and having engaged in all four suicide behaviors measured in this study. Males were more likely than females to engage in weapons carrying behaviors, be threatened at school, and be in a fight on and off school grounds. Males were also more likely than females to chew tobacco on and off school grounds and smoke marijuana on and off school grounds. These results suggest that female teens and male teens are both at risk of exposure to violence, but the type of violence exposure may differ. Prevention and intervention strategies should consider the specific risks posed to each group, focusing on sexual assault and suicide for female teens and fighting, weapons carrying, and drug use for male teens.

4. Do rural teens have the same access to mental health services as urban and suburban teens?

Mental Health Services Availability: Schools can provide for violence prevention and a range of other mental health and substance abuse services, either through school-based services or through community referral. Virtually all schools report offering such services, with few differences between rural and urban schools. Services include violence prevention, suicide prevention, crisis intervention, stress management, referral for abuse, alcohol/drug prevention and treatment and tobacco use prevention and treatment. Rural schools were also just as likely as urban schools to offer case management, family counseling, group counseling, individual counseling, and comprehensive assessment, but less likely to offer peer counseling and self-help.

However, the presence of similar programs in rural and urban schools does not imply that both are equally well staffed, and thus equally available for student use.

Mental Health Care Professionals: The availability of school psychologists, guidance counselors, and social workers, measured as any versus none, was equal across rural and urban schools. However, the practical availability of these mental health professionals, in terms of full time equivalent personnel hours per student, was significantly lower in rural schools than urban schools. For example, rural schools report 1.02 hours of guidance counselor time per student, versus 1.54 in urban schools. The baseline hiring requirements for guidance counselors and psychologists were similar across rural and urban schools, but rural schools were significantly less likely than urban schools to require a graduate degree or a state license for social workers.

Staff Training: Mental health coordinators from rural schools report receiving significantly less training in the preceding two years than their urban counterparts in suicide prevention, family counseling, peer counseling, and self-help techniques. Rural school health educators were also less likely to receive training in tobacco use prevention or participate in activities with mental health care staff. Further, overall levels of training in important topics, such as suicide prevention, were low. Barely half of rural school health care staff, who would encounter students who had been victims of violence while at school, reported training in violence prevention (54%), suicide prevention (46%) or crisis intervention (42%).

School Policies: Official school policies regarding violence prevention and response generally took a disciplinary rather than a mental health approach, across both rural and urban institutions. Rural schools show significantly less preventive focus in their school policies. Rural schools were less likely than urban schools to have a school council on student health, have policies prohibiting gang paraphernalia, and have official policies regarding student

education on violence prevention and suicide prevention. Rural schools were more likely than urban schools to monitor school hallways and to arm their security staff, but were less likely than urban schools to use a closed campus, prohibit bags/backpacks, require school uniforms, use surveillance cameras, and employ security personnel.

The results strongly suggest that rural teens are at considerable risk of exposure to violence, engagement in violence, and using both regulated and illicit drugs. Rural schools, however, still offer relatively fewer services to help prevent or alleviate the effects of this risk. It is critical to understand the actual experience of rural teens in order to allocate resources to the areas of greatest need and potential impact. These results suggest that the teen violence services offered in rural schools are inadequate for addressing the growing problem of violence and drug use among rural teens.

Policy Implications

Results of this study demonstrate two important findings: 1) overall, rural teens display higher risk of exposure to violence and drug use than suburban or urban teens, and 2) rural middle and high schools offer somewhat lower quality and availability of services to prevent or treat violence and drug use. This may be due to a lack of resources or a lack of perceived need. Further research is required to determine the cause of this rural/urban difference. However, the combination of undersupplied violence-related services and heightened exposure to violence and drug use suggests a critical need for increased violence prevention and treatment efforts in rural areas.

Listed below are some suggestions for policy options that could help address this gap in service for rural teens:

1. Quality of Violence-Related Services

Rural schools are just as likely as urban schools to provide most mental health services that address violence and drug use activities. This list of services included student education, prevention, and treatment options. However, the quality of these services appears to be compromised in rural schools, where staff receive less training, have lower hiring requirements, and are available for fewer hours each week. Each of these disparities could be addressed directly by increasing the amount of training, the number of weekly work hours, and the minimum hiring standards for mental health care staff in rural schools to match those in urban schools.

It is important, however, to understand why this disparity exists before trying to reduce it. For example, if rural schools have fewer resources available for staff training, then funding would be the priority. But if rural school officials perceive a lower need for these services, then raising awareness of the problem might motivate a re-allocation of training for mental health care staff. The Rural Health Outreach Grant Program, sponsored by the Office of Rural Health Policy (ORHP), already supports multi-agency collaborations to address health disparities in rural communities. Among the current grantees listed in the Grantee Directory for FY 2004, many initiatives include mental or behavioral health components, however none specifically address teen violence. By placing a priority on teen programs, ORHP can encourage innovation within the existing networks to address the quality of teen violence services in rural areas.

2. School Based Health Centers and School-Physician Partnerships

Because many school districts' budgets are directly correlated to the supporting tax-base, it may be unreasonable to expect schools to implement prevention programs without additional funding or strong community partners. Alternatively, School Based Health Centers, funded

under the Health Centers Consolidation Act of 1996, are potential new access points for health care, and for service expansion in the areas of mental health and substance abuse. Rural program planners, particularly in existing Community Health Centers, are encouraged to consider offering violence and drug abuse screening and prevention services to youth through this funding mechanism. Federal planners at the Bureau of Primary Health Care could facilitate this process by recommending that teen violence and drug abuse prevention services as a priority need to be addressed in grant applications.

In communities not served by federally qualified health centers, other providers may be able to address youth problems. Medical providers in rural communities may have more opportunities than mental health care providers to meet with young patients and notice early warnings signs of violence and drug use. However, medical professionals may not be aware of the growing problem of violence and drug use among rural teens, especially the surprisingly high rate of teens who report using crystal meth (15.5%) and steroids (7.4%) [table 3a]. ORHP and state departments of health can facilitate school-physician partnerships, which can (1) raise awareness of teen violence and drug use in rural areas, (2) train physicians to recognize warning signs and symptoms of violence and drug use, (3) open communications about these issues between medical providers and local schools, (4) provide feedback to schools about the level of mental health care needs of the students, and (5) engage mental health care professionals who work for the school system.

3. Technology

Technology offers two important avenues for improving the quality of mental health care in rural areas. First, telecommunications provides another way for mental health providers to connect with clients. HRSA's Office for the Advancement of Telehealth reports that "long

distance" mental health care services have been used in underserved areas for some 40 years (Smith & Allison, 2004). The number of programs in the US has grown from nine in 1993 to over 100 in 1997. Although program outcomes have not been formally evaluated, they offer a promising way to allocate sparse resources. HRSA's existing Telehealth Network Grant Program can be used to encourage research of distance care that includes teen violence prevention and treatment components. Research should also consider outcomes evaluation and financial hurdles to adopting telehealth programs at the local level.

Second, telecommunications offers improved venues for training current mental health care staff in rural areas. Government agencies and professional associations represent another source of training available for school personnel. Groups such as the National Rural Health Association, the American Public Health Association, the National Rural Mental Health Association, and their state-level affiliates could help provide internet-based training to rural area school personnel at lower cost than classroom style training, and provide a continuous forum for dialogue between providers across the country.

4. Community-Based Programs

The Model Programs section of this report describes five approaches to teen violence that have been highly rated by several agencies. These models could easily be adopted by individual communities to help address teen violence and drug use. Most of these programs recommend an integrated approach that involves mental health and medical providers, schools, local authorities, and families. Local health clinics could provide the leadership needed to develop and maintain these collaborations, while HRSA and some of the evaluating agencies (i.e., SAMSHA) could provide technical assistance as needed.

5. School Policies

Rural schools report using more punitive school policies, while urban schools report using more preventive school policies (see School Policies in previous section). Initiatives at the federal or state level could provide guidance to rural schools on how to modify current policies to be more preventive in nature and less punitive. Successful prevention policies can help reduce both the incidence of teen violence/drug use and the need for treatment services.

6. *State Offices of Rural Health*

State Offices of Rural Health (SORHs) have a unique opportunity to foster the development of teen violence and drug abuse prevention programs through the Medicare Rural Hospital Flexibility Grant Program. Key stakeholders have representation in the Flex program. As noted earlier, ORHP can ensure that teen violence is addressed in the State Rural Health Plan by making it a priority element in funding decisions. Adequate training regarding early identification of at-risk youth could be made a required program element for both EMS and emergency department personnel at Critical Access Hospitals.

ORHP, NRHA and SORHs should also advocate the importance of rural violence and drug abuse intervention program to potential federal partners, particularly the Centers for Disease Control and Prevention (CDC). The CDC provides significant funding for community-based programs to address teen violence prevention. However, CDC programs appear to particularly target urban areas, as in the recent RFA 05042, "Urban Networks to Increase Thriving Youth through Violence Prevention." Based on the findings from the current study, there should also be provisions for investments in rural communities with regards to teen violence prevention. In addition to ensuring that funding opportunities are adequate to address rural problems, CDC should ensure that health departments are implementing teen violence

prevention programs that are scientifically proven to be effective, with sensitivity paid to rural nuances. Funds are made available to state health departments by CDC for the purposes of injury and violence surveillance and prevention. Ensuring that attention is paid to rural areas of the states could bridge the currently disparity.

Further Research

Risky Behavior

Differences between Minority Groups

Although the YRBS dataset used in this study over-sampled minority youth, it did not include enough rural minority youth to stratify the analysis by specific racial groups (see Appendix A: Methods for further explanation). Because of this low number of rural minority respondents, we had to group all non-white respondents into a single category. Further research should investigate differences in violence and drug use behaviors within the non-white racial groups of rural teens. Differences may emerge between African American, Hispanic, Asian, Native American, or other racial groups that will increase understanding of how teens experience greater exposure to violence and drug use.

Long Term Outcomes

The scope of this study was limited to exploring the gap between exposure to teen violence/drug use and the availability of violence-related services. It did not attempt to forecast the effects of this gap in service on physical and emotional health, criminal activity, or quality of life. Further research should focus on the long term effects of exposure to violence and drug use among rural teens, including an exploration of how availability of services may attenuate such effects.

Service Availability

Community Programs

Although youth are most likely to access personal resources at school, community-based programs also provide services to address teen violence and drug use. Further research in this area should compare the amount and quality of these community-based services available for rural teens versus urban teens. An assessment of these services, coupled with the assessment of school-based services in this study, would provide a more complete picture of the resources available to rural teens to help prevent and treat violence and drug use.

Juvenile Justice System

The juvenile justice system represents a two-sided component of the response system to teen violence and drug use. Some young offenders will receive treatment for violent behavior or drug use as part of their sentencing, while others may not. However, even for those youth who do receive mental health treatment in this system, it is still considered by many to be too late – these services are only accessible by entering the criminal justice system. Some localities have started adopting more preventive measures, such as "drug courts" that provide treatment for non-violent drug-use offenders without criminal sentencing. An assessment of the preventive innovations occurring in the juvenile justice system would provide even greater understanding of the type and quality of violence-related services available to rural teens.

Appendix A: Methods

Data were drawn from three datasets compiled by the CDC: the Youth Risk Behavior Survey (YRBS) 2001, the YRBS for Alternative Schools 1998, and the School Health Policies and Programs Study 2000. Data from the two YRBS datasets were used to assess the nationwide prevalence of violence-related activities and exposure among youth.

Section 1: Prevalence of Teen Violence

Data Source: The Youth Risk Behavior Surveillance System (YRBSS) provides nation-wide sampling data on the prevalence of and exposure to teen violence. The YRBSS is conducted every two years by the Centers for Disease Control and Prevention. It uses a three-stage sampling design structured to yield accurate national estimates of children in the 9 – 12th grades. The 2001 YRBSS public use data set contains 13,601 responses stratified as urban (5,113), suburban (7,144) and rural (1,263).

One drawback to using the YRBSS to measure the extent of psychosocial risk among youth is its limitation to the in-school population. Children with high violence exposure may be out of school or in "alternative" schools. In 1998, CDC conducted a separate administration of the YRBSS in alternative schools (including alternative units within "regular" schools). The survey used in the 1998 Alternative School study was almost identical to the survey used in the YRBS 2001 study. We used the 1998 dataset to assess the rural/urban differences of violent activities among teens in the alternative school system and supplement the mainstream data results.

Dependent variables: Exposure to violence was measured by 27 variables in five areas: weapon-carrying, violent activities (physical fights, threats of violence), fear of violence (avoiding school), self-inflicted violence (suicidal ideation and attempts), and drug use.

Independent variables: The principal independent variables were location (urban and rural) and race (minority and white). Both data sets included race data that distinguished separate minority groups, however, stratifying race by rural/urban groups produced sample sizes that were too small for statistical reliability. Therefore, all racial minority groups were collapsed into a single minority group for comparison with majority (white) responses.

Analysis: All analyses were conducted using SAS Callable SUDAAN taking into account the survey design and weights of the YRBS. Chi-square tests of independence were used for testing differences in the proportions of reported violent or drug activities across residence, race, and gender. Unweighted sample sizes in the tables reflect the number of teens responding, whereas weighted sample sizes reflect the effect of using the weights to make the sample demographic distribution representative of the US population of youth.

Section 2: Youth Mental Health Services

Data Source: Since the YRBS contains no information that can directly link the student to his/her school, we could not compare exposure to violence and availability of mental health services at the school level. However, as a separate assessment of the degree to which rural children have mental health counseling available to counteract the effects of violence, we

assessed the availability of mental health and social services at the school level using the SHPPS data set, a nationally representative survey of schools.

The School Health Policies and Programs Study (SHPPS) is conducted by the Center for Disease Control and Prevention (CDC) every few years. The most recent survey was completed in 2000. According to the CDC, SHPPS is the most comprehensive school health programs survey conducted in the United States. Data represents four major areas: characteristics of school health programs; school staff responsible for coordinating and delivering health services; school collaborations with government and community agencies to support health services; and changes in these three areas since the last survey conducted in 1994. Data in all four of these major areas is collected at the state, district, school, and classroom level.

School-level data were collected by computer-assisted personal interviews with designated respondents in a nationally representative sample of 1,331 public and private elementary, middle/junior, and senior high schools. District-level data were collected from self-administered questionnaires mailed to a nationally representative sample of 745 public school districts (includes dioceses of Catholic schools from the school sample). Participating schools and districts represent all 50 states and Washington, DC. Response data represents 950 of the 1,331 schools and 560 of the 745 districts in the sample.

Dependent Variables: Mental health and social services (MHSS) was assessed in three major areas: availability, quality, and environment. Availability of MHSS was measured by type of services offered, treatment modalities offered, and method of service delivery. Quality of MHSS was measured by the level of training received by and minimum qualification for MHSS service providers. Environment was measured by current policies regarding weapons in school fighting in school, gangs in school, violence education, school health councils, and school security.

Independent Variables: The primary independent variable at the school level of analysis was location (rural vs. urban). All measures of availability, quality, and environment of MHSS were compared across rural/urban response groups.

Analysis: All analyses were conducted using SAS Callable SUDAAN taking into account the survey design and weights of the SHPPS. Chi-square tests of independence were used for testing differences in the proportions of services, training, and policies across rural and urban schools.

Section 3: Teen Violence Program Models

Community-based programs represent another source of mental health services for youth exposed to violence. The SHPPS survey includes some reference to community-based mental services, but only those with formal arrangements with local schools. To supplement the context of school-based mental health services, we reviewed current teen violence programs available in rural areas and described some of the common models for teen violence programming. The Center for the Study and Prevention of Violence at the University of Colorado, which provides a searchable database of over two thousand youth violence programs across the country, served as the primary reference source for this investigation.

Appendix B: Survey Items

Survey items from the YRBSS 2001

Total number of items: 27
(The number of each item is from the original survey.)

Weapons Carrying: (3 items)

13. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?
14. During the past 30 days, on how many days did you carry a gun?
15. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?

Fear of Violence: (2 items)

16. During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
17. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?

Violent Activities: (5 items)

18. During the past 12 months, how many times were you in a physical fight?
19. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
20. During the past 12 months, how many times were you in a physical fight on school property?
21. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
22. Have you ever been physically forced to have sexual intercourse when you did not want to?

Suicide: (4 items)

23. During the past 12 months, did you ever seriously consider attempting suicide?
24. During the past 12 months, did you make a plan about how you would attempt suicide?
25. During the past 12 months, how many times did you actually attempt suicide?
26. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

Drug Use: (13 items)

30. During the past 30 days, on how many days did you smoke cigarettes?

34. During the past 30 days, on how many days did you smoke cigarettes on school property?
37. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

38. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip on school property?
42. During the past 30 days, on how many days did you have at least one drink of alcohol?
43. During the past 30 days, on how many days did you have at least one drink of alcohol on school property?
47. During the past 30 days, how many times did you use marijuana?
48. During the past 30 days, how many times did you use marijuana on school property?
49. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?
52. During the past 30 days, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
53. During your life, how many times have you used heroin (also called smack, junk, or China White)?
54. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
55. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?

Survey items from the YRBSS Alternative 1998

- 25 of the 27 items listed above also appeared on the YRBS Alternative 1998 and were included in the analysis.
- Only items 53 and 54 from the YRBS 2001 did not appear on the YRBS Alternative 1998.
- Only one item that was included in the YRBS Alt. 1998 did not appear on the YRBS 2001 survey: "During your life, how many times have you used any other type of illegal drug, such as LSD, PCP, ecstasy, mushrooms, speed, ice, or heroin?"

Survey items from the SHPPS 2000

The School Health Policies and Programs Survey (SHPPS) for 2000 gathered national school data on seven content areas (physical education, health education, mental health, health services, faculty & staff, food service, and school policy) across four levels (state, district, school, and classroom). This created a matrix of 28 separate but related surveys. For this project, we combined responses from four content areas, all at the school level: mental health, health services, health education, and school policies. Specific survey items were included in this study if they mentioned services, personnel, or policies overtly related to prevention or treatment of teen violence or drug use. For more information about survey items, please contact the authors.

Appendix C: Supporting Tables

Table 1a: Demographic comparisons across location and race (YRBSS 2001)

	Total			**Rural**		**Suburban**		**Urban**			**White***		**Non-White***		
Unweighted count	**13482**			**1239**		**7096**		**5067**			**6297**		**7003**		
Weighted estimate	**13504**			**1632**		**7629**		**4197**			**9048**		**4331**		
	%	**SE**		**%**	**SE**	**%**	**SE**	**%**	**SE**	**p-value**	**%**	**SE**	**%**	**SE**	**p-value**
Age										***0.0414***					0.1232
<13	0.0*	0.0*		0.0*	0.0*	0.0*	0.0*	0.0*	0.0*		0.0*	0.0*	0.1*	0.0*	
13	0.1*	0.0*		0.1*	0.1*	0.1*	0.0*	0.1*	0.0*		0.1*	0.0*	0.1*	0.0*	
14	10.9	0.6		8.6	1.6	11.9	0.7	9.8	1.1		10.7	0.7	11.3	0.7	
15	25.6	0.7		25.7	2.3	25.6	0.9	25.5	1.4		24.8	0.9	27.3	0.9	
16	26.4	0.7		27.9	2.1	25.7	0.6	26.7	1.4		26.5	0.7	25.6	0.8	
17	23.3	0.6		24.0	1.7	23.2	0.9	23.3	1.3		23.5	0.8	23.0	0.9	
18+	13.8	0.6		13.8	1.5	13.4	0.9	14.7	1.3		14.4	0.7	12.8	0.9	
Sex										0.1205					0.9460
Female	51.3	1.2		52.2	1.0	51.9	2.0	49.8	0.8		51.2	1.4	51.1	1.1	
Male	48.8	1.2		47.8	1.0	48.1	2.0	50.2	0.8		48.8	1.4	48.9	1.1	
Grade in school										0.9731					***0.0054***
9th	29.7	1.2		29.4	2.1	30.2	1.5	29.4	2.5		28.1	1.3	33.3	1.5	
10th	26.0	0.7		26.7	1.8	26.1	0.7	25.5	1.5		25.7	0.7	26.4	1.0	
11th	23.3	1.0		23.9	1.4	22.5	1.2	23.9	2.1		23.7	1.1	21.7	1.3	
12th	21.2	1.0		21.1	3.1	21.2	1.3	21.3	2.1		22.5	1.2	18.6	1.1	
Region															0.1003
Northeast	9.2	4.6		9.6	9.6	7.2	4.0	12.6	6.6	0.5625	8.6	5.0	10.2	5.2	
Midwest	18.1	5.9		21.3	13.0	14.4	6.2	23.7	9.2		21.8	7.1	10.6	4.4	
South	49.5	7.2		53.1	14.1	52.0	8.7	43.6	10.3		50.3	8.0	48.7	8.6	
West	23.2	5.1		16.0	8.6	26.4	7.7	20.1	8.0		19.3	5.4	30.6	6.6	
Race										***0.0007***					
White	67.7	2.4		88.9	3.1	28.7	2.7	47.3	6.0						
Non-white	32.3	2.4		11.2	3.1	71.4	2.7	52.7	6.0						

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 1b: Demographic comparisons by location and race subgroups (YRBSS 2001)

Residence	Rural					Suburban					Urban				
Race	White		Non-White			White		Non-White			White		Non-White		
Unweighted count	1009		225			3726		3326			1535		3398		
Weighted estimate	1444		181			5415		2174			2170		1949		
	%	SE	%	SE	p-value	%	SE	%	SE	p-value	%	SE	%	SE	p-value
Age					0.2526					0.2224					0.1255
<13	0.0*	0.0*	0.0*	0.0*		0.0*	0.0*	0.1*	0.1*		0.0*	0.0*	0.1*	0.1*	
13	0.1*	0.1*	0.3*	0.2*		0.1*	0.1*	0.0*	0.0*		0.0*	0.0*	0.1*	0.0*	
14	8.0	1.7	13.5	1.7		11.9	0.9	12.0	1.3		9.4	1.6	10.3*	1.0*	
15	26.0	2.5	23.4	3.1		24.8	1.0	27.7	1.2		24.1	2.3	27.2	1.4	
16	27.2	2.2	32.1	3.2		25.9	0.7	24.9	1.1		27.2	2.0	25.6	1.1	
17	24.8	1.7	18.4	2.3		23.2	1.1	23.4	1.2		23.5	2.1	22.9	1.3	
18+	14.0	1.6	12.4	2.4		14.1	1.1	11.8	0.9		15.4	1.9	13.9	1.4	
Sex					0.3854					0.6521					0.1663
Female	52.4	0.8	48.9	4.1		52.0	2.3	51.2	1.8		48.5	1.3	51.2	1.2	
Male	47.6	0.8	51.2	4.1		48.0	2.3	48.8	1.8		51.5	1.3	48.8	1.2	
Grade in school					0.1650					***0.0098***					0.2520
9th	27.3	2.0	36.9	2.6		29.3	1.5	32.6	2.4		25.5	3.9	33.8	2.1	
10th	26.5	2.0	26.5	2.5		25.0	0.7	28.3	1.4		27.0	2.3	24.3	1.4	
11th	24.5	1.5	19.9	2.6		23.3	1.4	20.5	1.4		24.3	2.5	23.3	2.1	
12th	21.7	3.4	16.8	2.5		22.4	1.5	18.6	1.3		23.3	3.0	18.7	1.7	
Region					0.3948					0.2058					0.0799
Northeast	10.3	10.2	4.3*	4.6*		6.2	4.3	9.9	6.7		13.8	7.6	11.0	5.6	
Midwest	23.0	13.8	6.9*	5.9*		16.0	7.1	10.3	5.2		35.5	13.7	11.2	5.3	
South	51.9	14.8	62.8	15.9		54.5	9.3	46.3	9.4		38.8	13.3	50.2	11.2	
West	14.9	8.3	26.0	15.7		23.4	8.1	33.7	8.4		12.0	5.5	27.7	10.4	

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 2a: Experience with violence in US teenagers by location and race (YRBSS 2001)

	Total			Rural		Suburban		Urban			White		Non-White		
Unweighted count	13483			1239		7096		5067			6297		7003		
Weighted population estimate	13504			1632		7629		4197			9048		4331		
	%	SE		%	SE	%	SE	%	SE	p-value	%	SE	%	SE	p-value
Weapons Carrying (last 30 days)															
Carried any weapon	17.4	1.0		22.9	1.8	17.3	1.4	15.3	1.0	***0.0006***	17.9	1.3	16.4	0.7	0.2172
Carried a gun	5.6	0.5		8.3	1.4	5.4	0.7	5.0	0.7	0.1371	5.5	0.7	6.0	0.5	0.4995
Carried any weapon to school	6.4	0.5		8.3	1.5	6.2	0.7	6.0	0.7	0.3177	6.0	0.6	7.2	0.7	0.1898
Fear of Violence															
Feared to attend school (30 days)	6.6	0.5		4.8	1.0	6.3	0.8	7.9	0.7	0.0592	5.0	0.6	9.9	0.6	***0.0000***
Threatened with weapon at school (last 12 months)	8.9	0.5		8.0	1.5	8.9	0.8	9.1	0.7	0.8270	8.5	0.7	9.8	0.7	0.1068
Violent Activities (last 12 months)															
In a fight	33.2	0.7		33.6	2.6	31.2	0.8	36.6	1.5	***0.0067***	32.1	0.9	35.6	0.7	***0.0036***
Injured in a fight	4.0	0.2		3.5	0.3	3.6	0.3	4.9	0.5	0.0555	3.4	0.3	5.3	0.3	***0.0000***
In a fight at school	12.4	0.5		13.8	1.1	10.9	0.8	14.7	0.9	***0.0110***	11.1	0.6	15.3	0.7	***0.0000***
Hit by dating partner	9.5	0.3		10.5	1.3	8.7	0.4	10.5	0.7	***0.0477***	9.2	0.4	10.1	0.5	0.1859
Coerced into sex (ever)	7.7	0.4		7.5	1.5	7.4	0.5	8.4	1.0	0.7225	6.9	0.5	9.5	0.7	***0.0085***
Suicide (last 12 months)															
Considered suicide	19.0	0.7		20.3	1.8	18.5	0.9	19.4	1.1	0.5777	19.6	0.9	17.5	0.7	0.0517
Planned suicide	14.8	0.6		18.0	1.8	13.9	0.7	15.0	0.9	0.0758	15.3	0.8	13.6	0.6	0.0773
Attempted suicide (30 days)	8.8	0.4		9.0	1.3	8.1	0.4	10.2	0.9	0.1194	7.9	0.5	10.8	0.5	***0.0004***
Injured in attempt	2.6	0.2		3.2	0.9	2.3	0.2	2.9	0.5	0.3988	2.3	0.3	3.3	0.3	***0.0017***
Injured of those who attempted	29.8	1.6		35.0	5.0	29.0	2.0	28.9	3.1	0.5943	29.3	2.2	30.2	2.2	0.7704

Bold/Italics *= significant at <0.05*

Table 2b: Experience with violence in US teenagers by residence and race subgroups (YRBSS 2001)

Residence	Rural					Suburban					Urban				
Sex/Race	White		Non-White			White		Non-White			White		Non-White		
Unweighted count	1009		225			3726		3326			1535		3398		
Weighted population estimate	1444		181			5415		2174			2170		1949		
	%	SE	%	SE	p-value	%	SE	%	SE	p-value	%	SE	%	SE	p-value
Weapons Carrying (last 30 days)															
Carried any weapon	23.1	2.1	22.5	3.0	0.8906	17.8	1.7	16.2	1.1	0.2831	14.7	1.6	16.0	1.0	0.4523
Carried a gun	8.5	1.6	6.6*	1.9*	0.4878	5.2	0.8	6.0	0.8	0.4615	4.1	0.8	6.0	0.8	0.0891
Carried any weapon to school	8.3	1.6	8.2*	1.6*	0.9532	5.6	0.7	7.7	1.1	0.1119	5.5	1.0	6.6	0.7	0.3157
Fear of Violence															
Feared to attend school (30 days)	4.7	1.1	4.9*	1.9*	0.9489	4.7	0.9	10.1	0.9	***0.0000***	5.9	0.8	10.1	0.8	***0.0008***
Threatened with weapon at school (last 12 months)	8.2	1.6	7.4*	2.5*	0.7540	8.2	0.9	10.7	0.9	***0.0164***	9.3	0.9	8.9	0.8	0.7252
Violent Activities (last 12 months)															
In a fight	33.5	2.8	34.0	3.9	0.9066	29.5	1.0	35.8	0.9	***0.0001***	37.7	2.2	35.6	1.3	0.3443
Injured in a fight	3.2	0.3	5.6*	1.1*	0.0855	2.9	0.3	5.3	0.5	***0.0002***	4.7	0.8	5.1	0.5	0.6017
In a fight at school	13.1	1.3	18.7	2.3	0.0679	9.5	0.8	14.8	1.1	***0.0001***	14.0	1.3	15.5	0.9	0.3463
Hit by dating partner	10.5	1.6	10.5*	3.5*	0.9922	8.3	0.5	9.8	0.6	***0.0376***	10.5	1.1	10.3	0.7	0.8697
Coerced into sex (ever)	7.0	1.7	11.4*	2.2*	0.1801	6.4	0.4	10.0	1.2	***0.0092***	8.2	1.7	8.7	0.7	0.7752
Suicide (last 12 months)															
Considered suicide	20.6	2.0	17.8	3.9	0.5501	18.5	1.0	18.4	1.0	0.9261	21.7	1.6	16.4	1.2	***0.0069***
Planned suicide	19.2	2.0	9.1*	1.6*	***0.0159***	13.7	0.9	14.2	0.7	0.6526	16.7	1.3	13.2	1.2	0.0501
Attempted suicide (30 days)	8.3	1.5	13.2*	2.6*	0.1966	7.1	0.6	10.5	0.7	***0.0005***	9.3	1.3	11.0	0.9	0.2983
Injured in attempt	3.0	1.0	5.3	1.9	0.4274	2.0	0.2	3.2	0.4	***0.0020***	2.7	0.8	3.2	0.5	0.5191
Injured - of those who attempted	34.2	6.6	40.7	9.7	0.6588	27.6	2.5	30.6	3.0	0.4122	29.5	5.4	28.5	3.5	0.8720

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 2c: Experience with violence in US teenagers by sex, rural only (YRBSS 2001)

Residence	Rural				
Sex	Female		Male		
Unweighted count	642		597		
Weighted population estimate	852		780		
	%	**SE**	**%**	**SE**	**p-value**
Weapons Carrying (last 30 days)					
Carried any weapon	6.0	1.0	41.7	3.0	***0.0001***
Carried a gun	2.2	0.9	15.0	2.1	***0.0009***
Carried any weapon to school	2.7	0.8	14.4	2.6	***0.0001***
Fear of Violence					
Feared to attend school (30 days)	4.9	1.2	4.7	1.1	0.7912
Threatened with weapon at school (last 12 months)	5.6	1.5	10.8	2.0	***0.0250***
Violent Activities (last 12 months)					
In a fight	25.4	3.1	42.5	3.1	***0.0049***
Injured in a fight	2.2	0.6	4.8	0.8	0.0917
In a fight at school	8.2	1.4	19.8	1.4	***0.0017***
Hit by dating partner	11.5	1.7	9.4	1.1	0.0945
Coerced into sex (ever)	10.8	2.5	3.8	1.2	***0.0178***
Suicide (last 12 months)					
Considered suicide	26.9	2.9	13.0	1.0	***0.0008***
Planned suicide	22.4	2.1	13.2	1.9	***0.0054***
Attempted suicide (30 days)	11.9	1.8	5.8	1.4	***0.0027***
Injured in attempt	4.2	1.4	2.1	0.6	***0.0076***
Injured - of those who attempted	34.6	8.1	36.1	5.8	0.8978

Bold/Italics *= significant at <0.05*

Table 3a: Drug Use among US Teenagers by residence and race (YRBS 2001)

	Total			Rural		Suburban		Urban			White		Non-White		
Unweighted count	**13482**			**1239**		**7096**		**5067**			**6297**		**7003**		
Weighted population estimate	**13504**			**1632**		**7629**		**4197**			**9048**		**4331**		
	%	**SE**		**%**	**SE**	**%**	**SE**	**%**	**SE**	**p-value**	**%**	**SE**	**%**	**SE**	**p-value**
Outside of school (last 30 days)															
Cigarettes	28.5	1.1		35.5	3.1	27.4	1.5	27.8	2.0	0.1172	32.0	1.2	21.3	1.3	***0.0000***
Chewing tobacco	8.2	0.8		11.5	1.4	8.9	1.1	5.4	0.8	***0.0010***	10.3	1.0	3.5	0.4	***0.0000***
Alcohol	47.1	1.1		50.3	2.0	47.5	1.3	45.2	2.0	0.2027	50.5	1.1	40.2	1.7	***0.0000***
Marijuana	23.9	0.8		26.3	2.5	22.5	1.0	25.6	1.2	0.0797	24.5	1.1	22.9	1.0	0.2475
School grounds (last 30 days)															
Cigarettes	9.9	0.6		14.8	2.1	8.7	0.7	10.2	0.8	***0.0113***	11.3	0.8	7.1	0.7	***0.0000***
Chewing tobacco	5.0	0.6		7.6	1.2	5.3	0.9	3.2	0.6	***0.0045***	6.1	0.8	2.4	0.3	***0.0000***
Alcohol	4.9	0.3		3.9	0.9	4.8	0.4	5.4	0.6	0.4872	4.2	0.3	6.3	0.4	***0.0000***
Marijuana	5.3	0.4		5.3	1.0	4.6	0.5	6.8	0.6	***0.0065***	4.8	0.5	6.6	0.5	***0.0009***
Street drugs															
Cocaine or crack (30 days)	4.2	0.4		5.9	1.1	3.2	0.2	5.3	0.9	***0.0107***	4.2	0.5	4.1	0.5	0.8582
Inhalants (30 days)	4.6	0.4		6.5	1.4	3.9	0.3	5.2	0.7	0.1908	4.9	0.6	4.0	0.3	0.1576
Heroin (ever)	3.1	0.2		4.3	1.2	2.9	0.3	3.0	0.3	0.5414	3.3	0.3	2.8	0.3	0.1658
Crystal meth (ever)	9.8	0.8		15.5	2.7	8.8	0.8	9.5	1.3	0.0722	11.4	1.1	6.6	0.6	***0.0001***
Steroids (ever)	4.9	0.3		7.4	1.1	4.7	0.3	4.4	0.4	***0.0483***	5.3	0.4	4.3	0.3	0.0601

Bold/Italics *= significant at <0.05*

Table 3b: Drug use among US teenagers by location and race subgroups (YRBSS 2001)

Residence	Rural					Suburban					Urban				
Sex/Race	White		Non-White			White		Non-White			White		Non-White		
Unweighted count	1009		225			3726		3326			1535		3398		
Weighted population estimate	1444		181			5415		2174			2170		1949		
	%	SE	%	SE	p-value	%	SE	%	SE	p-value	%	SE	%	SE	p-value
Outside of school (last 30 days)															
Cigarettes	35.4	3.2	34.3	5.8	0.8566	29.8	1.6	21.7	1.5	***0.0000***	35.2	2.1	19.8	1.9	***0.0000***
Chewing tobacco	11.9	1.4	8.7*	1.4*	***0.0295***	10.8	1.4	4.2	0.6	***0.0004***	8.0	1.2	2.2	0.4	***0.0002***
Alcohol	50.0	1.8	52.5*	5.6*	0.6173	50.1	1.4	41.1	1.5	***0.0003***	51.6	2.0	38.1	2.7	***0.0003***
Marijuana	26.1	2.9	28.3	2.9	0.6407	22.2	1.1	23.1	1.3	0.6092	28.9	1.6	22.1	1.3	***0.0082***
School grounds (last 30 days)															
Cigarettes	14.9	2.3	13.4*	2.0*	0.6246	9.5	0.7	6.7	1.0	***0.0000***	13.5	1.2	6.9	0.7	***0.0036***
Chewing tobacco	7.7	1.2	7.4*	1.6*	0.8323	6.4	1.1	2.5	0.4	***0.0012***	4.3	0.9	1.7	0.4	***0.0042***
Alcohol	4.0	1.0	3.7	1.1	0.8111	4.1	0.4	6.7	0.6	***0.0002***	4.7	0.8	6.1	0.6	0.1154
Marijuana	5.2	0.9	6.6*	2.2*	0.5071	3.8	0.4	6.6	0.6	***0.0000***	6.9	1.0	6.7	0.5	0.8302
Street drugs															
Cocaine or crack (30 days)	5.3	1.0	9.7*	3.5*	0.2565	3.1	0.3	3.5	0.6	0.6048	6.3	1.2	4.3	0.9	0.1111
Inhalants (30 days)	6.7	1.6	5.5*	2.1*	0.6222	3.9	0.4	4.1	0.5	0.6880	6.4	1.1	3.7	0.5	***0.0405***
Heroin (ever)	4.3	1.2	4.9*	2.3*	0.7807	3.0	0.3	2.8	0.5	0.7011	3.4	0.5	2.6	0.3	0.2010
Crystal meth (ever)	15.3	2.7	16.1	3.6	0.8298	9.6	1.0	6.8	0.9	0.0540	13.2	1.9	5.5	0.6	***0.0006***
Steroids (ever)	7.7	1.2	4.8*	2.5*	0.2598	4.7	0.4	4.9	0.4	0.6765	5.2	0.6	3.4	0.4	***0.0230***

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 3c: Drug use among US teenagers by sex, rural only (YRBSS 2001)

Residence	**Among Rural**				
Sex	**Female**		**Male**		
Unweighted count	**642**		**597**		
Weighted population estimate	**852**		**780**		
	%	**SE**	**%**	**SE**	**p-value**
Outside of school (last 30 days)					
Cigarettes	36.7	3.2	34.1	3.8	0.4281
Chewing tobacco	2.7	1.0	21.1	2.8	***0.0008***
Alcohol	48.0	2.5	53.0	2.4	0.1394
Marijuana	23.1	2.5	29.7	2.8	***0.0085***
School grounds (last 30 days)					
Cigarettes	13.9	2.6	15.8	2.1	0.3952
Chewing tobacco	1.1	0.4	14.8	2.2	***0.0003***
Alcohol	3.4	0.8	4.6	1.4	0.4235
Marijuana	2.5	0.5	8.4	1.8	***0.0118***
Street drugs					
Cocaine or crack (30 days)	5.9	1.6	6.0	1.0	0.9702
Inhalants (30 days)	6.7	1.7	6.3	1.5	0.7819
Heroin (ever)	4.1	1.3	4.6	1.8	0.8323
Crystal meth (ever)	14.6	2.9	16.6	3.0	0.4028
Steroids (ever)	6.5	1.8	8.3	1.3	0.4515

Bold/Italics *= significant at <0.05*

Table 4a: Demographic characteristics of US teenagers in alternative schools (YRBSS-Alt. 2001)

	Total			**Rural**		**Suburban**		**Urban**		
Unweighted count	**7914**			**302**		**3258**		**4354**		
Weighted estimate	**7958**			**651**		**4030**		**3276**		
	%	**SE**		**%**	**SE**	**%**	**SE**	**%**	**SE**	**p-value**
Age										0.4381
<13	0.1*	0.1*		0.4*	0.3*	0.2*	0.1*	0.0*	0.0*	
13	2.8	0.5		5.0	1.8	2.9	0.9	2.2	0.5	
14	11.2	1.2		14.8	3.6	10.0	1.9	12.0	1.3	
15	29.5	1.0		37.0	5.4	26.3	1.6	29.5	1.4	
16	35.7	1.2		30.6	3.0	37.3	1.6	34.8	1.9	
17	21.7	1.7		12.3	3.2	23.4	2.9	21.5	1.5	
18+	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Sex										***0.0145***
Female	45.3	2.1		32.8	9.0	41.5	2.9	52.6	2.7	
Male	54.7	2.1		67.2	9.0	58.6	2.9	47.5	2.7	
Grade in school										0.3141
9th	16.0	2.4		16.5	3.4	13.4	3.3	19.2	3.2	
10th	22.2	1.2		28.2	3.6	19.6	1.9	24.1	1.4	
11th	32.6	1.3		31.7	3.6	33.3	1.7	31.9	2.3	
12th	29.2	1.8		23.7	2.8	33.7	3.2	24.8	2.0	
Region										0.1084
Northeast	5.0	2.7		0.0*	0.0*	4.0	3.3	7.3	3.4	
Midwest	15.0	7.1		0.0*	0.0*	17.0	12.2	15.5	6.7	
South	20.1	6.2		5.9	6.3	16.3	7.5	27.6	8.6	
West	59.9	8.8		94.1	6.3	62.7	12.2	49.7	10.0	
Race										***0.0049***
White	43.0	5.7		66.2	11.0	49.7	7.2	30.1	5.3	
Non-white	57.0	5..65		33.8	11.0	50.3	7.2	69.9	5.3	

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 4b: Experience with violence in US male teenagers in alternative schools by residence (YRBS-Alt. 2001)

Male Teens Only	**Total**			**Rural**		**Suburban**		**Urban**		
Unweighted count	**4162**			**227**		**1906**		**2029**		
Weighted population estimate	**4351**			**438**		**2359**		**1554**		
	%	**SE**		**%**	**SE**	**%**	**SE**	**%**	**SE**	**p-value**
Weapons Carrying (last 30 days)										
Carried any weapon	45.1	2.2		34.1	7.3	44.3	3.1	49.5	2.9	0.1840
Carried a gun	21.2	1.8		17.1	3.4	19.5	2.5	24.9	2.0	0.0666
Carried any weapon to school	18.2	1.2		20.3	5.4	16.3	1.4	20.4	1.6	0.1481
Fear of Violence										
Feared to attend school (30 days)	11.1	1.3		8.7	0.9	9.5	1.9	14.1	1.8	0.0650
Threatened with weapon at school (last 12 months)	21.0	1.3		28.7	5.6	18.1	1.7	23.2	2.2	0.1220
Violent Activities (last 12 months)										
In a fight	67.8	1.9		78.1	7.6	66.7	2.7	66.6	2.3	0.6103
Injured in a fight	13.7	0.9		24.5	6.1	12.1	1.4	13.0	1.3	0.4295
In a fight at school	30.1	1.7		46.0	7.6	28.0	2.7	28.6	2.0	0.4561
Hit by dating partner	1.1	0.2		2.0	1.5	0.8	0.2	1.2	0.3	0.5043
Coerced into sex (ever)										
Suicide (last 12 months)										
Considered suicide	19.6	1.1		23.5	3.9	21.1	1.6	16.2	1.4	0.0949
Planned suicide	17.4	1.3		24.7	5.7	18.6	1.6	13.6	1.2	0.0851
Attempted suicide (30 days)	11.6	0.9		14.6	2.5	11.6	1.5	10.7	1.1	0.5188
Injured in attempt	5.5	0.6		7.7	1.3	5.3	0.9	5.2	0.8	0.6312
Injured of those who attempted	47.6	3.9		52.5*	13.8*	45.5	5.5	49.1	6.1	0.8127

** indicates cell size <30* ***Bold/Italics*** *= significant at <0.05*

Table 4c: Drug use among US male teenagers in alternative school by residence (YRBS-Alt. 2001)

	Total			Rural		Suburban		Urban		
Unweighted count	**4162**			**227**		**1906**		**2029**		
Weighted population estimate	**4351**			**438**		**2359**		**1554**		
	%	**SE**		**%**	**SE**	**%**	**SE**	**%**	**SE**	**p-value**
Outside of school (last 30 days)										
Cigarettes	67.6	2.6		50.3	11.7	71.1	3.1	67.0	2.4	0.3192
Chewing tobacco	12.3	1.4		14.2	3.7	14.6	2.3	8.1	1.0	***0.0191***
Alcohol	68.4	3.0		43.5	11.8	70.3	4.2	72.8	2.3	0.2837
Binge drinking	55.6	2.7		41.3	10.9	56.7	3.9	58.1	3.1	0.5393
Marijuana	59.1	2.3		40.6	9.2	59.4	3.0	64.1	2.5	0.1586
School grounds (last 30 days)										
Cigarettes	36.8	4.2		26.2	11.7	35.9	5.8	41.3	4.2	0.3698
Chewing tobacco	6.9	1.0		7.5	3.3	8.1	1.5	5.0	0.8	0.1810
Alcohol	12.3	1.6		13.0	3.8	11.4	2.2	13.3	1.3	0.7194
Marijuana	25.4	2.0		24.5	6.5	21.9	2.1	31.1	3.3	0.0689
Street drugs										
Cocaine or crack (30 days)	17.5	1.5		23.4	5.5	17.6	2.2	15.5	1.9	0.2466
Inhalants (30 days)	30.4	2.4		48.5	6.3	32.2	2.7	22.6	2.6	0.0600
Steroids (ever)	9.5	0.8		14.7	1.7	8.5	1.0	9.7	1.3	0.1106
Other illegal drugs	50.0	3.1		60.9	6.6	51.9	4.0	44.0	3.4	0.0897

Bold/Italics *= significant at <0.05*

Table 5: School characteristics by location (SHPPS 2000)

	Total			Rural			Urban			
	Sample	**Weighted**	**Wtd%**	**Sample**	**Weighted**	**Wtd%**	**Sample**	**Weighted**	**Wtd%**	**p-values**
Number of Schools	546	47,826	--	199	19,080	--	347	28,746	--	
Funding status										***0.0001***
Public	461	34,269	72%	178	16,197	85%	283	18,072	63%	
Private	85	13,557	28%	21	2,883	15%	64	10,673	37%	
Charter schools	6	400	1%	1	135	1%	5	265	1%	0.7960
School size										***0.0000***
Large	331	18,561	38%	74	4,535	24%	257	14,026	49%	
Small	215	29,265	61%	125	14,545	76%	90	14,720	51%	
Poverty designated schools	303	26,165	55%	134	12,868	67%	169	13,296	46%	***0.0000***
School Level										0.1761
Middle School	272	29,967	63%	94	11,395	60%	178	18,572	65%	
High School	274	17,859	37%	105	7,685	40%	169	10,174	35%	

Bold/Italics *= significant at <0.05*

Table 6: Availability of school-based teen violence services by location (SHPPS 2000)

	Any staff/any venue		
	Rural	**Urban**	**p-value**
Mental Health Service	(n=199)	(n=347)	
Violence prevention	90%	88%	0.5371
Suicide prevention	88%	86%	0.5637
Crisis intervention	97%	93%	0.1019
Stress management	87%	84%	0.5248
Referral for abuse	96%	93%	0.3843
Alcohol/drug prevention	90%	87%	0.3015
Tobacco use prevention	82%	83%	0.8223
Alcohol/drug treatment	73%	73%	0.9252
Tobacco use treatment	71%	76%	0.3477
Modality			
Case management	87%	81%	0.2459
Family counseling	66%	73%	0.2520
Group counseling	68%	78%	0.0849
Individual counseling	91%	91%	0.9501
Comprehensive assessment	64%	72%	0.1825
Peer counseling	64%	76%	***0.0215***
Self help	51%	67%	***0.0080***

Bold/Italics *= significant at <0.05*

Table 7a: Percent of schools offering services, by setting, topic and location (SHPPS 2000)

	Violence prevention	Suicide prevention	Crisis intervention	Stress management	Referral for abuse	Alcohol & drug prevention	Tobacco prevention	Alcohol & drug treatment	Tobacco treatment
SB/MH									
Rural	95%	93%	98%	90%	97%	86%	84%	76%	81%
Urban	92%	92%	99%	90%	97%	88%	83%	81%	85%
p-value	0.3544	0.8600	0.5940	0.9000	0.9344	0.6045	0.7895	0.3561	0.2941
SB/MD									
Rural	45%	38%	55%	35%	71%	53%	55%	38%	47%
Urban	51%	44%	67%	51%	76%	57%	60%	32%	45%
p-value	0.3811	0.2620	***0.0361***	***0.0111***	0.3964	0.5662	0.4211	0.3409	0.6972
CB/MH									
Rural	31%	36%	46%	34%	44%	40%	35%	53%	37%
Urban	35%	38%	46%	33%	45%	42%	31%	48%	30%
p-value	0.4719	0.6319	0.9422	0.8709	0.8607	0.8214	0.4543	0.4501	0.2444
SHC/MH									
Rural	1%	0%	1%	0%	1%	0%	0%	0%	0%
Urban	2%	2%	2%	2%	2%	2%	2%	3%	1%
p-value	0.1335	***0.0389***	0.1278	***0.0388***	0.1320	***0.0386***	0.0531	***0.0390***	0.0946
SHC/MD									
Rural	1%	1%	1%	1%	1%	1%	1%	0%	0%
Urban	2%	1%	2%	1%	2%	2%	2%	1%	2%
p-value	0.2788	0.3755	0.1676	0.3720	0.1320	0.2712	0.1412	0.2585	0.0755

SB/MH: School based service provided by mental health personnel.
SB/MD: School based service provided by medical staff.
CB/MH: Community based service provided by mental health provider.
SHC/MH: Service provided by mental health professionals in a primary care health center located in school/on school campus.
SHC/MD: Service provided by medical professionals in a primary care health center located in school/on school campus.

Bold/Italics *= significant at <0.05*

Table 7b: Percent of schools offering services, by setting, topic and location (SHPPS 2000)

	Case management	Family counseling	Group counseling	Individual counseling	Comp assessment	Peer counseling	Self help
SB/MH							
Rural	96%	78%	91%	97%	85%	93%	86%
Urban	95%	83%	95%	98%	85%	97%	92%
p-value	0.7094	0.3178	0.2885	0.5863	0.8797	0.3116	0.2028
CB/MH							
Rural	48%	61%	47%	49%	62%	29%	48%
Urban	48%	52%	42%	46%	56%	28%	46%
p-value	0.9841	0.2080	0.4396	0.6318	0.4008	0.8217	0.7159
SHC/MH							
Rural	1%	0%	1%	1%	1%	1%	0%
Urban	2%	3%	2%	2%	3%	2%	2%
p-value	0.1595	0.0442	0.4570	0.1412	0.2170	0.4282	0.1118

SB/MH: School based service provided by mental health personnel.
CB/MH: Community based service provided by mental health provider.
SHC/MH: Service provided by mental health professionals in a primary care health center located in school/on school campus.

Bold/Italics *= significant at <0.05*

Table 8a: Availability of mental health care staff by location (SHPPS 2000)

	On Staff			Full Time Equivalencies (FTE)		
Human Resources	**Rural (n=199)**	**Urban (n=347)**	**p-value**	**Rural (n=199)**	**Urban (n=347)**	**p-value**
Guidance counselor	85%	80%	0.3958	1.02	1.54	***0.0000***
Psychologist	62%	57%	0.4000	0.13	0.26	***0.0003***
Social worker	37%	42%	0.4170	0.14	0.23	***0.0450***

Bold/Italics *= significant at <0.05*

Table 8b: Mental health care staff credentials by location (SHPPS 2000)

	Rural		Urban		
Credentials Required for New Hires	**Wtd%**	**unweighted sample size**	**Wtd%**	**unweighted sample size**	**p-value**
Guidance counselor					
Graduate Degree	84%	178	84%	308	0.9638
Certification	82%	177	78%	306	0.4733
License	9%	168	9%	270	0.9842
Psychologist					
Graduate Degree	91%	114	92%	221	0.8985
Certification	91%	116	92%	237	0.8020
License	19%	91	17%	168	0.7362
Social worker					
Graduate Degree	55%	85	73%	181	***0.0174***
Certification	72%	79	78%	173	0.4269
License	16%	67	40%	145	***0.0028***

Bold/Italics *= significant at <0.05*

Table 9: Teen violence training for school personnel by location (SHPPS 2000)

	Rural		Urban		
	Wtd%	**Obs**	**Wtd%**	**Obs**	**p-value**
Mental Health Staff received training in…					
Violence prevention	75%	135	85%	184	0.1073
Suicide prevention	59%	135	74%	183	***0.0368***
Crisis intervention	88%	135	87%	184	0.7616
Stress management	59%	135	68%	184	0.2087
Referral for abuse	66%	135	74%	184	0.2068
Alcohol/drug prevention	72%	135	70%	183	0.7467
Tobacco use prevention	44%	135	41%	184	0.6638
Alcohol/drug treatment	73%	135	74%	184	0.8549
Tobacco use treatment	38%	134	38%	184	0.8975
Case management	61%	135	69%	184	0.2444
Family counseling	32%	135	51%	184	***0.0039***
Group counseling	44%	135	53%	184	0.2415
Individual counseling	69%	135	69%	184	0.9360
Comprehensive assessment	35%	135	39%	184	0.4904
Peer counseling	52%	135	67%	184	***0.0232***
Self help	29%	135	50%	184	***0.0037***
Medical staff received training in…					
Violence prevention	54%	130	60%	219	0.3562
Suicide prevention	46%	130	51%	219	0.4347
Crisis intervention	42%	130	50%	219	0.1937
Stress management	43%	130	47%	219	0.5597
Referral for abuse	59%	130	57%	219	0.7889
Alcohol/drug prevention	59%	130	55%	219	0.5246
Tobacco use prevention	50%	130	54%	219	0.4746
Alcohol/drug treatment	45%	130	52%	219	0.3394
Tobacco use treatment	35%	130	37%	219	0.6816
Health Education staff participated in…					
Ed activities with MH staff	34%	197	45%	337	***0.0280***
Ed activities with MH agency	26%	200	29%	347	0.4647
Health Ed. staff received training in…					
Mental health	42%	148	43%	238	0.9125
Suicide prevention	30%	148	36%	238	0.3278
Violence prevention	50%	148	61%	238	0.0573
Alcohol/drug prevention	53%	148	64%	237	0.0753
Tobacco use prevention	40%	148	56%	237	***0.0146***

Bold/Italics *= significant at <0.05*

Table 10: School policies by location (SHPPS 2000)

	Rural		Urban		
	Wtd%	**unweighted sample size**	**Wtd%**	**unweighted sample size**	**p-value**
Weapons in school					
Weapons prohibited policy	98%	211	98%	354	0.8235
Weapons off campus prohibited	91%	206	89%	347	0.7260
Weapons/student used last year	0.14	207	0.77	339	0.1688
Weapons/student possessed last year	0.6	205	0.7	334	0.6844
Fighting in school					
Fighting prohibited policy	98%	211	98%	355	0.9639
Number of fights/student last year	6.38	199	3.97	323	0.0527
Gangs in school					
Gangs prohibited policy	65%	209	71%	351	0.2751
Gang paraphernalia prohibited	88%	145	98%	270	***0.0018***
Gang policy violations/student	0.47	139	1.05	251	***0.0370***
Violence education					
Emotional or mental health	67%	211	75%	348	0.1309
Suicide prevention	50%	209	65%	346	***0.0057***
Violence prevention	65%	211	79%	351	***0.0055***
Alcohol/drug prevention	86%	211	91%	352	0.1118
Tobacco use prevention	84%	211	92%	351	***0.0229***
School policies					
Have a council for school health	61%	211	73%	354	***0.0249***
Council on violence prevention	90%	131	91%	269	0.6321
Council for school climate	83%	131	88%	269	0.2799
Council for mental health services	76%	131	79%	267	0.5276
Written violence plan	83%	210	87%	355	0.2956
Anti-harassment policy	94%	211	97%	351	0.1884
Alcohol/drug prevention	95%	132	93%	269	0.4816
Tobacco use prevention	93%	132	89%	270	0.2216

Bold/Italics *= significant at <0.05*

Table 11: School response to violent activities by location (SHPPS 2000)

	Referred to school counselor		Encouraged to participate in SAP		Required to participate in SAP		Notify parents	
	Rural	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**
Fighting in School:	*n=120*	*n=253*	*n=118*	*n=248*	*n=116*	*n=248*	*n=121*	*n=254*
Never	9%	4%	29%	10%	38%	23%	0%	0%
Rarely	13%	6%	29%	21%	26%	27%	0%	10%
Sometimes	39%	48%	28%	50%	23%	36%	4%	2%
Always	39%	43%	14%	19%	12%	14%	96%	97%
p-value	0.1932		***0.0018***		***0.0390***		0.2869	
Weapons in School:	*n=14*	*n=82*	*n=13*	*n=79*	*n=14*	*n=79*	*n=14*	*n=82*
Never	28%	18%	13%	17%	21%	24%	0%	1%
Rarely	30%	17%	43%	19%	41%	21%	0%	0%
Sometimes	12%	22%	19%	28%	18%	31%	0%	0%
Always	31%	43%	25%	36%	20%	23%	100%	99%
p-value	0.5550		0.5409		0.5290		0.3375	

Bold/Italics *= significant at <0.05*

Table 12: School security by location (SHPPS 2001)

	Rural		Urban		
	Wtd%	**unweighted sample size**	**Wtd%**	**unweighted sample size**	**p-value**
School security					
Closed campus	77%	211	89%	355	***0.0120***
Monitored halls	82%	211	75%	354	***0.0431***
Monitored bathrooms	54%	211	61%	354	0.1932
Monitored school grounds	78%	211	83%	355	0.2099
Conduct bag and locker checks	39%	211	41%	355	0.7190
Prohibit bags and backpacks	12%	211	26%	355	***0.0004***
Required school uniforms	4%	211	29%	355	***0.0000***
Required dress code (no uniforms)	90%	202	92%	289	0.6073
Student ID badges	2%	211	5%	355	0.1045
Surveillance cameras	14%	211	27%	355	***0.0054***
Metal detectors	5%	211	11%	355	0.0574
Uniformed police	15%	211	29%	355	***0.0026***
Undercover police	0%	211	2%	354	***0.0136***
Security guards	4%	211	18%	355	***0.0000***
Armed security staff	14%	211	20%	355	0.1977
Armed of those with security staff	82%	50	53%	190	***0.0040***

Bold/Italics *= significant at <0.05*

Appendix D: References

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