

Bullying and Substance Use in Children and Adolescents

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Abstract

Both substance use and bullying tend to be pervasive and potentially dangerous problems that are experienced by children and adolescents. However, little is known about the connection, if any, between these two behaviors. In this paper, the hypothesized relationship between substance use and bullying are discussed as well as possible risk and protective factors. Also, future directions of research are proposed as both researchers and schools try to better understand both bullying and substance use in child and adolescent populations.

Keywords: Bullying; Substance use; Adolescents; Bully; Victim; Bully-victim; Bystander

Introduction

Substance use in childhood and adolescence is one of the foremost public health concerns for this age range in the U.S. While research indicates that substance use by children and adolescents has declined over the past five years, 49.1% of students still report that they have used illicit drugs during high school [1]. Over the past twenty years, extensive research has explored the developmental pathways that lead to drug abuse. As a result, a number of risk and protective factors have been acknowledged that may help distinguish those young people who are more likely to begin using drugs from those less likely to use. For the purpose of this paper, the research reviewed and discussed will focus on adolescents, who are more likely than children to engage in substance use, although bullying is problematic throughout childhood and adolescence. In particular, Hawkins et al. [2] have categorized the risk factors that influence adolescent substance abuse into two general domains: societal factors and individual/interpersonal factors.

Developmental factors contributing to substance use

Societal factors: Societal risk factors of adolescent substance use consist of contextual community influences that promote the use of illicit substances. Two influential contextual factors that promote substance use are access to drugs and neighborhood disorganization. The National Survey on Drug Use and Health revealed that approximately half of adolescents consider alcohol and marijuana easy to obtain [3]. Key components that should be considered when determining the availability of drugs are the degree of law enforcement and societal norms [4,5]. When there are lenient laws and favorable attitudes towards drug and alcohol use, there is an increase in the rate of consumption and the amount of drugs used among adolescents [2].

Unlike the availability to drugs, the literature provides less evidence to suggest a strong association between neighborhood disorganization and high rates of teen substance use [5]. However, characteristics of neighborhood disorganization, such as population density, physical deterioration, low attachment, and high crime do appear related to higher rates of drug use [2]. These neighborhood-based risk factors can be reduced when communities provide opportunities for adolescents to participate in pro-social activities and organizations, and research suggests that when these opportunities are provided, substance abuse declines among teenagers [6].

Individual/Interpersonal factors:

i. Genetic predispositions: Individual and interpersonal

risk and protective factors also play a significant role in the development of substance use in adolescents. Individual risk factors for substance use and abuse have been well documented in the literature; many of which seem to focus on biogenetic influences [7]. Genetic testing has not identified a single gene that causes substance use or addiction. However, genes that contribute to substance use may be expressed through personality characteristics, such as temperament, sensation-seeking behaviors, and poor impulse control [8].

ii. Interpersonal and family-based factors: While genetic predispositions certainly play a significant role in the development of substance use, interpersonal and family-based factors are not only instrumental in the initiation of substance use, but also in the patterns in substance use [7]. Interpersonal factors related to parental bonding and involvement can negate risk factors for substance use in the teenage population. This relationship is demonstrated by the finding that substance use is nearly twice as high among 15 to 16 year-olds who do not feel a close bond with their parent(s) than with adolescents who do experience a close attachment. Attachment to parents helps adolescents to accept conventional morals and values, which can help deter them from engaging in substance use [9]. In addition, parental monitoring may influence drug use among adolescents. When monitoring is low, adolescents are likely to let their own predilections guide their decisions and behaviors [10].

iii. Peer factors: Outside of parental bonding and involvement, risk factors concerning the quality of relationships with peers in the school and community settings contribute to patterns of substance use as well. Peer use of alcohol and/or drugs is among the strongest predictors of substance use among teenagers [2].

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Peers not only provide immediate access to substances, but also model and shape positive attitudes toward the use of drugs. Moreover, the influence of peer pressure has been reported to be a greater influence on adolescent drug use even when mediated by high family bonding [11]. Another contributor to adolescent substance abuse is peer rejection. This rejection from peers can be generated through engaging in early and persistent defiant, aggressive and/or impulsive behaviors, low self-esteem, and having a coexisting mental health diagnosis and/or learning disorder [2,12,13]. The extant literature base has shown that the alienation from peers related to any of these above areas can initiate substance abuse to cope with the rejection [5,11]. Consequently, it is reasonable to assume that peer rejection as a result of being bullied may also contribute to the use of substances to lessen the negative emotional response to such alienation.

A substantial amount of research has investigated the societal, individual, and interpersonal risk and protective factors related to teenage substance use. Of those risk and protective factors, limited research has examined bullying as being a pathway to substance abuse in both perpetrators and the victims of bullying. Factors indirectly related to bullying are evident in the source literature, such as early and persistent behavioral problems, having a coexisting mental health diagnosis, and peer rejection; however, a direct link to bullying is inconclusive in research studies. The remainder of this paper represents a discussion of the role of bullying in the development of substance use.

Bullying

Definition and prevalence of bullying: While substance abuse affects approximately half of school age children and is a problem experienced primarily during the middle and high school years, school bullying has been shown to be a normative experience for children of all ages, cultures, and nationalities [14]. While the rates and negative impact of bullying vary, researchers have shown bullying behaviors to exist on every populated continent on the globe no matter the cultural values of the region [14-18]. Veenstra et al. [18] report that most nations experience bullying rates in 15-25% of their student population; however, a study in the United States showed that nearly half of students (49%) ranging from elementary to high school age were bullied at least once in the last month, while 23% of students were frequently bullied by their peers [19].

In order to define this normative phenomenon, researchers have largely agreed that the bullying relationship and behaviors demonstrated by the bully against the victim are comprised of three main characteristics. First, bullying behaviors are a form on instrumental aggression, meaning that bullies act in a proactive manner in order to cause harm to their victim, and is not a result of aggressive behavior instigated by the victim [20]. Second, bullying behaviors tend to be repeated over time [16]. While some claim that a single aggressive act can still be considered bullying [21], bullying is generally conceptualized as behaviors that occur over and over again and cause the victim continuing harm and distress. Third, a power differential must exist between the bully and the victim [20]. This power differential between the two parties can be demonstrated in several ways, including physical size and strength, social standing or power, or special knowledge that the bully can use to harm the victim [21,22]. This three part definition of bullying paints a troubling picture of a less powerful victim who is unable to protect or defend himself or herself from a more powerful bully who actively plans and repeatedly carries out harmful behaviors against his or her victim.

As numerous research studies have described and discussed these three situational and behavioral criteria that are present in during episodes of bullying, it has become clear that these factors are consistent across age and culture during the dyadic relationship between bully and victim. Other research, however, has shown that bullying does not only involve the bully and victim, but also impacts a third individual or group during episodes of bullying – the bystander(s). While the term, bystander, may hold connotations of a passive onlooker, Twemlow et al. [23] argue that a bystander is an important, active participant in the occurrence of bullying. Researchers claim that bystanders can be responsible for allowing bullying to continue or helping in its cessation; can support the victim and minimize the victim's experience of negative effects or further victimize the target of bullying; and can even experience negative outcomes themselves from simply observing the bullying actions as they take place [23,24]. Therefore, as attempts are made to understand the potential connections between bullying and substance abuse, understanding the role of bystanders as well as that of bullies and victims is necessary to form a clear and complete picture of the relationship.

Types of bullying behaviors: One major challenge in noticing and controlling bullying behaviors is the fact that bullies can use a wide range of behaviors to cause harm to their victims. Describing and understanding these different behaviors is an important step in changing the frequency of bullying. The first distinction that is often made in research is between direct and indirect aggression used in bullying. Direct aggression includes those behaviors that a bully commits in the presence of his or her target, resulting in the target becoming immediately aware of being harmed [25]. Indirect aggression, on the other hand, is done without the victim's immediate knowledge and the bully's primary intent is to cause harm to their victim by affecting the victim's social standing or peer relationships [25].

Other researchers have used more specific terms to describe the types of behaviors a bully may use. One type of behavior is commonly referred to as physical bullying. Physical bullying is a form of direct aggression and occurs when a bully physically harms his or her target through such actions as hitting, kicking, punching, slapping, or pinching [21,26]. Even though these behaviors are easily observed and labeled as bullying, roughly 21% of students have reported being physically bullied during the last year [27].

Another type of peer victimization is verbal bullying. Verbal bullying occurs when a bully uses words to mock the victim's intelligence, abilities, appearance, or any other quality or characteristic of the victim [26]. This type of bullying, again, is a form of direct aggression as the bully utilizes the power differential present between himself or herself and the victim to overtly harm him or her [28]. Verbal bullying is even more pervasive than physical bullying, and 53% of students report that they have been verbally bullied during the last [27].

There is some debate in the literature regarding the other types of behaviors bullies may choose to use to cause harm to their victims. Archer and Coyne [29] describe three different terms - indirect aggression, relational aggression, and social aggression – that some researchers have considered distinct behaviors, while others believe that the terms are synonymous. Recent evidence has suggested, however, that relational and social aggression are separate and distinct constructs and this paper will adopt that conclusion [30,31].

The primary distinction between these two constructs is the goals that the bully attempts to achieve as he or she manipulates the victim's relationships. In relational aggression, the bully uses his or her relationship with the victim to cause harm. This generally involves

the bully threatening to affect the victim's relationships either with the bully or with other peers in order to force the victim to comply with the bully's desires [29,32]. Relational bullying can occur both directly (e.g., threatening to not be the victim's friend, physically avoiding the victim) or indirectly (e.g., gossip, cruel rumors) [33]. Relational bullying appears to occur at a similar rate to verbal bullying, as more than 51% of students reported being involved in relational bullying during the last year [27].

In social aggression, however, the bully does not affect individual relationships but instead causes harm by affecting the victim's standing in the peer group at large. A socially aggressive bully uses his or her popularity with peers to convince others to avoid the victim or spreads rumors that will affect the victim's social standing, therefore employing the efforts of the whole peer group to do harm to the victim [25,29]. This style of bullying almost always occurs indirectly and takes the victim by surprise. Due to the indirect manner of the bullying experienced, the victim is likely to feel especially demoralized and unable to fight back against the bully, as he or she has lost social support and may not even know which individual is responsible for instigating the aggression [34]. Due to the indirect nature of social aggression, efforts to gather the specific rates of the behavior are difficult. In a study examining the specific behaviors students experienced during episodes of bullying, indirect behaviors consistent with social aggression (e.g., gossiping, making fun of others behind their back, getting others to not like someone) occurred with the second highest frequency among bullying behaviors, just slightly behind the frequency of verbal aggression [35].

Negative effects of bullying: The negative effects of substance abuse on the mental and physical health of the user have been well studied and documented, and while bullying may seem less dangerous than the use of illicit substances, studies have shown that each of the parties involved in bullying can experience significant negative effects as well. Research suggests that victims of bullying experience serious consequences to their mental and physical health. Victims of bullying have been shown to experience elevated rates of such mental health problems as depression, anxiety, suicidal ideation, suicide attempts, and lower levels of self-worth when compared to students who are not bullied [36]. Physically, victims of bullying are more likely than non-victimized peers to experience sleep disorders, episodes of bedwetting, headaches, stomachaches, and an overall fear of going to school, where the bullying often occurs [37].

The negative effects of bullying are not limited to victims, however, as bullies are also likely to experience negative outcomes related to their behavior. Bullies have been found to experience elevated rates of mental disorders, emotional dysregulation, conduct problems, peer rejection, and internalizing problems in comparison to peers not involved in peer victimization [38,39].

Perhaps the most negatively affected group, however, are those students who both perpetrate bullying behaviors and are also victims of bullying, and these students are often referred to as bully-victims in the literature. About half of those students who bully peers also report being bullied, and this status appears to compound the negative outcomes for these students [18]. Bully/victims have been shown to experience high rates of depression, anxiety, self-harm, and suicidal ideation, report the lowest rates of self-worth, academic success, and self-control of any group involved in the bullying process, and are at an extreme risk of being unpopular and rejected by their peers [18,39,40].

Lastly, as noted earlier, bystanders who are aware of the bullying behavior taking place are also at risk of experiencing negative outcomes. Even though these bystanders are not being victimized directly, if these

students identify with the victim of the observed bullying, they have been shown to experience similar effects as those experienced by the individual who is directly victimized [23,24].

Substance use and bullying: For the purposes of this review, all articles that could be identified concerning bullying and substance are represented in this paper. There was no weighting system utilized; instead, the results of each study should be interpreted considering the description of the sample provided. As previously stated, being involved in bullying has been shown to have negative consequences on physical health [37-39] and mental health [23,24,38,39,41], and has the potential to influence future behavior, such as substance use. In comparison to those not involved in bullying, studies have revealed that those involved in bullying use drugs significantly more than those who are not [42,43]. While most research does support an elevation in the rate of substance use among students involved in bullying (i.e., bully, victim, bully-victim, bystander), the specific relationship between bullying and substance use is unclear and often varies throughout the literature. As described earlier, as there are distinct differences between bullies, victims, bully-victims, and bystanders, so are there variations in these adolescents' vulnerability to the use of illicit substances.

Bullies and substance use: There have been several studies that have compared students' perpetration of bullying behavior during childhood with later substance use. Studies have found that boys who reported being bullies at age eight were more likely than non-bullies or victims to report illicit drug use or a greater magnitude of drug use at age 18 [41,44]. Kaltiala-Heino et al. [39] also concluded that bullies were 4.8 times more likely to engage in frequent excessive drinking and 8.2 times more likely to use other substances than those not engaged in bullying. In a South African study of 8th and 11th grade students, when compared to those not involved in bullying, bullies were found to be more likely than victims to use alcohol, and were more likely to smoke than bully-victims [45]. In the United Kingdom, similar findings were reported that suggest that being a bully predicts substance use [24].

Radliff et al. [43] surveyed students who resided in the Midwestern United States and found a relationship between high school students' perpetration of bullying and substance use (i.e., cigarettes, alcohol, and marijuana). Carlyle and Steinman [46] found similar results, reporting that substance use was significantly associated with bullying in high school students. Adolescents who reported engaging in high levels of bullying were found 15 months later to be more likely to have started smoking than peers who bullied less or did not bully peers [44]. Overall, the evidence appears to support that adolescents who are bullies are also frequently involved with substance use. However, while substance abuse and bullying appear related, little research has examined whether bullying behavior is specifically responsible for leading students to substance use or whether there are intrapersonal or environment-based factors that are more related to the use of illicit substances.

"Cumulative continuity" is the title of a theoretical model which offers an explanation of the relationship between substance abuse and aggression in youth [47]. According to this model, young children who display aggression are subsequently attracted to deviant peers, and the peer environment reinforces the child's aggressive behavior and eventual engagement in other deviant behaviors, including substance use in early adolescence and polydrug use in late adolescence and early adulthood. Amundsen and Ravndal [48] suggested that reductions in alcohol intoxication and cannabis use among achieved by implementation of the Olweus Bullying Prevention Program [21] may be due to the program's focus on reducing the underlying contributions of antisocial behavior, namely the establishment of positive school and home

environment characterized by positive child-adult engagement and the establishment of clear rules regarding acceptable and unacceptable behavior.

Victims and substance use: Research studying victims and their involvement in substance use is contradictory. Some literature has demonstrated that victims of bullying use illicit substances less often and with less magnitude than those who are not involved in bullying. For example, Liang et al. [45] found that victims of bullying engaged in smoking significantly less than those not involved in any form of bullying. Similarly [37], found a negative relationship between victimization and the use of alcohol, tobacco, and drugs among adolescents. However, these researchers found that higher levels of intrusive thoughts about bullying were positively related to smoking. The researchers suggested that such adolescents may either use nicotine to reduce their anxiety, or to increase their social image among their peers and thus enhance their diminished self-worth. When compared to others involved in bullying (i.e., bully, bystander), Rivers et al. [24] found that being a victim did not predict substance use. When compared to adolescents not involved in bullying, victims were no more likely to engage in frequent excessive drinking and or to engage in other substance use [39].

Other studies have revealed the opposite - that victims do use substances more than students who are not involved in bullying. Radliff et al. [43] found that high school victims were more likely to use cigarettes and alcohol than noninvolved peers. In a previously mentioned study by Niemela et al. [41], researchers found that boys who reported being a victim of bullying at age eight reported heavy smoking, but less illicit drug use than bullies at age 18. Tharp-Taylor et al. [49] discovered that victims of physical and/or mental bullying engaged in alcohol, cigarette, marijuana, and inhalant use more than those who were not victims of bullying. Goebert et al. [50] found that experiencing cyber bullying was associated with elevated levels and of binge drinking and marijuana use, and the researchers theorized that victims may lack alternative coping skills and support for effectively managing the experience of cyber bullying victimization.

Again, many questions remain unanswered regarding the relationship between bullying victim status and substance use. Unlike with those who bully, where substance use appears to be strongly related to the perpetration of victimization, the rates and experiences of substance use in victims is less clear. Also, if in fact victims do turn to substances at an increased rate; little research has been conducting examining why a victim might decide to use illicit substances.

Bully-victims and substance use: The evidence regarding bully-victims' use of substances is more consistent. Bully-victims have been found to be more vulnerable to the use of illicit substances than both victims and peers not involved in bullying. Bully-victims smoke cigarettes significantly more than non-involved peers [51,52] and engage in higher levels of substance abuse than bullies and victims [43]. Weiss et al. [52] found that those who reported smoking in seventh and eighth grade also described being bully-victims in the sixth grade. This study also showed that those who smoked in seventh and eighth grade reported higher levels of hostility and depressive symptoms. Comparably, Liang et al. [45] reported that those who were bully-victims were shown to drink more than victims of bullying and drank more than those not involved in bullying.

In a previously cited study, Radliff et al. [43] found a significant relationship between middle school bully-victims and the use of cigarettes, alcohol, and marijuana. Kaltiala-Heino et al. [39] discovered that when compared to adolescents not involved in bullying, bully-victims were 3.1 times more likely to engage in frequent excessive

drinking and 7.1 times more likely to engage in other substance use. As suggested by the literature examining the overall outcomes of bully-victims, it appears as though bully-victims are the most at risk for developing problem behaviors and that the status of being both a bully and a victim has a cumulative effect on the negative outcomes for such individuals.

Bystanders and substance use: Research regarding the role of the bystander in bullying is still in its infancy, and as such, there is little research discussing bystanders' connection to substance use. In their survey of a large number of United Kingdom high school students, Rivers et al. [24] asked students about their experiences with bullying as well as their use of illegal substances and overall mental health. These researchers found that witnessing episodes of bullying was a significant predictor of substance use. Rivers et al. [24] theorized that bystanders may engage in substance use to manage their anxiety related to experiencing re-victimization as a result of observing bullying, indirect co-victimization through their empathy for the victim, fear of subsequent direct victimization, and cognitive dissonance resulting from the discrepancy between their inaction and their wish to intervene.

While Rivers et al. [24] is the only study found that explicitly links bystander status with substance use, this finding shows that this connection deserves more research. Furthermore, theories regarding why and how bystanders might be affected by bullying often group bystanders with the victims of bullying, as these two groups seem to report similar types and rates of negative outcomes [23]. Although little research exists in investigating a potential relationship between bystanders and substance abuse, theory suggests that as in victims of bullying, such a connection exists.

Summary and future directions: Both bullying and substance use are pervasive and dangerous problems experienced by numerous students. As research has attempted to better understand and reduce the rates of these negative behaviors, most have kept the two separate and different interventions have been used to effect change. However, as the literature bases regarding both problems have grown, the similarities between the negative outcomes associated with bullying and substance use have become apparent. Research suggests that each role in the behavior of bullying - the bully, the victim, the bully-victim, and the bystander - is all at a higher risk of using illicit substances than their non-involved peers.

However, connecting bullying and substance use behaviors may raise more questions than are answered. First, what is the likely direction of this relationship? Do young, elementary school-age bullies grow into substance users or do bullying behaviors increase after substance use is initiated? One study by Fite et al. [53] examined the relationship between the type of aggression used by bullies and future substance use, and found evidence that aggressive behaviors occur first, followed by later bullying behavior. However, further research is required to validate the direction of this relationship.

Similarly, what is the direction of the relationship between the experience of bullying and substance use for the victims? Are victims and bully-victims driven to self-medicate the emotional pain brought about by their bullying experiences, or are substance users more likely to be targeted by school bullies? Tharp-Taylor et al. [49] examined a group of victims of bullying and found that these individuals were at an increased risk of substance use, but did not discuss when the bullying behaviors began in comparison to the initiation of substance use. Other research investigating the development of substance use in adolescents found significant links between internalizing problems such as depression and anxiety, both of which are common negative outcomes

of bullying victimization, and later substance use [54]. Further research should examine both when substance use and bullying victimization begin and, if bullying precedes substance use, inquire as to why victims of bullying would turn to substance use.

Another question concerns whether or not there are mediating variables that can account for the connection between these two behaviors? As discussed earlier, there appears to be biological and environmental risk factors for substance use and these risk factors may simultaneously contribute to the development of aggressive, bullying behaviors. Risk factors relevant to social involvement (e.g., peer rejection, social support systems) and school climate may be especially important considerations in future research. For example, Fite et al. [53] found that peer rejection, as well as peer delinquency, mediated the relationship between the type of aggression used and substance use. Further research into these mediators would allow for earlier and more comprehensive interventions for both bullying behaviors and substance use.

Finally, and perhaps most important when considering the relationship between these two behaviors is the question of whether anti-bullying interventions affect the rate of substance use or, likewise, if anti-drug interventions alone can affect the occurrence of bullying. Answering this question would not only provide valuable insights into the relationship between the two behaviors but also would allow for much more time and cost efficient interventions that could, essentially, help reduce two negative behaviors at once.

Indeed, one study has attempted to examine whether an anti-bullying intervention was associated with a reduction in substance use. In a research investigation, Amundsen and Ravndal [48] tracked the implementation of the Olweus Bullying Prevention Program and asked students at the end of the implementation about their engagement in the frequency and amount of substance use. These researchers found that students in a school that participated in the anti-bullying program used substances as frequently as students from a control school, but that the students who had experienced the anti-bullying program were less likely to become intoxicated than the control group students. These researchers hypothesized that increased adult involvement and support and improved school climate may have been responsible for a decrease in the overuse of substances. While this finding does not indicate that an anti-bullying program brought about a direct effect on the rate of substance use, it does suggest that anti-bullying interventions may help to bring about some level of positive change and provides enough preliminary evidence to support further investigation.

Conclusion

Research regarding the relationship between substance uses and bullying has shown that the two behaviors are related, but the nature of this association is still largely unknown. More research regarding the linkage between these variables is necessary in order to help prevent both from occurring as well as to develop interventions to implement when one or both of the behaviors are present in adolescents. There is reason to believe that by effecting change in one domain, positive changes can occur in the other domain as well. Research that validates this hypothesis would be extremely valuable to schools in particular so that educators could potentially use a single intervention to help reduce two potentially destructive behaviors relatively common in adolescents.

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