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Attitudes toward guns: Associations with alcohol use and impulsive behaviors

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Abstract: This study was an investigation of the association of attitudes toward guns with self-reports of alcohol/drug use, and impulsivity. Participants included 160 male and female high school students, who completed five questions regarding attitudes toward guns, in addition to questions about alcohol/drug use. Data were analyzed using t-tests. Males were more likely to feel that a home was safer with a gun. Feeling positively about a gun was associated with alcohol use in males and impulsive, aggressive behavior in males and females. A greater understanding of attitudes toward guns must take into account gender, alcohol use, and impulsive and aggressive tendencies.

Keywords: Guns, alcohol use, drug use, impulsivity, high school students, USA

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INTRODUCTION

Grave concerns regarding the interface of firearms and adolescents have been raised recently because of well-publicized shootings in schools. Once considered safe places for children and staff, schools have become concerned with metal detectors and security personnel, because of the recent pandemonium surrounding school shootings. Between February 1996, and May 1999, seven highly publicized school shootings, all of which were committed by Caucasian males between the ages of 11 and 18 years, led to bloodshed and fatalities of students, teachers, and/or parents of the perpetrators (1).

In addition, the results of the 1997 *Youth Risk Behavior Surveillance Survey* (YRBSS)(2), indicated that 7.4% of a

national sample of students in grades 9-12 reported having been threatened or injured with a weapon on school property one or more times during the year preceding the survey. On one or more of the 30 days preceding the survey, the prevalence of weapon-carrying on school property was 8.5%, with male students being significantly more likely than female students to carry a weapon. Based on these data and recent events, understanding the meaning of guns to youth has gained increasing importance.

At least in part, as an effort to begin to understand these phenomena, efforts have been made to characterize youths who take guns to school, including their attitudes toward guns.

Several studies have shown that self-

reported gun carrying on school properties is correlated with being male (3-7) as well as with substance abuse (3-9) and a history of violence (3,4,6,7,10). Shapiro *et al.* (11) found higher scores (indicating violence proneness) on the Attitudes toward Guns and Violence Questionnaire (AGVQ) for: a) males, b) urban students, c) older adolescents, and d) those with a history of firearm exposure (both traumatic [e.g., witnessing a shooting] and non-traumatic [e.g., presence of a gun in the home]) (11).

In addition to the concerns regarding shootings in the schools, gun availability is a well-known risk factor in suicidal behaviors. Suicidal risk, often associated with violence toward others, provides another model for studying risk factors associated with a violent outcome. For example, suicide risk is associated with gun availability, alcohol and drug use, and behaviors characterized by impulsivity, specifically Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD) (12). Furthermore, disorders such as ADHD and emotional/behavioral disturbances are diagnosed frequently in students who exhibit antisocial behavior in school settings (13).

The current study was a pilot investigation, blending the above models. It was an investigation of the association of attitudes toward guns and how they relate to alcohol/drug use and disinhibited behaviors as measured by endorsements of ADHD and CD symptoms. The overarching question of this study was: Do youths with positive attitudes toward guns endorse more drug and alcohol use, suicidal behaviors, and ADHD and CD symptoms than youths who do not endorse positive attitudes toward guns?

METHOD

Participants were 160 high school students. The sample was composed of 81 females and 79 males, whose ages ranged from 15-

19 years with a mean age of 16 (\pm 1.0). All students were from a southern state, 88 of whom were from an urban area and 103 of whom were from a rural area. School counselors provided study packets, including a cover letter and participant and parental consent forms, to classrooms where they were distributed to students. All students were invited to participate. Those individuals who returned completed participant and parental consent forms were recruited for the study.

Following the research assistant's presentation of an informed consent form, signed by the participant's parent or guardian and signed by the participant, each participant completed a questionnaire over the course of a 20-minute time period.

Questionnaire Items

The four Likert-type items that were developed to assess attitudes toward guns are listed in Table 1. These questions are underlined.

Severity of suicidal thoughts and behaviors was assessed using questions from the Suicide Behavior Questionnaire (14) and the Zung Index of Potential Suicide (15).

The prevalence of ADHD and CD in the sample was based on the *Diagnostic and Statistical Manual, Fourth Edition* (DSM-IV) (16) symptom profiles. Questions were presented in a Likert-type scale. These questions are annotated.

Substance Use Questionnaire

Drug Use: The participants' past year's use and current use of cocaine and marijuana were assessed by using measures from the 1990 National Institute on Drug Abuse "Monitoring the Future Survey" (17). Additional questions regarding the use of inhalation solvents ("huffing") were included using the same format as was used for the questions relating to cocaine and marijuana use.

Table 1. *High School Students' Attitudes Toward Guns: Associations with Gender, Alcohol Use, and Impulsivity ($p \leq 0.01$)*

Gender	Male	Female	t	df
1. <u>I feel that guns are needed for adequate home protection.</u>¹	1.20+.40	1.55+.50	5.43 ^b	187
2. <u>A gun in the house allows a person to sleep easier.</u>¹	1.33+.47	1.74+.44	6.16 ^b	1.82
¹ Answer format: True = 1; False = 2				
3. <u>I believe that people show respect to a person who has a gun.</u>				
Urban Males	True	False	t	df
Age of first drink (not sips)²	2.65+1.87	4.79+2.87	2.97 ^a	40
² Answer format: 10 or older=1; 2=11 or older; 3=12; 4=13; 5=14; 6=15; 7=16; 8=17; 9=18 years or older; 10=never had a drink				
Rural Males				
Time of most recent drink³	1.74+1.10	3.12+1.58	3.45 ^a	43
³ Answer format: 1= within the past month; 2= within the past 6 months but more than a month ago; 3=six month to a year ago; 4= more than a year to three years ago; 5= never had a drink of beer, wine, or liquor				
4. <u>I feel like no one can bother me when I have a gun nearby.</u>				
Urban Males				
I have deliberately destroyed other people's property.⁴	2.74+1.81	1.43+.68	3.23 ^a	28
I blurt out answers to questions before I hear the whole question.⁴	2.83+1.75	1.62+.74	2.93 ^a	42
Rural Females				
I start fights a lot⁴	1.75+.46	1.11+.32	4.63 ^b	41
I do dangerous things and don't worry about what could happen.	1.39+.70	1.00+.00	3.87 ^b	48
⁴ Answer format: 1=not at all; 2 = somewhat; 3= pretty much; 4= very much				
a = $p \leq 0.01$ b =				
p ≤ 0.001				

Alcohol Use: Participants' past year's use, current use, and age at first use of alcohol were assessed by using measures from the 1990 National Institute on Drug Abuse "Monitoring the Future Survey" (17).

Nicotine Use: Participants provided information regarding current and past smoking history. Additionally, the frequency of smoking among regular smokers was measured. All questions relating to smoking came from the 1991 National Health Interview Survey (18).

RESULTS

The data were analyzed using t-tests. The alpha level of .01 was used as the cutoff for statistical significance in order to minimize Type I errors. As such, Table 1 reports differences beginning at the .01 alpha level. Males were more likely to feel that a home is safer with a gun. The perception that "people show respect to a person who has a gun" was associated with younger age of the first drink in urban males and more recent drinking in rural males. Feeling like "no one can bother me when I have a gun nearby" was associated with deliberately destroying other people's property and blurting out answers to questions before hearing the whole question in urban males and starting fights and doing dangerous things without worrying about what could happen in rural females. Suicidal behaviors were not associated with attitudes toward guns or presence of guns in the home.

DISCUSSION

The escalation of gun-related violence in the adolescent population mandates a greater understanding of adolescents' attitudes and behaviors toward guns. In the current study, positive attitudes toward guns are associated with aggressive behavior, alcohol use, and self-reported symptoms of impulsivity. Earlier studies have documented that gun-carrying at

school is associated with substance use (3-9).

Based on these results, a greater understanding of youths' attitudes toward guns must take into account alcohol use, and impulsive and aggressive tendencies. The measurement of attitudes toward guns and associated high risk behaviors, specifically alcohol use, aggression, and impulsivity, can be screened by school counselors in a school setting with relative ease. In turn, this information could guide schools in their efforts to start a dialogue with youths in attempting to understand their attitudes toward guns as well as to begin to identify youths with concerning attitudes. Gun-related attitudes should also be targeted in elementary school-based violence prevention programs given that these programs, generally, have been less effective with older children and adolescents. The latter finding has been a consistent trend despite the fact that older youths, compared to their younger counterparts, are generally more capable of learning the prosocial behavior skills that are taught (19). One explanation for this phenomenon is that older youths may not be motivated to learn prosocial skills because of their violence-prone attitudes (19). Further, in future research, measurement of elementary school aged youths' attitudes toward guns should occur. This would allow implementation of attitude-changing interventions before the attitudes become well-ingrained. In turn, attitude-changing interventions may enhance the efficacy of prosocial skills building approaches.

CONCLUSION

This study investigated the association of attitudes toward guns and self-reports of alcohol/drug use and impulsivity. As hypothesized, attitudes toward guns were associated with alcohol use and impulsive behaviors. Obtaining measures of attitudes

and associated risk factors was accomplished with relative ease. This strategy could be applied in a clinical setting. In addition, in a clinical setting, a more thorough investigation of risk factors could occur such as exposure to violence and gun availability in the home. Questions regarding gun availability, exposure to violence, drug and alcohol abuse are already parts of regular screens in many pediatric practices. It is not uncommon for adolescents to share more information on questionnaires than in face to face interaction. A useful strategy would be to screen for risk factors associated with violence and gun carrying using a questionnaire and then to follow the screen with an interview asking the adolescent to elaborate on issues that he or she presented.

There is no doubt that understanding this phenomena of school violence is just beginning and that there are a spectrum of risk factors yet to be identified. The pediatrician must keep in mind that they may be an important and sometimes only contact for addressing preventive health issues and for identifying a youth engaged in high risk behaviors. Continuity of care allows the pediatrician to observe changes in the patient and provides the basis for patient trust and facilitates the sharing of information. There may be poorly quantifiable signals that an adolescent may project that gives the pediatrician pause. The pediatrician should feel comfortable wanting to understand more about what is troubling the youth and conveying that to the patient.

The pediatrician should not be discouraged from addressing these concerns once a potential problem is identified. Instead, the pediatrician should be aware of a spectrum of services that could be mobilized to deal with the concerns. Treatment programs that deal with: impulse disorders, drug and alcohol use, and family trauma should be identified and utilized.

Finally, the pediatrician may take an advocacy role in his/her community and work with schools to identify youth at risk and provide expertise for development of programs to deal with at risk youth.

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