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“... you would probably want to do it. Cause that’s what made them popular”: Exploring Perceptions of Inhalant Utility Among Young Adolescent Nonusers and Occasional Users

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Abstract

With an eye toward future primary prevention efforts, this study explores perceptions of inhalant utility among young adolescents in the United States. The study makes use of data gathered via nine focus groups conducted in Tucson, Arizona in 2004 ($N = 47$, mean age = 13.2 years). Three main themes emerged concerning the perceived utility of inhalant use: (1) Inhalant use as a means of mental escape, (2) Inhalant use as a social tool, and (3) Inhalant use as a parental relations tool. Additionally, participants discussed an interaction hypothesis regarding inhalant use and popularity. Implications for future research are suggested and limitations described.

Keywords

inhalants; adolescence; focus group; utility; function; drug use; middle school; sniffing; huffing

Introduction

Inhalant use, the intentional inhalation of fumes or vapors with the intention of inducing a psychoactive or mind-altering effect (Kurtzman, Otsuka, and Wahl, 2001; National Institute on Drug Abuse [NIDA], 2001), can result in significant damage to the central nervous system (CNS), sometimes resulting in sudden death (Consumer Product Safety Commission, 2001; NIDA, 2001; U.S. Department of Education, 1998). Inhalants are associated with negative mental health outcomes, such as affective disorders, antisocial personality disorders, depression (Jacobs and Ghodse, 1987; Kelder et al., 2001; Kubik, Lytle, Birnbaum, Murray, and Perry, 2003; McGarvey, Clavet, Mason, and Waite, 1999; Sakai, Hall, Mikulich-Gilbertson, and Crowley, 2004), suicide (Felix-Ortiz, Munoz, and Newcomb, 1994; Fleschler, Tortolero, Baumler, Vernon, and Weller, 2002; Howard and Jenson, 1999; Howard, Walker, Walker, Cottler, and Compton, 1999), violent behavior (Morita et al., 1996), and criminal activity (e.g., theft and vandalism) (Mackesy-Amity and Fendrich, 1999).

Inhalant use is especially problematic among younger adolescents. Johnston, O’Malley, Bachman, and Schulenberg’s (2006) Monitoring the Future (MTF) survey revealed that in 2004 and 2005 the percentage of 8th graders who had ever used inhalants was higher than those reporting lifetime usage of marijuana. Similarly, whereas annual use of inhalants reaches its peak in 8th grade, the annual use of hallucinogens, heroin, ecstasy, steroids, oxycontin, alcohol, tobacco, marijuana, cocaine, and uppers peaks in 12th grade. The

popularity of inhalants among younger adolescents may be due to inhalants being inexpensive and available in a wide array of legal products—many of which are found in a typical home. Moreover, the relatively brief duration of the inhalant high permits their covert use with less chance of detection by parents or other authorities (Dinwiddie, 1994; Kurtzman et al., 2001).

Perceptions of inhalant injuries are also different from other drugs. Although harm perceptions of marijuana, cigarettes, and alcohol are higher in 6th grade than in 12th grade, 12th graders perceive inhalants as more harmful than 6th graders do (Johnston, O'Malley, Bachman, and Schulenberg, 2004). Moreover, motivations underlying inhalant use are anomalous. When inhalant-using middle school students were asked in the MTF survey whether they got “no high,” “a little high,” “very high,” or “bombed or stoned,” the most common answer among 6th graders was “no high.” Full 26% of young (6th–8th grade) adolescents who admitted using inhalants report not becoming high when doing so. This finding is strongly divergent from the mere 7% of young adolescents who use marijuana and report not becoming high.

Motivations behind inhalant use must be explored if intervention efforts are to be successful at preventing use. Many prevention efforts focus on the physical harms of using inhalants. However, most theories of health behavior acknowledge that a decision to use is based on the ratio of perceived harms to perceived benefits. For example, Bandura's (1977, 1994) Social Cognitive Theory proposes that a young adolescent will use or avoid inhalants depending on whether (1) he or she has self-efficacy regarding inhalant use, and (2) the perceived benefits of using inhalants outweigh the perceived harms. The Theory of Reasoned Action (Ajzen and Fishbein, 1980) also emphasizes the importance of understanding whether adolescents believe that using inhalants will lead to positive outcomes and reduce the likelihood of negative ones. Similarly, the Health Belief Model (Becker, 1974; Becker, Radius, and Rosenstock, 1978; Janz and Becker, 1984) stresses the importance of individual cost/benefit perceptions. If future primary prevention efforts are to curtail inhalant use, young adolescents will have to be convinced that the harms of inhalant use outweigh the benefits. Such a task is challenging given that prevention researchers' understanding of perceived benefits of inhalant use is incomplete.

Consideration of the functional underpinnings of illicit drug use may prove important given the substantial literature linking substance-related expectancies to consumption (Christiansen and Goldman, 1983; Stacy, Newcomb, and Bentler 1995). If individuals develop expectations for the outcomes of inhalant use, it is reasonable to assume that these expectations may make inhalant use a salient behavior to meet a given need or function. Although research exploring the perceived outcomes of inhalant use is scant, Boys and colleagues (Boys and Marsden, 2003; Boys et al., 1999a, b; Boys, Marsden, and Strang, 2001) have accumulated support for the intriguing contention that across a variety of other illicit substances, the perceived functions driving substance use may be significantly associated with patterns of consumption and future expectations regarding their use. For example, Boys and Marsden's (2003) study of current poly-drug users found that functional variables explained an additional 11% of the variance in marijuana use over and above more commonly explored variables such as parental conflict. Moreover, functional variables also explained drug problems with an average 22% variance accounted after checking of demographics, age at first use, peer use, and current intensity of use (Boys and Marsden, 2003). In addition, a small but reliable body of research has consistently demonstrated that alcohol consumption and alcohol-related problems are associated with underlying functions and motives (Carey and Correla, 1997; Connors, O'Farrell, and Cutter, 1990; Klein, 1992; Simons, Correia, and Carey, 2000).

Whereas past research has investigated motives behind cocaine (Boys, Marsden, Giffiths, and Strang, 2000), marijuana (LaDriere and Szczepkowski, 1972; Simons, Cor-reia, and Carey, 2000; Weinstein, 1976), alcohol (Baer, 2002; Bradizza, Reifman, and Barnes, 1999; Johnson and Sheets, 2004; Kairouz, Gliksman, Demers, and Adlaf, 2002; Martens, Cox, and Beck, 2003a, b), ecstasy (Boys et al., 2001; Cooper, 1994; Parks and Kennedy, 2004), LSD (Boys et al., 2001), and general drug usage (Brooke, 1993), motives underlying inhalant use remain relatively unexplored. Our review of the literature uncovered scant research focusing on *why* young adolescents use inhalants. MacLean (2005) interviewed inhalant users in Australia; however only a portion of the interviewees was under 18. Exploring the perceived utility of inhalant use can provide key information for those seeking to prevent young adolescents from future inhalant use. Even if it turns out that motives for inhalant use are similar to those of other drugs' usage, this information will represent an important piece of the inhalant prevention puzzle. Our goal is to explore perceived functionality so that before inhalant use can become habitual, young adolescents can be convinced that any perceived utility is either ill-conceived or greatly outweighed by harms.

A focus group approach was selected as the method of data collection applied as a goal of generating new insights and hypotheses regarding the nature of inhalant use among middle school students. This technique is most useful in hypothesis-generating contexts and seems ideal for present purposes (Crano and Brewer, 2002). A key strength of focus groups is their capacity to provide insights into the sources of complex behaviors and motivations (Krueger, 1988; Morgan and Krueger, 1993). Focus groups are particularly useful when seeking to identify and explore contexts not currently understood by researchers and to produce insights and data that may not arise out of other means of data collection (Balch et al., 2004; Carey and Smith, 1994; Kitlinger, 1994, 1995; Morgan, 1988; O'Brien, 1993).

Method

This study is a qualitative descriptive investigation. It makes use of data gathered in nine focus groups conducted in Tucson, Arizona. Claremont Graduate University's internal review board approved all procedures prior to implementation.

Procedure

Participant Recruitment—Several middle schools in Tucson were called toward the end of the school year and invited to participate. Contact was made with 16 different schools. The majority of schools that were unable to participate reported interest, but stated it was too late in the school year. Five of the schools agreed to participate. In these five schools, administrators informed teachers of the study, who in turn informed their students about participating in the study. Twenty-two participants were from secular schools, while 25 were from religion-based charter schools. Parental consent forms were sent home with all students of participating schools. Only students returning signed consent forms were permitted to participate in the focus groups. No more than two focus groups were conducted in any school. Focus groups were conducted on school grounds, without any teachers present.

Group Composition—When feasible, moderators were instructed to divide groups by either age or gender. If there were sufficient participants for one female and one male focus group of similar age, groups were divided by gender. If a choice had to be made between splitting by gender or age, a choice was made to have the group consisting of adolescents of different genders but similar age. This tack was perceived as the best method for creating homogeneous groups (Thorne and Henley, 1975).

Of the nine focus groups conducted, one consisted of only males and one of exclusively females (of the same grade). The remaining seven groups consisted of males and females of

the same grade. Participants ranged from 11 to 16 years of age ($M = 13.2$). To assure procedural consistency among the groups, a moderator guide was created (Krueger, 1988). The first author moderated five of the nine groups, and four different research assistants moderated the others.

Confidentiality—At the start of the focus groups, moderators instructed participants that some personal questions would be asked. Participants were then told, “The answers may be sensitive and personal. I promise they will be confidential—that means just between you and me. I will not tell your parents, your teachers, or anyone else about them unless you give me permission.” Participants were also told that while the moderator would keep the comments confidential, they should feel comfortable to discuss the focus groups with their parents and/or teachers/counselors.

Once confidentiality was discussed, all participants were assigned a number. Participants were asked to refer themselves and their fellow participants by the assigned numbers rather than their names for the remainder of the groups. This was done to increase feelings of anonymity and reduce chances of breach in confidentiality.

Pre-discussion Survey—After the assigning of identification numbers, moderators instructed participants to spread themselves throughout the room. Brief pre-discussion questionnaires were distributed and participants were asked to write their numbers—not their names—on top of the questionnaire. The questionnaire included items assessing age, gender, ethnicity, past inhalant use, and inhalant susceptibility. Table 1 summarizes the demographic characteristics of the sample.

Past Inhalant Use—Thirteen participants (27.7%) indicated some degree of past inhalant use (see Table 2). Seven of these participants were from religion-based charter schools and six were not.

Regarding focus groups’ composition, three of the groups consisted of only nonusers, three consisted of one user, and the remaining three consisted of two users. Although the same reasons for inhalant use came up regardless of the number of past users in the focus group, it would have been ideal to hold separate groups for users and nonusers. A low number of users at each location made such a plan unfeasible. Moreover, holding separate groups based on use status could easily have led to students identifying the users within their schools. This would have breached the confidentiality assured to participants.

Focus Group Procedures—Once pre-discussion questionnaires were completed and collected, moderators were instructed to give each participant a small table tent with their number inscribed on it. The purpose of the table tents was to assist the participants in calling each other by their numbers rather than their names. Focus groups were scheduled for 45–60 min. While schedule of focus groups with adults can range up to 2 hr, Krueger (1988) recommends that focus groups with youth be kept to this shorter time frame.

Focus Group Discussion Topics—As the goal of this study was to understand the perceived utility of inhalant use, central discussion questions included the following: (1) Why do you think some people use inhalants? (2) What do you think goes through someone’s mind right before they use inhalants? To ensure construct validity, the term inhalant was defined prior to these questions being asked. The following follow-up questions were asked in groups in which participants brought up the use of inhalants as a social tool: (a) From a popularity standpoint, what do you think would happen to someone who used inhalants? (b) From a popularity standpoint, how do inhalant users differ from marijuana users?

Following the suggestions given by Morgan (1988), the groups were audiotaped rather than videotaped. Although video recording has some benefits, they are far outweighed by the possible constraints video recording may place on focus group—especially in discussions of personal and socially disapproved behavior. All focus group audiotapes were transcribed and double-checked for accuracy. Five research team members individually read through each transcript. This was done to avoid relying too much on the judgment of one or two analysts (Stewart and Shamdasani, 1990). Once researchers read through the transcripts, emerging thematic units were discussed. After several discussions, consensus on the most prevalent themes was reached. A coding guide was created based upon these thematic categories. Next, two coders independently read the transcripts. The coding guide directed the coders to label each thematic occurrence. After all the transcripts were independently coded, transcripts analyzed by coder “A” were compared with those analyzed by coder “B.” If, and only if, the two coders had labeled a participant’s statement in an identical manner, then only the statement was placed into the named category. The two coders were in complete agreement on 88.5% of labeled occurrences.

Results

Three main themes emerged concerning the perceived utility of inhalant use: (1) Inhalant use as a means of mental escape, (2) Inhalant use as a social tool, (3) Inhalant use as a parental relations tool. Throughout this section, quotes from participants are being given along with their age, gender, ethnicity, and user status. If this information is not included, the participant chose not to answer, reported “other,” or skipped the question for an unspecified reason.

Comments voiced by one focus group participant can, and likely to, influence responses advanced by other group members. Therefore, comments made by participants of a specific age, gender, ethnicity, and user status should not be generalized throughout other members of a specific demography. Nonetheless, such information may serve as a catalyst for future exploratory research, and as such is provided.

Inhalant use as Means of Mental Escape

Discussion of inhalant use as a means of mental escape occurred in every focus group. Regardless of the moderator or the composition of the group, the comments revolved around a similar theme, i.e., inhalant use allows people to forget their problems. These comments also arose whether the focus group was made up of all nonusers, or mainly nonusers with either one to two users. The following statement from a 14-year-old Caucasian female, nonuser, is illustrative of this theme: “When people do that [inhalants] I think they are just looking for a way out of problems, and just get rid of them and maybe not get rid of them, but they think it does. So it relieves the pressure.” A 14-year-old Caucasian male who self reported past inhalant use described a similar perception, “... [an inhalant user] might have an emotional problem, or something, or like breaking up with someone, or like the best friend gets in on a fight with them, or something so they just do it to get away from everything.” Whether inhalants were perceived as an escape from peer troubles, loneliness, problems at home, or problems at school, the similarity of comments across different groups and moderators was striking. An 11-year-old African-American male who self reported past inhalant use observed, “Some people or some kids use inhalants when they’re mad at somebody. It frees your mind so you don’t think about anything.” A 12-year-old Caucasian male, nonuser, from a different focus group reported a similar perception: “I think people use inhalants because they’re having trouble with something, so they do that to forget about it or something.” A 14-year-old Hispanic male, nonuser, from yet a different focus group offered the following rationale, “... like say your life isn’t going the way you want it or like you think everyone hates you, you’re always the victim or whatever. You can use it to get

out of yourself.” Some participants acknowledged that inhalants were only a short-term solution. For example, a 12-year-old female, nonuser, suggested, “They [inhalant users] might have a bad time at home, so when you get home, like your brain just stops from this Earth. Then you come back to Earth and there’s all these problems again. But you feel good when you are high.” This insight concerning the short-term nature of inhalant use as a solution was the exception rather than the norm.

Inhalant Use As a Social Tool

In eight of the nine focus groups, discussion arose concerning the perceived social utility of inhalants. The one group that did not discuss the social utility of inhalant use consisted entirely of self-reported non-users. Discussions centered on two main themes, the use of inhalants to increase one’s social status, and their use to reduce peer pressure. The use of inhalants to increase one’s social status was discussed in eight of the nine focus groups, and their use to reduce peer pressure was discussed in seven of the nine focus groups. In total, 25 different participants made mention of the use of inhalants to increase one’s social status, while 14 commented on the use of inhalants to reduce peer pressure. Each of these two subcategories will be reviewed individually.

Use of Inhalants to Increase One’s Social Status—Across groups, regardless of the moderator or school-type, discussion content was strikingly similar. Participants described situations where a desire for social acceptance, or some other form of social reward, motivated inhalant use. Illustrative of this theme is a comment by a 14-year-old Caucasian female, nonuser: “Say ... like ... there’s like a group of friends and they all do drugs and there’s this one person who wants to become friends with them. And the only way he would feel comfortable around them is if he actually did inhalants with them.” A 14-year-old African-American male, nonuser, made a similar comment, “... you do it [inhalants] because either everybody else is doing it or you just want to be like someone else.” Implicit in these comments is the belief that popularity can be achieved through the enactment of just one behavior, i.e., drug use. One participant, a 14-year-old African-American female, nonuser, offered a comment illustrative of this perception: “If a popular person is doing drugs or sniffing, and then you’re a nerd, then you would probably want to do it. Cause that’s what made them popular probably.”

Use of Inhalants to Reduce Peer Pressure—A substantial number of comments arose concerning this theme. Participants described situations in which inhalant use was a necessary tool for maintaining friendships. A 14-year-old Caucasian female, nonuser, described two methods of persuasion used to influence a peer to use inhalants: (1) “Oh, come on. It’s cool, do it,” and (2) “Come on, it won’t hurt you.” A 12-year-old African-American male from a different focus group, who self reported past inhalant use, explained that peer pressure is harder to resist due to the difficulty of making friends when entering a new school. “I think now it is a little harder to make friends. So, if you finally have friends and they start doing drugs and stuff and they say they want you to start doing it.” He continued by explaining that young adolescents end up using inhalants out of fear of losing friends.

Inhalant/Popularity Interaction—When moderators further probed perceptions regarding the use of inhalants leading to social acceptance and popularity, focus group participants described what can best be labeled as an interaction hypothesis: Inhalant use will lead to increased popularity for some but not for others. In other words, whether using inhalants will increase or decrease one’s popularity depends on the person in question and the peer group the individual seeks to impress. Every group that discussed the use of inhalants as a social tool mentioned this hypothesis. One 14-year-old Caucasian female,

nonuser, eloquently described this interaction by explaining the different reactions peers would have to inhalant use: “For people who take drugs, I think they would think like they’re the coolest person, but for people who don’t take drugs, they would think they’ve got to be really stupid.” A similar sentiment was contributed by a 12-year-old African-American male, nonuser, from a different focus group with a different moderator: “Like some of my friends at church, if I started doing drugs, they would kind of stay away from me. But maybe if I had some other friends who were doing drugs and then I started doing drugs, like, ‘o.k., yeah, man, he’s started man. That’s tight.’ So, it depends on which friends.” A 12-year-old female, nonuser, from yet another focus group explained a similar interaction: “Depends on who is using the inhalants. Depends on who is doing the judging. And depending on what neighborhood it is in.”

Social Utility of Inhalants vs. Marijuana—With the hope of obtaining a greater understanding of perceptions of inhalant use, participants were asked to compare the social utility of inhalants to that of marijuana. Participants largely perceived marijuana as being a “cooler” drug and a drug used by the more popular kids. There appears to be a number of different reasons for the perceived superiority of marijuana use: (1) The expense of marijuana and/or the inexpensive nature of inhalants, (2) the difficulty in obtaining marijuana and/or the ease of obtaining inhalants, and (3) perceptions of marijuana as a drug for older, more serious drug users vs. perceptions of inhalants as a “kid’s” drug. Commenting on the costs of drugs, one 14-year-old Caucasian female who self reported prior inhalant use stated that there are those who can’t afford drugs, “... so they use inhalants instead, so they are able to afford them.” One 13-year-old Caucasian female, inhalant nonuser, commenting on the ease by which inhalants can be obtained, explained that inhalant use has less social utility because, “... you can just take it from the garbage.” Similarly, a 14-year-old Caucasian male, nonuser, commented, “I think that if you use weed or pot or something it’s better than using inhalants and things. Inhalants are easy to get ... pot is harder to get. I think it’s better from a popularity standpoint.” Regarding the perception that marijuana users are older and more serious drug users, a 14-year-old Hispanic female, inhalant nonuser, commented, “I think that if you do pot then you are probably more seriously into drugs than somebody that inhales that is probably a teenager.”

Inhalant Use As a Parental Relations Tool

In one-third of the focus groups, discussion arose concerning inhalant use as a tool for dealing lack of parental attention. Although comments revolving around this theme were limited, they arose spontaneously without any prompting from moderators. Participants’ comments ranged from inhalant use as a parental surrogate to a means for attracting attention. For example, one 12-year-old female, nonuser, stated, “... their [inhalant users’] parents, they just act like they don’t care about them so they need something else.” A different focus group participant, a 12-year-old Caucasian, nonuser, phrased it in a different manner, “... maybe if they don’t really see their parents. If their parents are like at work all of the time. And they don’t really spend a lot of time with them. They’re thinking ‘well, maybe if my parents didn’t find out they wouldn’t care very much because they are not even there for me all the time.’” A couple of participants suggested inhalants are used when young adolescents get angry with their parents.

Other participants explicitly discussed the perception that inhalants can be used to get parental attention. For example, one 13-year-old Hispanic female who self reported past use of inhalants offered this explanation as to what motivates inhalant use: “Cause the parents are ignoring them [inhalant users]. Just doing something wrong so their parents will pay attention to them.” A 12-year-old female offered a similar observation, “Um ... like ... your parents are neglectful or irresponsible or they ... it just doesn’t seem like they are showing

you that they care. So you are going like for a while with bad things and drugs and inhalants. I need attention, and you know what, I'm going to do this because maybe my parents might notice me. And say something and then I will be able to talk to them and give me attention. And other people will too ... so I'll feel better."

Discussion

Approximately 30 years ago, Bearden, Woodside, and Jones (1979) proposed a need to understand why drug users associated specific outcomes with drug use. This recommendation is equally valid today. Whether or not the focus group consisted of nonusers, or a couple of users, participants associated inhalant use with positive outcomes. This research effort used focus group methodology to explore and understand young adolescents' perceptions of these desirable outcomes. While past research efforts have explored desired outcomes associated with the use of alcohol, marijuana, cocaine, and general drug use, this is one of the rare attempts to explore young adolescents' perceptions of the utility of inhalant use. Some might assume that reasons for inhalant use are similar to that of other drugs. However, prevention campaigns can be extremely costly and it would be irresponsible not to investigate the specific motives for inhalant use.

The strength of qualitative research lies in its ability to explore rationales behind people's thoughts and behaviors (Balch et al., 2004). Accordingly, the focus groups study serves as a step toward understanding why some young adolescents decide to use inhalants. Results suggest that our young adolescent samples perceived three main utilities for inhalant use: (1) Inhalant use as a means of mental escape, (2) inhalant use as a social tool, and (3) inhalant use as a parental relations tool. Although the use of focus group methodology does not allow for statistical projection to other populations, two factors increase our confidence in the generalization of findings. First, similar themes emerged across groups regardless of group moderator. Second, themes emerging from this study were similar in content to MacLean's (2005) findings, even though MacLean's sample consisted primarily of older individuals who were all users. Moreover, the utilities advanced by our young adolescent sample are similar to rationales put forth by users of tobacco, marijuana, and alcohol.

Inhalant Use As a Means of Mental Escape

In every focus group, regardless of the moderator or whether any of the participants were users, comments arose regarding the use of inhalants as a means of mental escape. Accordingly, prior studies have found escape to be a central motive for general drug (Brooke, 1993; Segal, 1986), alcohol (Martens, Cox, and Beck, 2003a, b) and marijuana use. Moreover, MacLean (2005) also found inhalant users in Australia advancing a similar reason for continued use. In this regard, young adolescents' perceptions of the benefits associated with inhalant use, even though most focus groups consisted of nonusers, were in line with the thoughts of users. In addition to exploring the generalization of these findings, future research should explore the origins of these perceptions. How do young adolescents who never used inhalants arrive at consensus regarding potential positive outcomes?

Future research should not only explore the most prevalent sources of information but also how sources of information based on risk status differ. Further, as most health theories posit a decision to use inhalants is, among other things, determined by the ratio of harms to benefits, future research should also explore perceptions of the harms associated with the use of inhalants as an escape mechanism. If these findings are deemed generalizable, a two-pronged primary-prevention approach may include negating the perceived benefits of inhalants while informing young adolescent of the harms associated with their inhalant use. To this end, we suggest that inhalant-focused prevention programs informing young

adolescents that the perceived benefits of inhalant use will be accompanied by social as well as physical harms may prove to be an effective tool to counter the inhalant use.

Toohey, Dezelsky, and Baffi (1982) postulated that prevention efforts were needed to focus on therapeutic effects of marijuana use. Further exploring and replicating the findings reported herein has the potential to inform prevention specialists as to whether a similar approach is warranted for inhalants prevention. One note of caution is that if inhalants are responsible for feelings of euphoria, as MacLean's (2005) research suggests, falsely informing of young adolescents that this is not the case, when they may know otherwise, can only lessen the credibility of future intervention efforts (Siegel and Burgoon, 2002). Additional caution is also warranted: Just as Toohey et al. (1982) warned against intervention efforts unknowingly reinforcing the euphoric perceptions of marijuana use, the same warning must be considered if future research suggests this as a potential avenue for the succeeding anti-inhalant efforts.

Inhalant Use As a Social Tool

In all the groups but one, participants perceived inhalants as having a social utility. This finding mirrors results of other researchers investigating the perceived utilities of other drugs which revealed similar motivations. MacLean (2005) reports socializing as one of the seven reasons why users claim to keep using inhalants. Cooper (1994) reported social motives as one of the four central reasons for alcohol use. Moreover, both Parks and Kennedy (2004) and Gamma, Jerome, Liechti, and Sumnall (2004) found that ecstasy users reported a social motivation for using the drug. It is noteworthy that even though our focus groups mainly consisted of nonusers, their perceptions of the benefits were remarkably similar to the reason advanced by users. Other studies did not report discussion centering on popularity, per se, but our findings may be expected, given that our participants are young adolescents.

Surprisingly, participants less frequently spoke of situations in which they were pressured to use inhalants, compared to situations in which young adolescents, believing that inhalants will increase social acceptance, initiate use as a means to an end. The vast majority of participants shared the perception that inhalant use could work as a magic bullet for certain groups of adolescents, such as use inhalants, have more friends. As the majority of participants were nonusers, future research should explore the source of these perceptions. Paramount will be the future studies that explore the specific mechanisms by which young adolescents come to believe that inhalant use will foster social acceptance.

It is imperative that future studies are conducted. It would be inappropriate to propose specific interventions or policy changes based on this exploratory research. However, we will discuss the potential implications of this study. These observations are not advanced as suggestions for immediate implementation, but to highlight the importance of future and more generalized research in this area. Specifically, if the current findings are generalized, implications for future interventions abound. An intervention program seeking to inform young adolescents that inhalant use will not lead to social acceptance will look very different from current efforts seeking to teach adolescents to "just say no." While both approaches may be useful, teaching young adolescents that social acceptance is determined by a conglomerate of behaviors, rather than just one, may be extremely effective for certain groups. For example, if young adolescents perceive inhalants will enhance their popularity, then interventions can either convince adolescents that inhalant use will not lead to popularity or that popularity is not as desirable as they might believe. Also, as discussed earlier, the harm/benefit ratio must consistently be considered. Focusing exclusively on negating the benefits will be less effective than negating apparent positive benefits while simultaneously increasing perceptions of harm. By harm we by no means suggest focusing

only on the physical harm. It may prove efficacious to inform adolescents that using inhalants as a social tool can potentially backfire and lead to extreme social alienation or ostracism.

Another surprise in these data was the complexity of young adolescents' schemas regarding inhalant use. This is highlighted by participants' discussions of an interaction hypothesis—inhalant use will lead to social acceptance for some but not for others—and the specificity of differences between inhalant and marijuana users.

Every group that discussed the use of inhalants as a social tool mentioned this interaction hypothesis. As with the previously discussed utilities, future research must explore the origins of these perceptions. Future exploratory research can also focus on the different factors that may dictate whether inhalant use will lead to social acceptance or alienation. In the focus groups discussed here, age and neighborhood were two factors proposed to predict the perceived social outcomes of inhalant use. These factors may not be the same nationwide. Exploring these perceptions may result in useful information for future primary prevention efforts. Moreover, if the interaction hypothesis is generalizable, understanding which young adolescents would benefit socially from inhalant use can be useful for future primary prevention programs specifically aimed at these individuals as they may be at the highest risk for future use. Moreover, assessing the generalization of these findings can inform future primary prevention efforts on the advisability of presenting inhalant use as a means of affecting social relations. Young adolescents may be fully aware that inhalant use can serve a social utility for some. Prevention messages will not be effective if this is ignored as such messages will not be perceived as credible (Siegel and Burgoon, 2002). If young adolescents believe that inhalant use will increase social acceptance for some but not for others, presenting information to the contrary may be ignored at best, and at worst may hinder future prevention efforts (Tormala and Petty, 2004).

Participants' responses also suggested a well-developed schema concerning the difference between inhalants and marijuana. Participants discussed the difference between these two drugs based on (1) the inexpensive nature of inhalants, (2) the ease of obtaining inhalants, and (3) the perceptions of inhalants being a "kid's" drug. Similar perceptions were held across focus groups. Not only did participants believe that inhalant use would work as a tool for social acceptance for some kids, and not for others, but they believed that this occurred even though inhalants are looked upon negatively, by many, in comparison to marijuana. Exploratory research should continue to investigate this paradox. Additionally, the generalization of these findings should be explored. Are such perceptions limited to young adolescents residing in Tucson? If widespread, these perceptions can be incorporated into future primary prevention efforts. Negative stereotypes of inhalants may already exist, and these perceptions can prove an effective anti-inhalant tool. Moreover, future research should explore whether the perception of inhalants as a "kid's drug" is indicative of the belief that inhalants are not harmful.

Inhalant Use As a Parental Relations Tools

This was the most nebulous theme that emerged. Inhalant use as a parental relations tool was not a common discussion thread like inhalant use as a social tool or as a means of mental escape, but further research into this area is nonetheless warranted. First, the use of marijuana as an act against authority has been reported in the past (Bloomquist, 1969; Farnsworth and Weiss, 1969). This suggests the finding is less likely to be spurious. Do young adolescents perceive inhalant use as a form of revenge? If so, the rationale behind this belief must be explored. Further, if young adolescents genuinely believe that inhalant use can lead to increased parental attention, it will be important for future prevention to consider how to negate this perceived utility. One possibility would be to inform young adolescents

that certain behavior is frowned upon, simultaneously informing them how to get their parents' attention. Such an approach may convince young adolescents that inhalant use as a means of obtaining parental affection is undesirable or self-defeating. This might be easier than convincing adolescents that inhalant use will not lead to parental uproar.

Conclusions

This study represents the first step toward understanding the outcomes young adolescents associate with inhalant use. Future research should continue along two important paths: (1) Further exploration, and (2) assessing generalizability. Additional exploration about young adolescents' expectations concerning inhalant use is warranted. Most major theories of health behavior associate perceived benefits with increased use. Further, Siegel, Alvaro, and Burgoon (2003), albeit investigating tobacco use, discovered that nonusers, at-risk nonusers, and users differed only minimally on the perceptions of the harms of tobacco use. However, large differences were noted when it came to the perceived benefits of use. A similar situation may exist with inhalant use. Unfortunately, the design of the current study does not allow these comparisons to be made. As discussed earlier, comments made by nonusers and users intentionally were not compared as comments made by one group member undoubtedly influenced the comments made by others. Nonetheless, future studies that can make such comparisons are warranted. Future research must explore the malleability of beliefs held by users, nonusers, and at-risk nonusers. If malleable, future primary prevention efforts can target young adolescents' perceptions of the benefits associated with inhalant use. However, this will be near impossible if young adolescents' perceptions are neither understood nor accepted. These perceptions must continue to be explored among various groups and contexts. Only after the adolescent's behavior is understood, and accepted as meaningful, can intervention efforts be expected to succeed. Moreover, collecting quantitative data on the number of young adolescents who believe inhalant use is foolish and will not lead to social escalation might provide the basis for prevention efforts that seek to correct perceptions about what is normative.

At the very least, the potential complexity of participants' perceptions of inhalants must be kept in mind. Inhalants may not be seen as all good or bad. If primary prevention efforts ignore what appears to be a potentially complex narcotic, young adolescents may respond by ignoring prevention efforts. For example, a campaign or educational program attempting to convince young adolescents that *all* of their peers have negative attitudes toward inhalant use will ring false bell; however, emphasizing the relative scarcity of positive peer attitudes toward inhalants might prove useful. Furthermore, exploring the interaction between inhalant use and popularity might lead to the creation of intervention efforts perceived as having greater credibility among the young adolescent population. Of course, this is not an either/or situation. The most effective prevention approaches will likely be as dynamic and multi-dimensional as the individuals we hope to persuade.

Study's Limitations

Focus group methodology is useful in developing hypotheses that may prove fruitful in future and more focused investigations. However, reported beliefs may be generalizable or they may be unique to the location where the groups were conveyed. These findings are advanced with the caveat that additional research, using various methodologies, is vital.

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Glossary

<i>Confidentiality</i>	Pertains to the handling of information that a participant has disclosed during the procedure of the study with the expectation that the information will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure without permission
<i>Drug Expectations</i>	Drug expectancies follow the research investigating the impact of expectations on behavior such that memories or perceptions of using a drug leads to the expectations of a specific outcome during and after drug use. Expectancies can be looked at as if/then statements: If I perform this action, then I should expect this outcome
<i>Focus groups</i>	A focus group is a form of qualitative research in which a group of people are asked about their attitude toward a concept, idea, product, or advertisement. Questions are asked in an interactive group setting where participants are free to talk with other group members and is facilitated by a moderator
<i>Inhalants</i>	Inhalants are ordinary household products that are inhaled or sniffed to get high. Common inhalants are model airplane glue, nail polish remover, cleaning fluids, hair spray, gasoline, the propellant in aerosol whipped cream, spray paint, air conditioner fluid (freon), cooking spray, and correction fluid. Inhalants slow down the body's functions and may cause users to feel stimulated, disoriented, and/or out of control
<i>Interaction hypothesis</i>	An educated guess of the value of one variable, for example X, as another variable, for example Y, increases or decreases in one situation, while in another situation, the changes in X do not effect Y. For example, the probability that an adolescent will use inhalants will increase if the adolescent perceives that he or she will become popular for doing so when using inhalants in front of a social group that believes using inhalants is a popular thing to do. The probability that the adolescent will use inhalants will not increase if the adolescent does not perceive the activity to be popular among another social group

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Table 1Selected demographic characteristics of focus group participants ($N = 47$)

Characteristic	<i>N</i> (%)
Age (in years)	
11	3 (6.4)
12	14 (29.8)
13	9 (19.1)
14	15 (31.9)
15	5 (10.6)
16	1 (2.1)
Grade	
6th grade	9 (19.1)
7th grade	19 (40.4)
8th grade	19 (40.4)
Gender	
Female	25 (53.2)
Male	22 (46.8)
Race	
American Indian/Alaska Native	3 (6.4)
Black/African-American	4 (8.5)
Hispanic or Latino/Latina	15 (31.9)
White or Caucasian (non-Hispanic)	19 (40.4)
Other	6 (13.7)

Table 2

Past inhalant use and future intentions of focus group participants

Item	N (%)
Past inhalant use	
Yes	13 (27.7)
No	34 (72.3)
Frequency of use	
0	34 (72.3)
1	0 (6.4)
2	2 (4.3)
3	1 (2.1)
4	0 (0.0)
5	3 (6.4)
10	4 (8.5)