Impact of Accessibility, Perception of Harm, and Peer Use on the Use of Marijuana and Alcohol by Rural-Dwelling African-American Adolescents

Gary Halverson

Faculty Sponsor: Matthew Taylor, Department of Psychology

ABSTRACT

In the past, rural African-American adolescents were thought to be at less of a risk for problematic use of drugs and alcohol, but research has found that this group's level of usage parallels that of their urban counterparts. Statistical analyses found that participants are affected by how accessible drugs and alcohol are. Those who had the most access to marijuana and alcohol showed increased levels of usage of such substances. In addition, participants who perceived marijuana to be most harmful used less and chose peers with similar attitudes-and thus similar degrees of use. This pattern did not hold true for those who believed alcohol to be harmful; while some individuals realized the consequences involved with alcohol use this did not seem to affect their own usage or peer usage. Lastly, while many youth programs focus on drug and alcohol education, it was found that the amount of knowledge an individual had about drugs and alcohol did not necessarily ensure that individuals would show lower degrees of use with more knowledge or more use with less knowledge. This suggests new strategies need to be undertaken in working toward decreasing drug and alcohol use among rural African-American adolescents.

INTRODUCTION

One of the most pervasive problems in the United States today is that of drug and alcohol use. This is a problem that many times begins in early adolescence and can eventually lead to a life of dependency. It is vital that this problem gets cut off at its roots. In order to do this it is necessary to know how children moving into adulthood gain access to illegal substances, what they perceive these substances can do to them and how their peer use of these substances affects their own use. Some researchers suggest that drug use is a function of the amount of risk factors present, but at the same time there are protective factors that act as buffers against the risks (Sullivan & Farrell, 1999). The risks facing African-American adolescents are greater than that of the general population and thus further studies of this group are warranted. According to Sullivan and Farrell (1999), 55% of all African-American families are maintained by a single parent-which was almost always the mother-which puts this group at a higher risk. Most of the aforementioned studies about drugs and alcohol focus on urban populations, but the numbers indicate that the rural population warrants further examination.

There are about two million people aged 15-18 living in rural areas but there is a lack of information on this segment of the population (U.S. Bureau of the Census, 2000). Most public attention and research has focused on urban and suburban youth because drug use was thought to be an exclusively urban problem, prevalent only in poor neighborhoods (Cronk & Sarvela, 1997). The rural United States was thought to be guarded from most of these problems and while this may have been true at one time, it no longer seems to be the case (Cronk & Sarvela, 1997).

In 1976, urban students had a greater prevalence of use of alcohol, tobacco, and other drugs (marijuana and cocaine). But by 1992, rural and urban students' use patterns were similar and rural students actually had higher use rates for alcohol and cigarettes (Cronk & Sarvela, 1997). This would seem to suggest that substance availability has changed in rural areas and that prevention effort is less common or less effective or that protective factors for rural youth have changed from 1976 to 1992 (Cronk & Sarvela, 1997). Also of consequence is that not only did daily alcohol use for rural students-both male and female-increase but their binge drinking rate was also higher and rural youth began drinking alcohol earlier than their urban counterparts; binge drinking behavior is said to have the most negative behavioral consequences (Cronk & Sarvela, 1997). Cronk and Sarvela (1997) state that arguments and trouble with parents and friends were associated with alcohol use; furthermore, there is speculation that risk and

protective factors applicable to illicit drugs do not apply to alcohol since alcohol consumption is approved for those over 21 and alcohol does not carry a strong social stigma.

Rural residents may face problems that are not encountered by an urban population including: physical isolation, lack of vocational opportunities and diversity and lack of adequate health care facilities. The above information focuses only on a general rural population though; this information must now be applied to African-American youth.

Clearly, drug use is problematic among rural African-American adolescents. What then are some of the risk factors and conversely some protective factors that affect drug usage? Protective factors are characterized as providing a buffer to risk factors (Sullivan & Farrell, 1999). By this definition, individuals with high levels of protective factors are less influenced by risk than individuals with fewer protective factors (Sullivan & Farrell, 1999). Examples of protective factors include many items that offer structure to the adolescent's way of life. Sullivan and Farrell (1999) include items such as commitment to school, involvement in extracurricular activities and frequently talking to parents as means of coping with problems. With these types of buffers it is said that adolescents can avoid the ills caused by drug use. However, if adolescents lack appropriate protective factors, risk factors may overwhelm youth and edge them toward drug use.

Risk factors to be aware of include family history of alcohol use, cigarette use, peer models for drug use, and family approval of drug use (Sullivan & Farrell, 1999). It was found that an adolescent's intention to use drugs is an important predictor of use. That is, beliefs about social norms for drug use, weighing the costs and benefits of drug use and prior experiences with drug use combine to form the intentions for future drug use (Farrell et al., 1992b cited in Sullivan & Farrell, 1999). Fortunately, it was found that African-American urban youth who have parents that don't use drugs was one of the most prominent protective factors (Sullivan & Farrell, 1999). These parental models are especially important in buffering African-American youth from negative peer influences and availability of drugs. Identification of these risk factors for African-American youth may be a good starting point for determining programs that can work toward eliminating risk factors while at the same time maximizing the levels of protective factors. If these adolescents are not subject to some sources of environmental harm like being home alone after school or having negative peer influences then they are avoiding risk factors and lowering the chance that they will become drug users. Unfortunately, avoiding such risk factors may be a daunting task. Individuals who do succumb to alcohol and drug use become more likely to find other sources of trouble.

White, Tice, Loeber, and Stouthamer-Loeber (2002) report that adults under the influence of alcohol or drugs commit more crimes against people than in general, and these individuals tend to be more aggressive as well. Alcohol, specifically intoxication, is related to aggression when an individual becomes provoked (Bushman, 1997; Lipsey et al. 1997 cited in White et al. 2002). This aggression occurs because alcohol decreases intellectual functioning, reduces self-awareness, causes disinhibition, and elicits a lack of perception of risk (White et al. 2002). Contrasting the effects of alcohol is marijuana which seems to inhibit both aggression and violence and thus there are fewer crimes against people committed by marijuana users (White et al. 2002). These observations provide a framework around which adolescent behavior can also be examined.

Adolescents show much less consistent patterns but there seems to be a much greater overlap in the use of alcohol and drugs and less of a distinction between their associations with various types of offenses (White et al. 2002). For instance, in adults aggressive crimes were strongly associated with alcohol use. But in at least one study of adolescents who used alcohol or drugs prior to committing a violent offense it was found that rates were higher for other drugs than for alcohol (White et al. 2002). Dissimilarly, in a study of incarcerated adolescents, it was found that the acute use of alcohol either alone or in combination with additional drugs was involved in better than half of the incidents involving physical assault, whereas marijuana usage was only involved in about one fourth of such incidents (White et al. 2002).

One factor of the association between alcohol and drug use and illegal activity may be the psychopharmacological effects of drugs (White et al. 2002). White et al. (2002) mention that psychopharmacological effects of alcohol that have been thought to increase the risks for delinquency are impaired communication skill, which involves provoking others and becoming easily perturbed; more participation in risk-taking activities; an unawareness of the consequences of one's behavior and expectancies that alcohol use causes aggression. Another possible explanation may be that drug use is a social activity; therefore, while using drugs, adolescents may be in contact with peers who encourage or reinforce illegal behavior (Fagan 1993; White 1990 cited in White et al. 2002). Plus, drug use may interact with an individual's temperament or personality characteristics, such as impulsivity and hyperactivity, to increase the risk of committing an illegal act (White et al. 2002).

It should be noted though that different drugs have different effects and these effects not only vary by drug but by individual as well (Goode, 1999). For example, alcohol or sedatives may interact with temperament characteristics to increase aggression, whereas drugs such as marijuana may actually have inhibiting effects on

aggression (Miczek et al. 1994 cited in White et al. 2002). These are strictly effects due to the chemical makeup of the drug. If one is to see the complete picture such factors as a person's set and setting must be taken into account. Set involves the personal characteristics of the user-intelligence, personality, and expectations-and setting is the social, physical, and legal context within which drug use takes place (Goode, 1999). That said, the importance of studying various populations, including rural African-American adolescents is a key to beginning to understand just how strong social forces are in determining whether or not, or perhaps more importantly, how much drug and alcohol use there is among rural populations. One element that affects the degree of use for African-American adolescents in rural areas is the accessibility they have to alcohol and other drugs.

The ease with which African-American adolescents are able to obtain alcohol and other drugs bears much weight on how frequently these youth will use and/or abuse drugs. There is a simple doctrine employed here: the easier it is to access drugs and alcohol, the more they will be used. In a study of urban adolescents in grades 9 through 12, Yarnold (1998) found when alcohol availability was high this led to increases in alcohol prevalence and consumption. While there is little hard evidence supporting the correlation of availability and use for rural populations it should follow the same principle. It is logical to infer that since the drinking patterns of urban and rural youth have converged so should the notion of increased availability leading to increased use hold true. With this dilemma at hand, there needs to be some way to combat this high accessibility and two ways of doing such are decreasing accessibility and teaching prevention and resistance strategies.

One way in which to lower accessibility of drugs and alcohol may be through implementing the aforementioned prevention and resistance strategies. Okamoto, Hurdle, and Marsiglia (2001) state that competence in using resistance strategies falls under the area of social influence where messages are evaluated among a social acceptability dimension. Educational research suggests that prevention strategies, when incorporated early in a child's life, can alter negative behavioral patterns (Okamoto, et al. 2001). In this communication competency approach there is a focus on the exchange of messages (offer, refusal, response to refusal, continued resistance), the relationship between the offerer and resister, and the knowledge and skills of the resister that are utilized in achieving desirable outcomes (Okamoto, et al. 2001).

Another approach to drug resistance is related to resiliency. This approach looks at how individuals learn attitudes, behaviors and strategies that emphasize strengths as opposed to undermining social competencies (Okamoto, et al. 2001). Resiliency theory focuses on an ecosystemic perspective that attends to the relationship between the individual and the stressor along with the context in which the relationship takes place (Okamoto, et al. 2001). This said there are three primary categories of protective processes which are: individual processes, school processes, and community and environmental support (Okamoto, et al. 2001). Overall then, when these two approaches are combined-using effective communication competency and making effective use of protective processes of the environment-three primary resistance strategies are useful (Okamoto, et al. 2001). These strategies of resistance are: redirecting the discussion away from the topic of drugs or alcohol, avoiding or leaving the situation, and saying no to offers (Okamoto, et al. 2001). The most important finding in the study by Okamoto et al. (2001) is that refusal strategies are effective but the type used varies by socioeconomic status, gender, age, ethnicity, and family context suggesting that programs like D.A.R.E., where there is a specific strategy to preventing drug and alcohol use, may be ineffective. Teaching youth that drugs are bad only increases their desire to rebel and use such drugs. For instance, in rural areas where there are typically closer relationships with family and neighborhood, when a breakdown occurs it may be much more damaging because of close ties and the loss of support that comes with the severing of these ties (Logan & Spitze, 1994). The point to keep in mind is that contextual factors which are often overlooked may act as either risk or protective factors which may influence the use of drugs and alcohol. These environmental factors must be stressed in order to implement effective programs for this special population of rural youth. If special attention is paid to the uniqueness of the group, more specific and effective strategies for decreasing accessibility or more importantly for decreasing the want for drugs and alcohol can be utilized. Another factor affecting African-American youths and their use of drugs and alcohol is their perception of the harm that such substances can do.

Perception of harm involves what a person thinks their drug of choice can and will do to them. If it is believed that cocaine, marijuana, or alcohol are not very risky to experiment with or use regularly then the individual is more likely to use them. The perception of harm that adolescents hold is very important since the health-compromising behaviors that surface at this time have long-term health and social consequences (Gonzalez & Field, 1994). Of course these behaviors include the use of tobacco, alcohol, and other drugs but also embrace problem behaviors that are either criminal or deviate from social norms (Gonzalez & Field, 1994). The task of determining why adolescents engage in these risk-taking behaviors has been studied by numerous researchers and here are a few suggestions. Some have suggested that if adolescents are aware of the risks, they must be either purposely seeking them out or

unable to perceive the severity of the risk because of a "personal fable"-a belief in one's immunity from negative consequences (Wilde & Murdock, 1982; Elkind & Bowen, 1979 cited in Gonzalez & Field, 1994).

If adolescents are purposely seeking out risks without the belief they are immune from the consequences of their actions, why do they seek out such activities? Such behaviors permit adolescents to take control of their lives, express opposition to adult authority and conventional society, deal with frustration and anxiety, and gain admission to peer groups while at the same time demonstrating a strong identification with a youth subculture-this notion will be further explored in the following section (Gonzalez & Field, 1994). To incorporate these findings together, the general finding is that adolescents who engage in one high-risk behavior are likely to engage in other such behaviors (Lipsitt & Mitnick, 1991; Gonzalez & Field, 1994). Thus, we should see that rural African-American adolescents who engage in high-risk behavior of some sort are likely to engage in others. Whether they engage in such behaviors because they believe they are somehow not going to be held accountable for their actions or because they do so for some other reason, the fact is when there is a low perception of harm, alcohol and other drug use- along with other risky behaviors-increases. Gonzalez & Field (1994) stated that one reason adolescents may use drugs and alcohol is to gain admission into a peer group. Oetting and Beauvais (1986) are at the forefront of peer studies and their theory will be used as a guiding light into how peers actually influence each other.

In Oetting and Beauvais' (1986) peer cluster theory it is said that small, identifiable peer clusters determine the where, when, and how of drug use and that these clusters work to shape attitudes and beliefs about drugs. Before going any further the difference between a peer group and a peer cluster should be established. Peer groups are formal and informal groups the youth may associate with, providing the potential context within which peer clusters develop. Peer clusters are smaller subsets-cohesive groupings-in which shared behaviors and clearly defined attitudes mark membership (Oetting and Beauvais, 1986). Clusters include pairs like best friends or couples. Peer cluster theory is useful for understanding adolescent drug use and it also focuses counselors on the key groups that maintain and encourage drug involvement (Oetting & Beauvais, 1986).

Within the peer cluster model are basic conditions that make an individual susceptible to drug involvement or that, alternatively, tend to prevent drug use (Oetting & Beauvais, 1986). Some characteristics are environmental; such as, poverty, education, and family while others are internal to the person; such as, personality traits, needs, values, and beliefs. Oetting and Beauvais (1986) believe these social and psychological variables interact "to form a substrate that can make an individual susceptible to drug involvement or can inoculate that youth against drug use." However, when a young person uses drugs it is likely a direct reflection of the peer group. Friends, acquaintances, and siblings provide drugs and teach the young person the ways in which to use these drugs to get the desired effect (Oetting and Beauvais, 1986).

Rural youth would seem to be effected even more than urban youth in this respect. Even though urban youth have the opportunity to interact with more potentially bad influences on them, they may find it easier to float from one group to the next until they find one that suits their particular personality. Rural youth, especially African-American adolescents, may have less of a chance for this to occur. First off, there are an increasing number of households headed by women in rural areas and these rural, female-headed families have the highest level of poverty. In addition, and of interest to the present study, is that African-Americans had the highest number of female-headed, single-parent households (Cook, 1995). This lack of family structure may lead the adolescent to look more to their peers for support (Oetting & Beauvais, 1986). In rural areas, adolescents may not have much choice as to whom they associate with due to various factors including distance from schoolmates, poverty, and lack of mobility as a product of being impoverished. Thus if one's cluster includes one or two individuals who initiate this youth into the drug subculture there is little support for the youth to avoid alcohol and other drugs. If one chooses not to partake in drug-related activities, they risk being excluded from the group and they may not have the support at home that they need since they may be deprived of an intact family-with a stable structure-which has a better chance of communicating strong sanctions against drug use and these sanctions can help determine whether a youth becomes identified with a peer cluster that has strong sanctions against drug use (Oetting & Beauvais, 1986).

While peer cluster theory applies to most adolescent drug users, there are exceptions. Since peer cluster is so inclusive though, the exceptions can be informative. For example, when a youth is not using drugs in social contexts or is focused exclusively on a single drug, it probably means there is an underlying personality or physical problem (Oetting & Beauvais, 1986). Nonetheless, peer cluster theory offers no simple answer about the causation of drug use. Causation seems to be a circular construct. For example, a social or personal condition stimulates drug use, experimenting with drugs causes changes in social and personal conditions, these factors lead to further support of drug use, and this vicious cycle continues (Oetting & Beauvais, 1986).

The only conclusion one can come to about the use of alcohol and other drugs is that it is a complex and interactive system. In the present study the interaction of three factors and their impact on African-American youth will be examined. Accessibility to marijuana and alcohol, the perception of harm caused by marijuana and alcohol,

and peer use on the use of marijuana and alcohol by rural African-American adolescents will be explored. It is hypothesized that increased accessibility to marijuana and alcohol will increase usage, the less harm adolescents recognize in using marijuana and alcohol the more they will use and lastly if one's peer group uses marijuana and alcohol then that individual is more likely to use as well.

METHOD

Participants

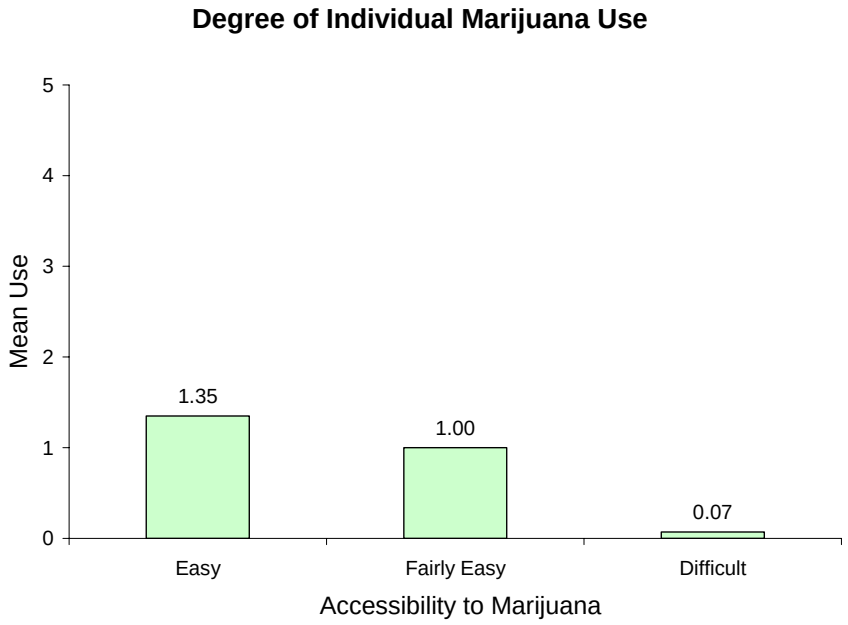
The participants in this study were 272 African-American adolescents ($\underline{M}_{Age}$ = 16.19; $\underline{SD}$ = 1.07). These adolescents were considered to be rural-dwelling (i.e. from a population of less than 10,000).

Procedure

All data obtained in this sample comes from previously collected data[1] from the Community Drug and Alcohol Survey. This survey is completed anonymously and includes various alcohol and drug use items along with personal, peer, and family variables that are related to substance use. Specifically, the variables under consideration were how accessible marijuana and alcohol were to the population, the perception of harm the population felt that usage of the said substances would cause, and how interaction with peers influenced the degree of use of marijuana and alcohol by the population.

RESULTS

Analysis concerning whether or not accessibility to both marijuana and alcohol affected their use followed the hypothesis that those who could more easily obtain marijuana and alcohol used more. In fact, only those individuals who felt their accessibility to marijuana was lowest used less[2] when compared to each of the remaining two groups (see Fig. 1).



F (2,248) = 12.10, p < .001

Figure 1. Degree of individual marijuana use

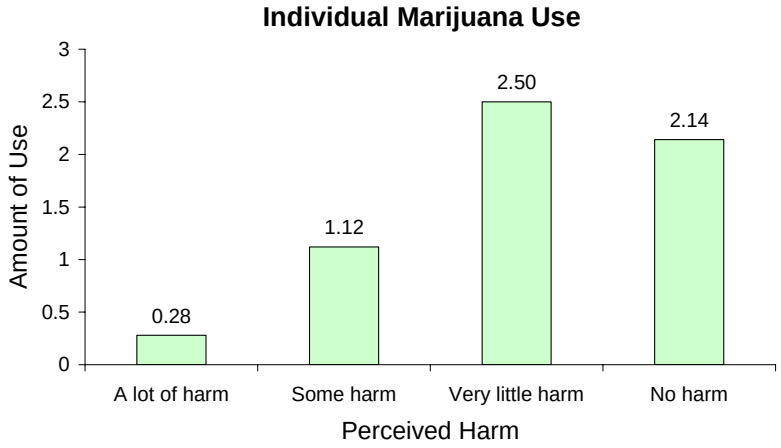
[1] NIDA grant R01 DA09349, Adolescent Drug Use in Rural America. Principal investigator: Ruth W. Edwards, Ph.D., Tri-Ethnic Center for Prevention Research, Colorado State University

[2] "Mean Use", "Amount of Use", and "Degree of Use" all refer to usage in the past 30 days

As was mentioned, the pattern of increased accessibility leading to higher usage also holds for alcohol. Similar to the above results, only the individuals who felt it was difficult to obtain alcohol used less than either of the two groups who felt accessibility to be less difficult ($\underline{M}_{\text{Easy Access}} = 1.49$, $\underline{SD} = 1.50$; $\underline{M}_{\text{Fairly Easy Access}} = 1.24$, $\underline{SD} = 1.54$; $\underline{M}_{\text{Difficult Access}} = .43$, $\underline{SD} = .98$), $F(2, 247) = 9.71$, $p < .001$.

Individuals who thought using marijuana caused a lot of harm tended to have peers who used less compared to all other groups ($\underline{M}_{\text{A lot of harm}} = 2.45$, $\underline{SD} = 2.28$; $\underline{M}_{\text{Some harm}} = 4.74$, $\underline{SD} = 3.25$; $\underline{M}_{\text{Little harm}} = 4.61$, $\underline{SD} = 2.68$; $\underline{M}_{\text{No harm}} = 3.91$, $\underline{SD} = 3.52$), $F(3, 192) = 9.67$, $p < .001$.

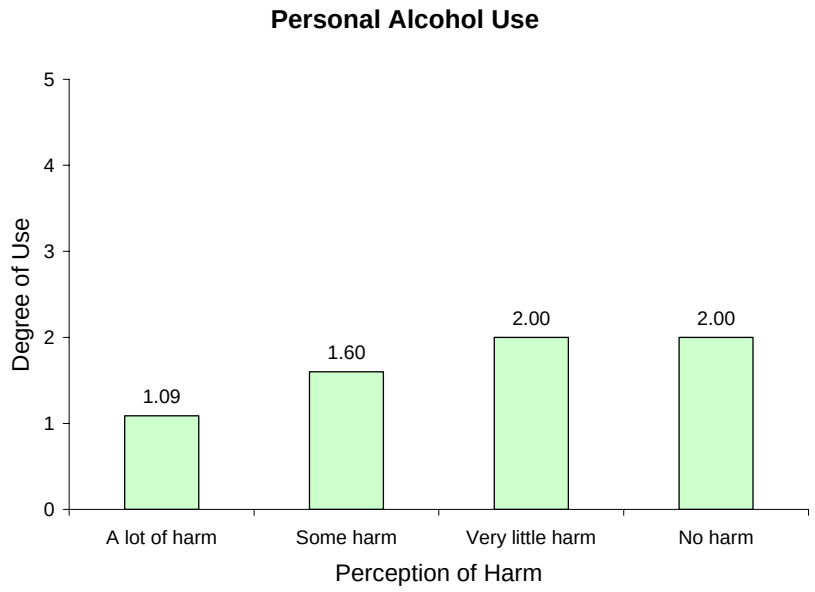
Likewise, individuals who perceived that marijuana was most harmful, used less marijuana themselves (see Fig. 2).



$F(3, 208) = 15.82$, $p < .001$

Figure 2. Individual marijuana use

Alcohol does not follow this pattern. Whether or not an individual felt that alcohol use was harmful did not seem to influence the use of peers. Possible explanations (ex: social acceptance of alcohol) will be discussed later. Again, even though an individual may have perceived there to be harm involved with using alcohol, this did not significantly influence the degree to which they used alcohol (see Fig. 3).



F (3, 214) = 1.08, p = n.s.

Figure 3. Personal alcohol use

Secondary analyses focused on the affect an individual's knowledge of marijuana and/or alcohol had on their use of such substances. Having the knowledge that marijuana can be harmful does not necessarily ensure that an individual will not use the aforementioned substance ($\underline{M}_{\text{know harm}}$ = 1.00, SD = 1.96; $\underline{M}_{\text{don't know harm}}$ = .46, SD = 1.39), F (1, 260) = 3.38, p = n.s. However, those who believe that marijuana may have detrimental effects tend to have peers who use less marijuana ($\underline{M}_{\text{know harm}}$ = 3.42, SD = 2.92; $\underline{M}_{\text{don't know harm}}$ = 4.82, SD = 5.61), F (1, 238) = 5.51, p < .05.

An individual who has the general knowledge that alcohol is harmful is no less likely to curb their use than individuals who lack this knowledge ($\underline{M}_{\text{know harm}}$ =1.30, SD = 1.47; $\underline{M}_{\text{don't know harm}}$ = .90, SD = 1.30), F (1, 256) = 2.55, p = n.s. Following the same trend, believing alcohol is harmful does not seem to impact the choosing of one's peer group ($\underline{M}_{\text{know harm}}$ = 3.50, SD = 3.03; $\underline{M}_{\text{don't know harm}}$ = 4.71, SD = 5.87), F (1, 238) = 3.43, p = n.s.

DISCUSSION

Accessibility to drugs and alcohol increased the use of these substances suggesting that rural African-American adolescents have outlets to assist them in obtaining such substances. These outlets may be peers with whom they have contact in a rural setting that may have otherwise been avoided given a larger population. In rural areas, African-American adolescents may have peer groups that overlap which makes it more likely that positive and negative influences converge with and impact one another.

While those who felt marijuana was harmful used less than those who perceived there to be little harm, the same was not true for alcohol. This indicates that while many adolescents are aware of the detriments of alcohol use, it does not mean their use of alcohol-or their peers' use-will be lessened. One possible explanation for such a finding is that alcohol use is widely accepted in our society. Beyond this, persons who are 21 and older can legally purchase alcohol while the same is not true of marijuana.

In order to improve the present situation for rural African-American adolescents the development of protective factors is important. Protective factors offer structure to the adolescent's life and act as a buffer against potential risks. Becoming committed to school, getting involved in extracurricular activities and frequently talking to parents as a way of coping with problems are examples of such protective factors (Sullivan & Farrell, 1999) that could help lead this population in the right direction.

REFERENCES

Burns, L., & Teesson, M. (2002). Alcohol use disorders comorbid with anxiety, depression, and drug use disorders. Findings from the Australian National Survey of Mental Health and Well-Being. *Drug and Alcohol Dependence* (68), 299-307.

Cook, A. K. (1995). Children in single-parent families: Explaining variation in nonmetro areas in the Pacific Northwest. *Sociological Focus* (27), 229-242.

Cronk, C. E. & Sarvela, P. D. (1997). Alcohol, tobacco, and other drug use among rural/small town and urban youth: A secondary analysis of the Monitoring the Future data set. *American Journal of Public Health* (87), 760-764.

Diego, M. A., Field, T. M. & Sanders, C. E. (2003). Academic performance, popularity, and depression predict adolescent substance use. *Adolescence* (38), 35-43.

Goode, E. (1999). *Drugs in American Society*. Boston: McGraw-Hill College.

Gonzalez, J. & Field, T. (1994). Adolescents' perceptions of their risk-taking behavior. *Adolescence* (29), 701-711.

Lipsitt, L. P. & Mitnick, L. L. (1991). *Self-regulating behavior and risk taking: Causes and consequences*. Norwood, NJ: Ablex Publishing Corporation.

Logan, J. R. & Spitze, G. D. (1994). Family neighbors. *American Journal of Sociology* (100), 453-476.

Oetting, E. R. & Beauvais, F. (1986). Peer cluster theory: Drugs and the adolescent. *Journal of Counseling and Development* (65), 17-22.

Okamoto, S. K., Hurdle, D. E., & Marsiglia, F. F. (2001). Exploring culturally-based drug resistance strategies used by American Indian adolescents of the Southwest. *Journal of Alcohol and Drug Education* (47), 45-59.

Sullivan, T. N. & Farrell, A. D. (1999). Identification and impact of risk and protective factors for drug use among urban African-American adolescents. *Journal of Clinical Child Psychology* (28), 122-136.

United States Bureau of the Census (2000).

White, H. R., Tice, P. C., Loeber, R., & Stouthamer-Loeber M. (2002). Illegal acts committed by adolescents under the influence of alcohol and drugs. *Journal of Research in Crime and Delinquency*, 131-152.

Yarnold, B. M. (1998). The use of alcohol by Miami's adolescent public school students 1992: Peers, risk-taking and availability as central forces. *Journal of Drug Education* (28), 211-233.

Young, S. E., Corley, R. P., Stallings, M. C., Rhee, S. H., Crowley, T. J., & Hewitt, J. K. (2002). *Drug and Alcohol Dependence* (68), 309-322.