THESIS

WHAT ABOUT THE BOYS: ADOLESCENT MALE VICTIMS OF VIOLENCE, SUBSTANCE USE, AND THE MODERATING EFFECT OF RELIGIOUS INVOLVEMENT

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ABSTRACT

WHAT ABOUT THE BOYS: ADOLESCENT MALE VICTIMS OF VIOLENCE, SUBSTANCE USE, AND THE MODERATING EFFECT OF RELIGIOUS INVOLVEMENT

Research has shown that abuse and neglect are linked to negative outcomes in later adolescence and adulthood, such as alcohol use and marijuana use. This study examines a previously collected data set of adolescents across the United States to investigate the extent to which being violently victimized predicted increased alcohol use, drunkenness, and marijuana use across two age groups; and the extent to which these relationships varied across level of rurality or level of religious involvement. Results revealed that victimization significantly predicted increased alcohol use, drunkenness, and marijuana use among both 7th/8th graders and 11th/12th graders. These relationships did not vary by level of rurality. Religious involvement significantly decreased the magnitude of the relationship between victimization and alcohol use, drunkenness, and marijuana use in the 7th/8th grade group. In the older age group, it significantly decreased the relationship between victimization and marijuana use. Overall, results suggest that victimization and substance use are significantly related and this relationship does not vary by level of rurality, but that religious involvement may be a protective factor against substance use. Results further suggest that it is important to screen for victimization among adolescent males in therapy for substance abuse and that religious involvement may be an aspect that can help adolescent male victims of violence cope with their victimization without using substances.
# TABLE OF CONTENTS

- Introduction ................................................................. 1
- Hypotheses ................................................................. 14
- Method ................................................................. 16
- Results ................................................................. 22
- Discussion ................................................................. 28
- References ................................................................. 41
- Tables ................................................................. 58
- Figures ................................................................. 64
WHAT ABOUT THE BOYS: ADOLESCENT MALE VICTIMS OF VIOLENCE, SUBSTANCE USE, AND THE MODERATING EFFECT OF RELIGIOUS INVOLVEMENT

Violent victimization in adolescence is a serious problem that is associated with numerous negative mental health consequences, specifically alcohol and other substance use (Brady, Tschann, Pasch, Flores, & Ozer, 2008; Ozer & Weinstein, 2004; Reed, Amaro, Matsumoto, & Kaysen, 2009). A large number of studies have found relationships between violence and substance use, particularly alcohol use, by both perpetrators and victims of violence (Boyd, 2003; Brady, Tschann, Pasch, Flores, & Ozer, 2008; Eckhardt & Crane, 2008; Gover, 2004; Huang, White, Kosterman, Catalano, Hawkins, 2001; Kaukinen, 2002a; National Institute of Justice, 1996; Pernanen, 1976; Swahn & Donovan, 2004; 2005; Swahn, Simon, Hammig, & Guerrero, 2004; Wei, Loeber, & White, 2004; Welte & Abel, 1989). Although some research has focused this discussion of substance use and violence on adolescents, relatively little work examines rural populations exclusively (Swaim, Henry, & Baez, 2004; Swaim, Henry, & Kelly, 2006; Villareal, 2004). Although common sense notions about rural locations suggest that they are “safe havens” from the problems of metropolitan areas, studies suggest similar problems (such as substance use and violence) also exist in rural areas. Recent studies have shown that there is a high prevalence of underage drinking and driving in rural areas (Muilenburg, Johnson, Usdan, Annang, & Clayton, 2007), high levels of violent victimization (Nagy & Dunn, 1999), and that some types of substance use may be
higher in rural areas than non-rural areas (Vazsonyi, Trejos-Castillo, & Young, 2008). Finally, although there is sizeable literature for female victims of violence, relatively little research has examined male victims of violence, despite the fact that some studies have found males to show significantly higher victimization than females (Cleary, 2000). Instead, research has tended to focus on males as perpetrators of violence (Cheung, Leung, & Tsui, 2009; Lisak, 1993; Reed, Raj, Miller, & Silverman, 2010). This may result from a lack of awareness of male victimization (Stewart, & Maddren, 1997); furthermore, there is an underreporting of violence against males and police are less likely to place charges if the victim is a male (Stewart & Maddren, 1997). Unfortunately, even for males who do manage to get charges placed on their attacker and have the courage to seek help, there are relatively few services provided for male victims of violence, adding to the shame and embarrassment men face in reporting violence and seeking assistance since many shelters turn away male victims of violence (Chabot, Tracy, Manning, & Poisson, 2009; Cheung, Leung, & Tsui, 2009).

*Males as Target Population*

As discussed briefly above, research on victimization and men often solely focuses on their role as perpetrators of violence, but infrequently studies male as victims of violence. By ignoring this domain in research, we may mirror the taboo nature of discussing men’s role as victims. Men in general may be less likely to seek psychological help than women, especially if they adhere to a more “traditional masculinity” (Levant, Wimer, Williams, Smalley, & Noronha, 2009). As a group, they do not seek out therapy as frequently as women for issues such as substance abuse, stress, and depression (Andrews, Issakidis, & Carter, 2001; Husaini, Moore, & Cain, 1994; McKay, Rutherford,
Boys Victimization

Cacciola, & Kabaskalian-McKay, 1996; Thom, 1986; Wills & DePaulo, 1991. See also Cochran, 2005, for a review of literature about men and therapy). In regards to violent victimization, females are more likely to seek help from friends and family, mental health, social services, and self-help groups (Kaukinen, 2002b). This trend does not appear to occur because men do not need this assistance; there are still differences found in “help-seeking” behavior in research where men and women are matched for comparable impairment and distress (Kessler, Brown, & Broman, 1981). As stated by Lisak (1995), “[masculinity] typically demands physical strength and prowess, compels the denial of physical and emotional pain, and prohibits men from expressing or ultimately even experiencing emotions which may induce feelings of vulnerability” (p. 259). To summarize, men do suffer from violent victimization and psychological trauma, but for a variety of reasons, they are unlikely to speak about their suffering. As such, one aim of this paper is to focus explicitly on male victims of violence to decrease stigma men may feel around speaking about being victimized.

Impact of Violent Victimization

Violence and Intimate partner violence (IPV) are a serious public health concerns in North America and worldwide, with life-long impacts (Schafer, Caetano, & Clark, 1998). The National Family Violence Surveys (NFVS) of 1975, 1985, and 1992 and the National Cross-Ethnic Couples Violence Survey (NCCVS) of 1995, suggest that 16-22% of couples in the U.S. have experienced one or more episodes of IPV (as cited in Schafer, Caetano, & Clark, 1998). Specifically with women, national reports by the Department of Justice suggest that violent victimization is often repeated and is very likely to eventually result in injury and death (Bachman & Saltzman, 1995; Craven, 1996). Being victimized
Boys Victimization

and perpetrating violence have both been shown to be related to negative mental health outcomes, such as PTSD and Depression, in adolescents (Ozer & Weinstein, 2004; Gorman-Smith & Tolan, 1998; Vermeiren, Schwab-Stone, Ruchkin, King, Van Geeringen, & Deboutte, 2003). In rural areas in particular, it has been shown that violence is common in the lives of women, especially women with alcohol or other drug disorders (Boyd, 2003). One of the most widely cited epidemiological surveys of violence comes from the National Institute of Justice and Centers for Disease control in the jointly sponsored National Violence Against Women Survey (NSAW; Tjaden & Thoennes, 2000). This study conducted phone interviews in the mid 1990s of 8,000 men and 8,000 women (older than 18) about violence and victimization. This study showed that 51.9% of women and 66.4% of men said they were raped and/or physically assaulted in their lifetime. Specifically looking at just sexual assault, 17.6% of women and 3.0% of men reported being raped in their lifetime.

These results highlight how alarmingly common violent victimization is in society in general, but recent studies show that certain types of victimization are even more pronounced among males (Cleary, 2000; Murty, Peek-Asa, Zwerling, Stromquist, Burmeister, & Merchant, 2003). While few studies have examined the outcomes of adolescent male victims of violence specifically some have examined consequences of adolescent victimization in both male and female victimization (Cleary, 2000; Caetano, Field, & Nelson, 2003). Caetano and colleagues (2003) found that childhood physical abuse and exposure to parental violence was linked to alcohol-related problems in adulthood for males. Cleary (2000) found that males who had been violently victimized showed significantly higher risk of suicide than males who had not been victimized.
Similarly, Garnefski and Arends (1998) found that sexually victimized boys showed thirteen times greater suicidal behaviors than non-victimized boys (as opposed to a five times greater increase between abused and non-abused females). Also, an unfortunate impact of male victimization that reinforces the notion that they are “hidden” victims is often isolation as they may be less likely to seek help from family, friends, self-help groups, or social services (Kaukinen, 2002b).

In addition to literature pointing to negative consequences for victimization in general, there is evidence that being victimized in adolescence may have a larger negative impact than victimization in adulthood. In multiple studies of non-rural areas, abuse and neglect experienced in childhood has been linked to higher levels of drug use later in adolescence and adulthood (Brady, Tschann, Pasch, Flores, & Ozer, 2008; White & Widom, 2008; Widom & White, 1997). This relationship seems to be found across exposure to multiple types of violence. Childhood and adolescent physical abuse and exposure to parental violence is associated with alcohol-related problems in adulthood (Caetano, Field, & Nelson, 2003). Specifically among adolescents, one study found that abused males used alcohol nearly three times as much as non-abused boys, with only a slight difference in alcohol use between sexually abused females and non-abused females (Garnefski & Arends, 1998). In college-aged populations, similar relationships are found between victimization and alcohol use for both men and women (Reed, Amaro, Matsumoto, & Kaysen, 2009). Compared to individuals victimized in either childhood or adulthood, it seems that victimization during adolescence specifically may have poorer outcomes. Some research has found that adolescent victims of violence were significantly more likely to engage in binge drinking and face consequences of drinking (such as
physical health problems, financial situation, outlook on life, work and/or studies, and
friendships) than either children or adults (Kaukinen, 2002a). This is disturbing
considering that some reports have found adolescents twice as likely to be victims of
violent crime compared to adults (Office of Juvenile Justice and Delinquency Prevention,
1997). Of research on adolescents, very little has focused on male victims of violence,
despite evidence from the National Youth Survey showing significantly higher
victimization among adolescent males than females (Macmillan & Hagan, 2004).

A Note about Terminology. Violence is a concept that is often difficult to measure
partially due to the different ways it is defined. In this study, Interpersonal Violence
(referred to as IPV in this paper) is used synonymously with violence. Studies have
conceptualized IPV to include physical violence, psychological violence, emotional
violence, sexual violence, threats, denying access to resources and more (Waltermaurer,
2005). Some use a broader definition, such as “all acts or omissions that endanger
[individuals] or contribute to subordination” (Ruiz-Pérez, Plazaola-Castaño, & Vives-
Cases, 2007). The strength of this latter approach is in allowing a wide understanding of
IPV. On the other hand, the weakness of this approach is the difficulty in measuring all of
these aspects. For instance, psychological violence, such as humiliation and isolation,
would be rather difficult to measure, especially in a reliable manner (see Ruiz-Pérez,
Plazaola-Castaño, & Vives-Cases, 2007). For the purposes of this study, violence refers
to only acts of physical aggression committed by one individual against another with the
intent to cause harm, whether this be within a romantic relationship, familial relationship,
male-male, female-male, female-female, or male-female.
In the therapeutic context, a widely used term referring to individuals who have been violently victimized is “violence survivor.” This term attributes an active, rather than passive, role to individuals, encouraging these individuals to feel empowered to take control in their life again. In this paper, individuals who have been recipients of violence are referred to as “victims of violence” in order to maintain consistency with the typical terminology of literature in this area, not to deny agency.

Impact of Substance Use among Adolescents

Adolescent substance use is related to poor academic performance, vocational difficulties, teen pregnancy, sexually transmitted diseases, stealing, vandalism, and violence (Sussman, Dent, & Galaif, 1997). Another problem is consuming alcohol and driving (referred to from here on as “drinking and driving” or “drunk driving”). Some literature has shown drunk driving among adolescents to be double the rate of the general population (Bennett, McCrady, Frankenstein, Laitman, VanHorn, & Keller, 1993). Adolescents who use alcohol or other drugs may develop problems with problem-solving abilities and emotional functioning, and can lead to social isolation and depression (Sussman & Ames, 2001). Furthermore, substance use in adolescence can affect functioning as far as 15 years later, such as decreased levels of education, less stable employment, and higher incidence of being a single parent (Green & Ensminger, 2006).

Tying to the hypotheses of the current study, if violent victimization does indeed predict adolescent substance use, which already bears negative outcomes on its own, these youth may be faced with a “double-whammy” of potential negative outcomes.

A large amount of research on substance use etiology focuses on adults, but there are important differences between adults and adolescents that must be noted (e.g.,
Boys Victimization  

Sussman, Dent, & Galaif, 1997). When adolescents use substances, they use on fewer occasions than adults, but are more likely to binge (Sussman, Skara, & Ames, 2008). So, although adolescents’ overall frequency of use may be lower than adult substance use, when they do use (alcohol or otherwise), they are likely to consume more in each sitting. In addition to other problems with this style of use, binge drinking increases the chance for blackouts (Arria, Tarter, & Van Thiel, 1991; Bailey & Rachal, 1993; Leccese & Waldron, 1994). For adolescents who do use frequently, they tend to become dependent more quickly (Sussman, Skara, & Ames, 2008). Another difference is that regular substance use in adults may not be thought of as abuse, but in adolescents, it may be (which makes sense considering the intensity of binge drinking during “typical” use).

Even relatively low levels of use may be problematic in adolescence due to its impacts on brain development (see Volkow, Chang, Wang, Fowler, Ding, Sedler, et al., 2001; McCann, Wong, Yokoi, Villemagne, Dannals, & Ricuarte, 1998). A final area of difference is in the relatively high levels of dual diagnosis among adolescents; the comorbidity of substance use and other mental health disorders (such as depression, anxiety disorders, conduct disorder and others) has been estimated as high as 75% (Abrantes, Brown, & Tomlinson, 2004; Tomlinson, Brown, & Abrantes, 2004; Winters, 1999).

Adolescent Substance Use and Victimization

Across a number of studies, substance use and violence is linked (Shepherd, Sutherland, & Newcombe, 2006; White & Hansell, 1998; White, Loeber, Stouthamer-Loeber, & Farrington, 1999; Zhang, Wieczorek, & Welte, 1997). More specifically, alcohol use, both by victim and attacker, is common in cases of rape, assault, robbery.
with injury, and family violence (Fagan, 1993a; Pihl & Peterson, 1993a; 1993b; Rozen, 1993). There are numerous studies that suggest violent victimization in adolescence is associated with higher degrees of depressive symptoms, substance use, PTSD symptoms, suicidality, physical aggression, and delinquency (Goldstein et al., 2007; Sullivan, Farrell, & Kliwer, 2006; Champion et al., 2004; Moran, Vuchinich, & Hall, 2004; Funk et al., 2003; Grella & Joshi, 2003; NIJ 2003; Liebschutz et al., 2002; Caviola & Schiff, 2000; Cleary, 2000; Fitzpatrick & Bolidizar, 1993).

There is a burgeoning area of research which suggests that victimization may predict later substance use. In a study of Canadian adolescents, after controlling for age, income, education, employment status, rurality, and first generation immigrant status, adolescents who had been victimized were significantly more likely to be involved in binge drinking (5 or more drinks in one setting; Kaukinen, 2002a). They were also more likely to suffer from drinking-related consequences such as physical health problems, financial status, outlook on life, and school performance. In a U. S. sample, research on African-American adolescents in substance use treatment showed high links to victimization (Perron, Gotham, & Cho, 2008). In this study, 54% of participants had been victimized. Also from this study, lifetime victimization was significantly linked to major depressive disorder and conduct disorder in addition to risky behaviors such as unprotected sex, gang membership, and illegal activity. In a longitudinal study of roughly 1,800 adolescents across 10 years (ages 11-17), the National Youth Survey found similar patterns that victimization in adolescence leads to later difficulties in academic performance, educational attainment, labor force participation, occupational status, and
earnings in early adulthood (Macmillan & Hagan, 2004). Interestingly, this study also found that females reported lower victimization than males.

**Purpose of the Present Study**

In the current study, I intend to explore the pathway of violent victimization on substance use among adolescent males in rural areas. Although some research has examined the relationship between substance use and physical violence perpetration (Lipsey, Wilson, Cohen, & Derzon, 1997; Reiss & Roth, 1993; Rozen, 1993), this study focuses on the experience of individuals who have been victimized, specifically adolescent males in rural areas, a group about which very little is known. Research has investigated how perpetrating violence is linked to substance use (Brewer & Swahn, 2005; Fagan, 1993a; Pihl & Peterson, 1993b; Roizen, 1993) broken down to pharmacological effects by specific substance (e.g., Reiss & Roth, 1993). Research also has examined the biological/neurological components (Fishbein & Tarter, 2009), substance use leading to later victimization (Mrug & Windle, 2009), and the increased risk of substance use-based violence among individuals with dual diagnoses (Swanson, 1994). This study adds to the body of research by exploring the effect of victimization on alcohol use and marijuana use among adolescent rural males.

**Rurality.** As noted above, substance use and violence are significant problems in rural areas, though much less is known about substance use and violence in rural areas than in urban areas. According to data from the Monitoring the Future study, Cronk and Sarvela (1997) found higher rates of alcohol use in urban areas from 1976 to 1991, but comparable rates in 1992. However, this study also found that binge drinking and number of days drinking were higher among rural adolescents during this time period. In
terms of violence, some estimates suggest that in rural areas, 31% of female adolescents and 39% of male adolescents have been violently assaulted badly enough to need some form medical attention (Nagy & Dunn, 1999). Furthermore, this study found that rural adolescents who had initiated alcohol use were more likely to have initiated sexual behavior, have multiple sex partners, and be assaulted. To summarize, evidence is beginning to suggest that there may be similar problems with substance use and violence in rural areas as compared to urban areas.

**Religiosity.** Research on substance use and violence have found a wide range of risk and protective factors such as delinquent behavior (risk), involvement in school activities (protective), parent education, and religious involvement. Preliminary evidence suggests that religious involvement may be a protective factor against substance use (Hawkins, Jenson, Catalano, & Lishner, 1998; Kerestes, Youniss, & Metz, 2004; Milot & Ludden, 2009; Smith & Denton, 2005; Stewart & Bolland, 2002; Zimmerman & Maton, 1992) and a factor that increases the chances for recovery from substance use (Chu & Sung, 2009; Pardini, Plante, Sherman, & Stump, 2000). There is still much debate as to why religious involvement may be a protective factor against substance use. Some research points to “mundane” explanations (see Pargament, 2002), suggesting that religion operates as a protective factor by occupying time, increasing social support, and decreasing access or exposure to environments that are more problematic. For instance, many researchers would suggest that religious involvement may increase a sense of personal meaning and prosocial concern, which can protect against substance use (e.g., King & Furrow, 2004). Though some research assumes that the impact of religion and substance can be fully explained by mundane mediators, it is also possible that there may
be intrinsic benefits of spirituality itself that could be a protective factor against substance use. It seems that the relationship between religion and substance use may be mediated by social support and safe environments, but it is not clear that the relationships can be reduced to such mediators entirely.

In research on religion, it is often difficult to distinguish between constructs such as religiosity, religious involvement, religious importance, and spirituality (Paloutzian & Park, 2005). In the current study, I measure items that would best fit in the construct of religious involvement. One of the more inclusive definitions of religious involvement is “religious belief, attendance in church, and the taking of vows” (Mullet, Barros, Frongia, Usaï, & Shafighi, 2003, p. 2). Unfortunately, the inclusion of “taking of vows” in this definition may exclude certain religious traditions that do not involve vows (e.g. Buddhism, new age spirituality, and others). Others have used a similar definition, but do not include “taking of vows” as an important element; Gorsuch and Hao (1993) define religious involvement as belief in God and attendance in Church. Similar to problems with the first definition, utilizing terms such as “God” and “Church” fit well for Christian religions, but may not encompass the wide variety of religious traditions that exist. In recent research on religious involvement and substance use, Chu and Sung (2009) define religious involvement as frequent attendance in religious services, self-rated levels of “being religious,” and engaging in religious activities (such as prayer, reading the bible, or watching religious programs). In the current study, I will be utilizing this definition of religious involvement.

Toussaint (2009) examined the relationships between religiousness, drug use, and drug-related sex among greater than 12,000 individuals and found that religiousness
decreased the use of alcohol and marijuana in both women and men. This result was not found for frequency of binge drinking, except for a few religious traditions (i.e. different religions). Toussaint’s results suggests that it may be beneficial to utilize multiple measures of drinking behavior (such as drinking at all, frequency of drinking, and/or binge drinking) as they may have different outcomes.

Of the greatest relevance to the current study is a recent study by Milot and Ludden (2009) who examined substance use, academic performance, religious attendance, religious importance, and gender on well-being among rural adolescents. In this study, the authors found that religious importance was a stronger protective factor against substance use than school attendance. Furthermore, religious importance had a greater effect on school bonding and self-efficacy for males than females (though this is still being debated; see Toussaint, 2009). This suggests that religious importance may be especially important to males and therefore a valuable protective factor to test in the current study.
HYPOTHESES

A large number of studies have shown that abuse and neglect in childhood has been linked to higher levels of substance use in adolescence and adulthood (Brady, Tschann, Pasch, Flores, & Ozer, 2008; Caetano, Field, & Nelson, 2003; White & Widom, 2008; Widom & White, 1997) and adolescent males have shown significantly higher victimization than females (Macmillan & Hagan, 2004). Specifically, one study has shown that males who have been violently victimized in childhood and adolescence show significantly higher substance abuse problems than non-abused males (Lisak & Luster, 1994). In this study, I hypothesized this relationship would exist across three different measures of substance use: alcohol use, drunkenness, and marijuana use.

1) Among rural adolescent males, victimization will predict increased alcohol use.
2) Among rural adolescent males, victimization will predict increased drunkenness.
3) Among rural adolescent males, victimization will predict increased marijuana use.

Since some research has found that certain types of substance use are higher in rural areas than non-rural areas (Vazsonyi, Trejos-Castillo, & Young, 2008), I hypothesized that the relationship between victimization and substance would differ across rurality.

4) All three proposed relationships will be moderated by level of rurality.

Since previous research has found that religiousness may be a protective factor against substance use (Hawkins, Jenson, Catalano, & Lishner, 1998; Kerestes, Youniss, & Mess, 2004; Milot & Ludden, 2009; Smith & Denton, 2005; Stewart & Bolland, 2002;
Zimmerman & Maton, 1992), I hypothesized that increased religiousness would decrease the strength of the relationship between victimization and substance use.

5) All three proposed relationships will be moderated by level of religious involvement, such that higher levels of religious involvement will decrease the strength of the association between victimization and substance use.

Some studies have found a stronger effect of victimization on alcohol use in adolescents than children (Kaukinen, 2002a; Reed, Amaro, Matsumoto, & Kaysen, 2009), specifically that victimization relates to much higher levels of substance use in 12th grade than 6th grade (Oetting & Beauvais, 1990). Therefore, it is possible that the different age groups will show different relationships, and therefore will be separated for analysis in this study. Similar to the above stated literature, I expect that older males will show greater levels of substance use across type of use and in this study I hypothesize that older male adolescents will have stronger links between substance use and violence than younger male adolescents.

6) All proposed relationships will be stronger among 11th and 12th graders, than 6th and 7th graders.
METHOD

Participants and Design

This analysis is from a previously collected data set (Swaim & Stanley, 2010). The original sample was drawn from a strategically developed sampling frame designed to be representative of rural locations throughout the U.S., identified across three levels of rurality based on 1990 census data: nonadjacent counties with largest place less than 2,500 population (remote); adjacent counties with either largest place less than 2,500 or counties with largest place from 2,500 to 20,000 (rural); and counties with largest place of 20,000 to 50,000 (small urban). Metropolitan counties were classified into a fourth group. All public school districts in the contiguous U.S. were then classified into one of these four rurality categories and into community ethnicity categories. Ethnic minority communities were defined as those that included 40% or more of a non-white ethnicity (e.g., 40% or more Mexican Americans).

Within each level of rurality, predominantly European-American (“White”) communities (over 60% European-American) were drawn proportionately to their level of representation in each of the four regions and each state within those regions, where possible. African-American and Mexican-American communities were oversampled. Where it was not possible to match representation for a given state (due to problems in using the protocol of consent or other recruiting difficulties), communities in nearby states within the same region were substituted. The Mexican-American communities were drawn from states in the southwest US in proportion to their representation in those
states. The rural African-American communities were selected in the same way from Southern states that include those communities. The final sample for the present study consisted of 185 predominantly European-American (“white”) communities, 40 predominantly African-American communities, and 35 predominantly Mexican-American communities.

Although rural communities were first selected for the sample based on population and proximity to a metropolitan area, the level of rurality was further refined by adding accessibility in travel time to the definition instead of miles to a metropolitan area. Communities were classified into four levels of rurality (based on 1990 census data): remote, medium rural, small urban, and metro. A remote community has population less than 2,500 and is located more than 2 hours driving time from a metropolitan area. A medium rural community either has population between 2,500 and 20,000 or population less than 2,500 but is located less than 2 hours driving time from a metropolitan area. A small urban community has a population between 20,000 and 50,000. The classification of each community was based on both map and census data and interviews with community members that addressed true accessibility and drive time to urban areas and services. (In the current study, metro schools were not included in the analysis since the focus is on rural communities). Within each community, surveys were administered at a single public high school (determined to be the most representative of the community, based on ethnicity) and the public feeder junior high/middle school(s). All schools were surveyed during the time period 1996-2000. The percent of students surveyed in nearly all schools ranged from 75-100%, with approximately 4% of schools
having a participation rate slightly lower than 75%. The final sample of 7th through 12th graders consisted of 211,862 students.

For this analysis, I analyzed two groups of students, 7th and 8th graders, and 11th and 12th graders. As stated in the hypotheses, there are often higher levels of substance use among 12th grade than 6th grade (Oetting & Beauvais, 1990) and older adolescents may face greater consequences for their use than younger adolescents (Kaukinen, 2002a). It is possible that the different age groups will show different relationships and will be separated for analysis in this study.

Instrument

Students were administered the Community Drug and Alcohol Survey (CDAS). This instrument consists of 99 items that ask various questions related to substance use and other risk factors related to use. The CDAS is a variation of the American Drug and Alcohol Survey™ (Beauvais & Oetting, 2002; Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996; Oetting, Beauvais, & Edwards, 1985; Rocky Mountain Behavioral Science Institute, n. d.), an instrument that has been in use since the mid-1980s. The instrument is listed in SAMHSA’s Measures and Instruments Resource guide (SAMHSA, n. d.). In regards to reliability, the Cronbach Alpha for alcohol scales range from .88-.92 across ethnicities, .78-.95 for drunkenness, and .87-.94 for marijuana use. The scales examined in the current study are as follows (Oetting & Beauvais, 1990).

Control Variables. In this study, I include ethnicity and parents’ highest levels of education (used to serve as a measure of socioeconomic status) as control variables. Ethnicity is coded as White, Black, African-American, American Indian, Alaska Native, Asian-American, Mexican-American, Spanish-American, Puerto Rican-American, and
other ethnicity. Parents’ highest levels of education is made up of a sum of the highest level of education of the mother and father (7th & 8th grade. α= .687, 11th & 12th grade. α= .763). Both father’s and mother’s highest education is coded as “I don’t know,” “6 years or less,” “7,” “8,” “9,” “10,” “11,” “12,” “1 year of college,” “2 years of college,” “3 years of college,” “4 years of college,” and “5+ years of college.”

**Predictor Variables.** The predictor variable in this study is a dichotomous measure of victimization, which examines whether participants have been violently victimized or not. The items in this scale include “ever been beaten up by someone your age,” “ever been beaten up by a boyfriend or girlfriend,” “ever been beaten up by someone else,” “ever been hurt by a weapon,” “ever been sexually assaulted,” and “ever been robbed.” For the analysis, the variable will be scored “0” if there is no report of any violence, and “1” if the participant reported being violently victimized (7th & 8th grade. α= .561, 11th & 12th grade α= .575).

**Interaction Terms.** The two proposed interaction terms are level of rurality and religiosity (a continuous scale made up of 3 variables). As defined above, four levels of rurality will be used in this study: remote area (nonadjacent counties with a population of 2,500 or less), rural area (adjacent counties with the largest population less than 20,000), small urban (counties with largest population 20,000-50,000), and metropolitan area (population greater than 50,000). The remote level of rurality will be used as a comparison group. Three separate variables will be combined to form a scale that is a coarse measure of religious involvement. The three variables are “are you religious?,” “do you participate in religion?,” and “how important is religion in your life?” Response options to “Are you religious?” and “Do you participate in religion?” item, responses are
“no, not much, some,” and “a lot.” For the “how important is religion in your life?” item, responses are “not at all, not much, some,” or “a lot.” These 3 scales will be turned into numerical responses and summed, to give a range of 0-9 with 0 representing no religious involvement and 9 representing the highest level of religious involvement (for 11th and 12th graders, $\alpha = .89$, for 7th and 8th graders, $\alpha = .89$).

Criterion Variables. There will be three criterion measures examining substance use. The first measures that amount of alcohol drank in the last month, the second examines drunkenness in the past month, and the final item examines the number of times using marijuana in the past month. Response options to all 3 variables are “none,” “1-2 times,” “3-9 times,” “10-19 times,” or “20 or more times.” Scores on these scales have been found to have strong reliability and validity evidence among non-Hispanic Whites, African-American, and Mexican-American youth (Oetting & Beauvais, 1990), the Cronbach Alpha for alcohol scales range from .88-.92 across ethnicities, .78-.95 for drunkenness, and .87-.94 for marijuana use (Oetting & Beauvais, 1990).

Power Analysis

As suggested by numerous authors (e.g., Frick, 1996; Thompson, 1998), utilizing only null hypothesis testing (NHST) may over or under-represent the actual practical significance of results based on sample size. As the current sample is quite large, it is highly likely that every relationship that will be tested for will be statistically significant, but may or may not be practically meaningful. For this reason, the current study intends to utilize measures of effect size to determine the practical significance results.
Data Cleaning and Preparation

As suggested by Frazier, Tix, and Barron (2004), continuous moderator variables were recentered at the mean. Also, for the current study I will be utilizing regression imputation to account for missing data. According to this method, a missing item will be replaced with a predicted value by regressing the missing item on all other items for participants who have no missing data (McDonald, Thurston, & Nelson, 2000; Roth, Switzer, & Switzer, 1999). McDonald, Thurston, and Nelson’s (2000) review of multiple methods for dealing with missing data suggest that this method may be the preferable method for dealing with missing data as it uses information across both items and observations.
RESULTS

Hierarchical regression analyses were conducted to examine hypotheses and significant moderating effects were explored by graphing the interaction and undergoing post-hoc tests of the significance of simple slopes. Results will be described by type of substance use (alcohol frequency, drunkenness, then marijuana use) calculated for each age cohort (11th and 12th graders, then 7th and 8th graders).

Among 11th and 12th graders for alcohol use (see table 1.1 and 1.2), victimization significantly predicted the frequency of alcohol use in the last month $F(1, 15301)= 184.49, p<.001$. This accounted for 3.5% of additional variance beyond control variables, a small effect size based on Cohen’s evaluative criteria (Cohen, 1988). Among 7th and 8th graders (see table 1.1 and 1.2), the effect of victimization on alcohol use was significant $F(1, 13587)= 269.38, p<.001$, accounting for an additional 4.2% of variance beyond control variables, also a small effect size (Cohen, 1988). The effect of victimization on drunkenness in the last month also was significant for 11th & 12th graders, $F(1, 14705)= 174.03, p<.001$. This accounted for a similarly small increase in variance, 3.4%. There was a similar result among 7th and 8th graders, $F(1, 12714)= 172.46, p<.001$, explaining 2.8% of variance. Finally, victimization significantly predicted marijuana use in the last month for 11th and 12th graders, $F(1,15490)= 174.12, p<.001$. This accounted for an additional 3.2% of variance beyond the control measures. Among 7th and 8th graders, victimization significantly predicted marijuana use in the last month, $F(1, 13668)= 185.38, p<.001$. This explained an additional 2.9% of variance beyond the control
Boys Victimization

measures. This supports the first three hypotheses for the 7th & 8th graders; victimization predicted increased alcohol use, drunkenness, and marijuana use.

To summarize, victimization significantly predicted increases in alcohol frequency, drunkenness, and marijuana use at a small effect size. Among 11th and 12th graders, all three variables had similar effect sizes ($R^2 = .035, .034, \text{ and } .032$ respectively) and a similar pattern was found among 7th and 8th graders ($R^2 = .042, .028, \text{ and } .032$, respectively). Although the effects were small in magnitude, these results supports the first three hypotheses; victimization predicted increased alcohol use, drunkenness, and marijuana use.

**Rurality as a moderator**

11th and 12th graders. Hierarchical Regression analyses revealed that in general, rurality did not affect the relationship of victimization on substance use (see table 2.1). Among 11th and 12th graders, the interaction of victimization on substance use by rurality explained a mere .1% of variance in the model for the impact of alcohol use, drunkenness, and marijuana use. There were some significant interactions based on null-hypothesis testing; in the 11th and 12th graders group, the rural area interaction was significant at the $p < .01$ level when examining the effect of victimization on alcohol use, but based on effect size, may not be practically meaningful ($R^2 \Delta = .001$). The interaction also was significant by NHTS for the rural area and metropolitan area ($p < .05$) and the large rural area ($p < .05$), but again, these were not practically significant based on effect size ($R^2 \Delta = .001$).

7th and 8th graders. The impact of rurality was even less pronounced among the younger group (see table 2.2). In this age group, the change in $R^2$ was <.001 for all three
substance use categories. Also, even by null-hypothesis testing, only one interaction (the metropolitan area x victimization on alcohol use) was statistically significant ($p < .05$, though again, the change in effect size was not significant, $R^2 \Delta < .001$). Therefore, the hypothesis that the above relationships would be moderated by rurality for either age group was not supported.

*Religiosity as a protective factor*

11th and 12th graders. Hierarchical regression analyses found that the impact of religiosity was similarly small, but this time, it was less pronounced for 11th and 12th graders than among 7th and 8th graders (see table 3.1). The interaction between religiosity and victimization was significant in the drunkenness condition ($p < .05$) and marijuana use condition ($p < .001$), but may not be not practically significant by effect size in any of the conditions ($R^2 < .001$, <.001, and $R^2 = .002$ respectively). Significant interaction terms could suggest that the slopes for high and low levels of religiosity were significantly different from each other, but do not indicate whether the slope significantly differs from zero. Thus, the interaction between religiosity and victimization on marijuana was graphed (see figure 1) and post-hoc tests of significance of simple slopes were conducted using procedures as described by Aiken and West (1991) to examine whether the slopes significantly differed from zero at low, medium, and high levels of religiosity. To explore the form of significant interaction effects, predicted values for the predictor variable (victimization) were plotted for no victimization and being victimized at low levels (-1 $SD$ from the mean), mean levels (at the mean), and high levels (+1 $SD$ from the mean) of religiosity. The unstandardized simple slope for low levels of religiosity (1 $SD$ below the mean) was .49, for mean levels of religiosity was .39, and for
high levels of religiosity (1 SD above the mean) was .30. There was a significant slope for individuals at low (t [15,412] = 2.13, p = .032) and medium (t[15,412] = 2.69, p = .007) levels of religiosity, but not high levels of religiosity (t[15,412] = 1.01, p > .05). Therefore, the fifth hypothesis that the above relationships would be moderated by religiosity was partially supported for the 11th and 12th graders.

7th and 8th graders. Similarly, hierarchical regression analyses revealed that the impact of religion may be practically nonsignificant (see table 3.2) as well in impacting the relationship between victimization and alcohol use, victimization and drunkenness, and victimization and marijuana use (R² = .02, .07, and .05 respectively). On the other hand, by null-hypothesis standards, the interaction was significant in each condition at the p < .01 level. Significant interaction terms suggest that the slopes for high and low levels of religiosity were significantly different from each other, but do not indicate whether the slope significantly differs from zero. Thus, the interaction between religiosity and victimization on alcohol use, drunkenness, and marijuana use was graphed and post-hoc tests of significance of simple slopes were again conducted to examine whether the slopes differed from zero. To explore the form of significant interaction effects, predicted values for the predictor variable (victimization) were plotted for no victimization and being victimized at low levels (-1 SD from the mean), mean levels (at the mean), and high levels (+1 SD from the mean) of religiosity.

For alcohol use (see figure 2), the unstandardized simple slope for low levels of religiosity (1SD below the mean) was .36, for mean levels of religiosity was .30, and for high levels of religiosity (1 SD above the mean) was .23. There was a significant slope for individuals at low (t [13,442] = 2.23, p = .025) and medium (t[13,442] = 2.20, p = .
levels of religiosity, but not high levels of religiosity (t[13,442] = .86, p > .05).

For drunkenness (see figure 3), the unstandardized simple slope for low levels of religiosity (1SD below the mean) was .23, for mean levels of religiosity was .15, and for high levels of religiosity (1 SD above the mean) was .06. There was not a significant slope at any level. For marijuana use (see figure 4), the unstandardized simple slope for low levels of religiosity (1SD below the mean) was .30, for mean levels of religiosity was .21, and for high levels of religiosity (1 SD above the mean) was .12. There was a significant slope for individuals at low levels of religiosity( t [13,519] = 1.99, p =.047) , but not at medium ( t[13,519] = 1.68, p > .05) or high levels of religiosity ( t/13,519] = .45, p > .05). Therefore, the fifth hypothesis that the above relationships would be moderated by religiosity was partially supported for the 7th and 8th graders.

Strength of relationships among older group versus younger group.

The final set of hypotheses in this study proposed that all relationships would be stronger in the older age group than the younger age group. With regard to the main effect (see table 1.2), 7th and 8th graders showed higher adjusted R² change values on certain variables than 11th and 12th graders (Alcohol use: .042, .035 respectively), but lower adjusted R² change values on others (Drunkenness: .028, .034 respectively; Marijuana Use: .029, .032 respectively). As such, the results only partially supported the final hypothesis.

With regard to rurality, no interactions were significant; therefore, no attempt was made to examine the differences in strength. Results also fail to support the final hypothesis that all relationships would be stronger for 11th and 12th graders than 6th and 7th graders. With regard to the interaction with religiosity, the impact of victimization on
alcohol use and marijuana use was significantly moderated by religiosity for 7th and 8th graders. In the 11th and 12th graders, the only significant interaction was found for the impact of victimization on marijuana use being moderated by religiosity. This fails to support the final hypothesis that any effect would be stronger for the older cohort than the younger cohort.
DISCUSSION

The results from the hierarchical regression models in this study suggest that being victimized significantly predicts increased substance use (across multiple forms of use) among adolescent males. With regard to interaction effects, the data suggests that this relationship does not vary by rurality. The results do suggest that religiosity moderates the effect of victimization on substance use with regard to alcohol use and marijuana use for 7th and 8th graders and for marijuana use for 11th and 12th graders. This means that the first three hypotheses were supported, the fourth and sixth were not supported, and the fifth hypothesis was only partially supported. Although effect sizes are small (R$^2$ ranging from .028 to .048), results still bear important clinical and research implications. As suggested by Cohen (1988), smaller effect sizes are common in field studies where control is limited; in the current study, it would be grossly unethical and harmful to utilize experimental methods that increase control, because it would mean inducing physical victimization on participants. The effect size in the current study is consistent with other research examining the links between substance use and victimization which also show small to moderate effect sizes (Perron, Gotham, & Cho, 2008).

The results of the study bear important implications for men and masculinity. With the current data set, it is unclear of the temporal relationship between substance use and violence; in other words, it is unclear if the substance use caused the victimization, the victimization caused the substance use, or if the two were caused by another factor
entirely. Alternately, there may be a reciprocal relationship where both variables affect each other. But, if this same effect was found with victimization preceding substance use, the substance use may be a style of coping with the violence for men. As discussed by numerous authors, men may be less likely to seek psychological help than women (Andrews, Issakidis, & Carter, 2001; Levant, Wimer, Williams, Smalley, & Noronha, 2009); therefore, their difficulties in seeking help may manifest in their increased substance use as a means of coping in response to violent victimization. As stated by Lisak (1995), masculinity prohibits men from expressing vulnerabilities, which make sharing any feelings of being hurt or victimized even more difficult for boys and men. The current study was unable to differentiate the relationship of the perpetrator to the victim; there may be different effects of victimization when done by a same-aged peer, older peer, romantic partner, parent, or other relationship. For instance, male victims of violence may feel more emasculated (and presumably face greater stigma for seeking help) when the perpetrator is a female (Allen-Collinson, 2009).

With regard to rurality, this research suggests that substance use and violence are significant problems in rural areas, showing similar relationships to those found in urban areas. This fits with previous research that suggest high rates of violent victimization of male adolescents in rural areas (Nagy & Dunn, 1999) and high rates of binge drinking among this group (Cronk & Sarvela, 1997). By examining rural areas, this research can provide valuable information about an important, but underserved population.

The evidence about religious involvement is mixed, providing a more complex picture than other previous studies. Previous work has suggested that religious involvement has a more uniform protective effect against multiple categories of
substance use. In some work, religious involvement has been shown to be a significant protective factor against substance use across marijuana use, alcohol use, and binge drinking (King & Furrow, 2004; Milot & Ludden, 2009; Toussaint, 2009). The evidence from the current study found that for 11th and 12th graders, religious involvement significantly reduced the effect of victimization on marijuana use at low and medium levels. With regard to 7th and 8th graders, results revealed that religious involvement significantly protected against alcohol use at low and medium levels of religious involvement and against marijuana use at low levels of religiosity. One way to interpret these results is that there is a difference in substance use between individuals who any level of religious involvement and those show no religious involvement, but that these differences do not continue to increase with greater religious involvement. In other words, the greatest benefit may be attained by being religious at all, but not how involved the individual is.

The possible lack of practical significance (effect sizes of less than .01) for a majority of the relationships does not necessarily suggest the lack of an impact of religious involvement on substance use patterns. For instance, it could be that religious involvement can be an important protective factor for individuals who have been violently victimized in decreasing the amount of time an individual uses substances (which cannot be tested by the current study). Alternately, religious involvement may not directly affect the substance use, but could still assist in the speed of healing, in increasing well-being, or other indicators of positive physical and mental health that could be measured in future studies. Another possibility is that the measures in this study do not accurately test the constructs they were intending to, possibly leading to type II
errors. Religious involvement may indeed be a protective factor against all categories of substance use, but, the measures in this study may not sample the intended behaviors.

As stated previously, previous research has found religious involvement to be a protective factor against marijuana use, alcohol use, and binge drinking (King & Furrow, 2004; Milot & Ludden, 2009; Toussaint, 2009), but the current study found mixed results. First, it is important to note that the current study did not examine the effect of religious involvement on merely substance use, but whether religious involvement weakened the relationship between victimization and substance use. In other words, this study looked at whether religious involvement protected against negative effects from victimization. When viewed through this lens, the current data is congruent with the work of Hunter, Durkin, Heim, Howe and Bergin (2010). These authors found that strength of religious identity buffered the negative effects of peer-victimization. However, prior to the present study, no research has examined whether religious involvement may buffer negative outcomes of victimization.

With regard to the lack of a uniform effect of religious involvement on reducing the relationship between victimization and substance use, a few hypotheses are plausible. In the current study, religious involvement did have an effect for the younger age group, but not the older age group. It is possible that the older age group may have experienced more chronic levels of victimization and negative outcomes from being victimized that could not be buffered as easily by religious involvement. This could mean that religious involvement has no effect, or that the effect of religious involvement alone is not enough to protect against substance use. Alternately, it may be that if there were additional methods of assessing the role of religiousness, such as examining ritualism (Dudley &
Boys Victimization

Kosinski, 1990), connection to a religious community (Regnerus & Elder, 2003), or intrinsic and extrinsic religiosity (Gruner, 1985), there may be an even stronger link between religious involvement and decreased relationship between victimization and substance use. With regard to marijuana use, it is possible that since marijuana is an illicit substance, it may be more taboo than alcohol. As such, adolescents who have been victimized may use alcohol rather than an illicit substance, such as marijuana, because it is legal, less taboo, and more accessible. Data from the National Survey on Drug Use and Health does not necessarily confirm this notion, but it does demonstrate that 12-17 year olds use alcohol at far higher levels than marijuana (51% v. 8.2% respectively; SAMHSA, 2009).

Implications for Future Research

Future research should work to tease apart the causality in the relationship between substance use and violence, examining the temporal relationship between the two variables. Since it would not be ethical to experimentally induce violent victimization and allow for substance use as a response, longitudinal models would be a good test of directionality. Such research strategies would provide valuable information for research, community impacts, and psychological treatment. Beyond simply understanding the nature of this relationship, future research should focus on understanding potential primary prevention and tertiary treatment options for this societal problem. What are strong protective factors against substance use among male adolescents who have been violently victimized? What factors are associated with healing from violent victimization in adolescence?
It would also be beneficial to utilize additional measures of religiousness which examine aspects such as spirituality in addition to religiosity, ritualism (Dudley & Kosinski, 1990), connection to a religious community (Regnerus & Elder, 2003), and intrinsic and extrinsic religiosity (living versus using one’s religion; Gruner, 1985). It would be useful to explore whether, when utilizing a more broad measure, increased religiousness would even more strongly decrease the strength of the association between victimization and substance use. Also, if future research finds religiousness as a significant protective factor against substance use, then future research should also aim to tease apart why religiosity acts as a protective factor. If future studies find the effect of religious involvement to be only partially explained by mundane mediators (e.g. social support or morals about substance use), then it would suggest that there may be an intrinsic benefit of religious involvement. Furthermore, future research should investigate whether religious involvement protects against substance use (or other negative outcomes related to victimization). If the results from the current study are replicated, future research should also attempt to explore whether it has a uniform protective effect, or if the effect again varies by type of substance. And finally, if this does vary by type of substance, then is this because marijuana is more taboo? Do older age groups who have been victimized show more chronic forms of abuse than younger age groups and as such, have more deleterious outcomes of being victimized?

There is also a possibility that there are other mediators were not tested in this study. Some research has pointed out how in younger adolescence, there may be more concrete thinking as the prefrontal cortex has not fully developed (Steinberg, 2005). It is plausible that younger adolescents, or those with incomplete prefrontal cortex
development, may not use abstract coping strategies (such as religiosity or help-seeking). Specifically, researchers have examined the development of the ventromedial area of the prefrontal cortex, which may be damaged by substance use in adolescence. If this were the case, it could have important implications for treatment where using concrete strategies may show greater treatment efficacy.

Similar to other forms of self-harm, I propose that although there are numerous negative consequences, for some individuals, substance use may be one step in the process of recovery that is a cry for help for male victims of violence who are not allowed any other methods of communicating about their pain (Kaukinen, 2002b). This could be framed as a defense mechanism towards a threat to the self (such as threat of harm from victimization), such as in Clark (1998). There is a broad range of literature that suggests that self-harm behaviors may be a “cry for help” (Scoliers et al., 2008). Some authors have specifically distinguished self-harm from suicidal behavior when the intent is not death, but self-preservation (Motz, 2009). However, future research would need to be conducted to test whether substance use in response to trauma could be understood as a “cry for help,” especially by individuals who may be limited by cultural expectations (e.g., gender roles) from seeking help.

With regard to masculinity and violence, future research on male victims of violence should measure masculinity with scales such as the Masculine Role Norms Scale (MRNS; Thompson & Pleck, 1986), a 26 item scale that measures beliefs about appropriate behaviors and roles for men. It would be important to explore whether male victims of violence vary in their help-seeking behaviors by level of masculinity. Specifically with the MRNS, one relevant aspect it measures is “toughness,” which may
relate to beliefs about being able to “handle” victimization. It will also be valuable to explore whether male-help seeking would vary by the sex of the perpetrator. For instance, would males be less likely to seek help for violent victimization if the perpetrator was a female? Male victims of violence may feel further emasculated by having a female perpetrator because men may receive messages that they should be able to fight back. (Allen-Collinson, 2009). These assumptions may lead to disbelief, insensitivity, and possibly ridicule by legal and healthcare professionals to act as a significant deterrent to male help-seeking (Macchietto, 1992). As such, future research should examine whether having a female perpetrator of violence to a male victim may further increase stigma against seeking help for victimization. Finally, the way victimization is conceptualized by the victim may alter the outcome. For instance, as suggested by a case example in one researcher’s work (Allen-Collinson, 2009), being cornered and scratched could be seen as an act of sexual seduction or victimization. It would seem that conceptualizing these types of violence differently may lead to different outcomes.

_Implications for Practice_

This study suggests that there is a high prevalence of substance use among victims of violence. While it may be problematic to not fully understand the causality in this relationship, it can still inform psychological treatment. It suggests that victims of violence are likely to also be misusing substances, that individuals who abuse substances may be prone to violent victimization, or both; in any case, this highlights the importance of assessing both these areas of concern. In previous studies of victimization among substance use populations, up to 60% of participants who had been victimized reported
they had not received help for their experience of victimization (Perron, Gotham, & Cho, 2008). Furthermore, previous evidence has found that adolescents who were violently victimized showed near three times greater risk of suicidal thoughts and behaviors than their non-abused peers (Cleary, 2000). Since, as highlighted above, men may be less likely to seek help for violent victimization (Kaukinen, 2002b) and discuss vulnerability (Andrews, Issakidis, & Carter, 2001; Lisak, 1995), it may be doubly important to screen for violent victimization in clinical populations of male substance abusers. Though the current study does not present evidence that can test causality, it is consistent with research that has found that physical abuse in adolescence can lead to later substance use (Brady, Tschann, Pasch, Flores, & Ozer, 2008; White & Widom, 2008; Widom & White, 1997). With regard to therapy implications, it would be useful for clinicians to explore the motivational purposes behind substance use, differentiating between use self-preserving purposes (e.g., cry for help) versus self-destructive purposes. In cases where substance use does serve as a defense mechanism against perceived threats to the self among males, it would be useful to help male clients explore how their substance use is helping them in addition to the negative impacts. It would be beneficial to understand the positive rewards they gain from their substance use, to then be able to find alternate methods of coping/defense mechanisms that do not have as high of associated health risks.

If substance use is indeed serving as a cry for help for male victims of violence who cannot communicate about their pain (Kaukinen, 2002b), it would be useful to explore the intentions behind these behaviors in the clinical settings. It may be valuable to work with these men on overcoming the stigma related to reporting being victimized,
developing additional coping skills that do not involve self-harm, improving self-esteem, and self-efficacy for seeking help both in the clinical setting and their larger social lives. With regards to assessment, it would be useful to screen for victimization since the results of this study suggest that it can be an important correlate of substance use. One such measure that was used in one substance use treatment facility that may be useful is the General Victimization Scale (Perron, Gotham, & Cho, 2008). At this time, none of the mainstream measures of substance use have items ask about victimization (Donovan & Marlatt, 1988), which, based on the results of this study, appear to be very important.

Though not directly focusing on specific services offered in the community for male victims of violence, this study highlights the need of services for male victims of violence. Male victims of violence do exist, but are often overlooked. They must face not being believed, the shame of being a man who was a “victim,” certain cultural expectations that men are only perpetrators of violence and not victims of violence, and the lack of appropriate services (Tilbrook, Allan, & Dear, 2010). It is possible that some of the links between substance use and violence occur for the males in this study because they feel unable to talk about their experiences and seek support, leading to substance use. The results of this study suggest that victimization among boys is an important issue for clinicians to consider, but little if any training is offered in this area for psychologists (Meth & Pasick, 1990).

Limitations

The results of this study should be interpreted with appropriate caution in light of certain methodological limitations. This current study examines self-report data collected at a single point in time. Relying on self-report allows for greater access to hard to reach
communities, but may increase potential bias in reporting of actual substance use patterns. This may also affect reporting of violent victimization, especially for males. As discussed above, males often face stigma in reporting being victims of violence, which could result in reporting lower victimization than occurs in the population. With regard to relationships between variables, the current study only tested for linear relationships between predictor and criterion variables. It is possible that there could be nonlinear relationships (such as parabolic relationships) between variables that were not tested in the current analysis.

With regard to victimization, this study measures only physical victimization, and only severe forms of physical victimization. It is possible that different relationships may exist when accounting for less severe forms of physical victimization, such as grabbing, pushing, slapping, kicking, or shoving. And beyond physical victimization, these patterns may change if victimization was expanded to include psychological or sexual victimization, and neglect. In future studies, it would also be beneficial to assess who was the perpetrator and the relationship between perpetrator and victim; for instance, it is plausible that there may be different outcomes if the individual was a peer, a romantic partner, a parent, or otherwise.

In the current study, the measures are brief to keep the survey to a manageable length, but may show lower reliability coefficients as a result. Utilizing longer scales with higher reliability coefficients may lead to different relationships between the variables. As suggested above with regard to victimization, the scope of religious involvement in the current study is somewhat limited and may only tap a small part of the construct. Utilizing broader measures of religious involvement may yield different
results. With regard to scale design, the measure was designed from a theoretical perspective, rather than a factor analytic perspective. It is possible that scales of victimization, substance use, and religious involvement designed through factor analytic methods may better represent the construct they intend to measure. As this study is correlational, it cannot be utilized to determine causation of the variables. It is possible that substance use actually caused victimization, leading to entirely different interpretations of the main effects and protective effects of religiosity.

**Summary of Results and Conclusions**

In summary, this study found that violent victimization significantly predicted substance use for both the older and younger males, across all three types of use. This relationship did not vary by level of rurality. For 11th and 12th graders, low and medium levels of religious involvement significantly decreased the magnitude of the relationship between victimization and marijuana use. For 7th and 8th graders, low and medium levels of religious involvement significantly decreased the magnitude of the relationship between victimization and alcohol use. Also in this age group, low levels of religious involvement significantly decreased the magnitude of the relationship between victimization and marijuana use. These results suggest that victimization and substance use frequently co-occur; when one is present, the other is likely also to be present. As such, it is important for clinicians working with adolescent males to screen for both victimization and substance use as part of their initial intake or assessment. It is important to note how aspects of masculinity may increase feelings of stigma associated with being victimization and substance use; it will be useful to examine whether adolescent male victims of violence utilize substance use as a coping mechanism (cry for
help). It will also be useful to explore if religious involvement can be used as a strength to help these boys cope.
References


Boys Victimization


### TABLES AND FIGURES

Table 1.1

*Descriptive statistics about the alcohol use in the last month, drunkenness in the last month, and marijuana use in the last month among 7th and 8th graders and 11th and 12th graders.*

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<th>Mean</th>
<th>Std. Dev.</th>
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<td></td>
<td>Marijuana use</td>
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<td>Marijuana use</td>
<td>13,672</td>
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Table 1.2
The effect of victimization on alcohol use in the last month, drunkenness in the last month, and marijuana use in the last month among 7th and 8th and 11th and 12th graders.

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<th>SE B</th>
<th>B</th>
<th>F</th>
<th>Adj. R² Δ</th>
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*p < .001, **p < .01, ***p < .05
Table 2.1

*Standardized Beta Coefficients from the Hierarchical Regression examining Rurality as a moderator between victimization and alcohol use; victimization and drunkenness; and victimization and marijuana use in 11th and 12th graders (N= 15,305).*

<table>
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*\(p < .001, **p < .01, ***p < .05\)
Table 2.2

*Standardized Beta Coefficients from the Hierarchical Regression examining Rurality as a moderator between victimization and alcohol use; victimization and drunkenness; and victimization and marijuana use in 7th and 8th graders (N= 15,305).*

<table>
<thead>
<tr>
<th>Step</th>
<th>Alcohol Use (N=13,591)</th>
<th>Drunkenness (N=12,718)</th>
<th>Marijuana Use (N=13,672)</th>
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<td>.093*</td>
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<td>.082*</td>
<td>.079*</td>
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<td>-0.018***</td>
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<td>.167*</td>
<td>.172*</td>
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<td>.029</td>
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<tr>
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<td>.082*</td>
<td>.079*</td>
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<td>-0.027**</td>
<td>-0.018***</td>
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<td>.189*</td>
<td>.157*</td>
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<td>.002</td>
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<td>-.004</td>
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<tr>
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<td>-.007</td>
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*p < .001, **p < .01, ***p < .05
Table 3.1
Standardized Beta Coefficients from the Hierarchical Regression examining Religiosity as a moderator between victimization and alcohol use; victimization and drunkenness; and victimization and marijuana use in 11th and 12th graders (N= 15,305).

<table>
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<th>Marijuana Use (N=15,416)</th>
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<td>.020***</td>
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*p < .001, **p < .01, ***p < .05
Table 3.2
Standardized Beta Coefficients from the Hierarchical Regression examining Religiosity as a moderator between victimization and alcohol use; victimization and drunkenness; and victimization and marijuana use in 7th and 8th graders (N= 15,305).

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<td>.094*</td>
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<td>-.033*</td>
<td>-.023**</td>
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*p < .001, **p < .01, ***p < .05
Figure 1. The Impact of Victimization on Marijuana Use by Religiosity for 11th & 12th graders.
Figure 2. The Impact of Victimization on Alcohol Use by Religiosity for $7^{th}$ & $8^{th}$ graders.
Figure 3. The Impact of Victimization on Drunkenness by Religiosity for 7th & 8th graders.
Figure 4. The Impact of Victimization on Marijuana Use by Religiosity for 7th & 8th graders.