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Evidence for Site-Specific, Systematic Adaptation of Substance Prevention Curriculum With High Risk Youth in Community and Alternative School Settings

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Abstract

The problem of substance use among older youth is of great concern, but has received little attention in prevention research. This may be due to the perception that prevention programming is developmentally inappropriate for older youth who are actively experimenting with substances. This project examined the differential effectiveness of youth-driven adaptations of the evidence-based prevention program, keepin' it REAL (KiR). The participating sites included a juvenile justice day program, a homeless shelter, four alternative high schools, low-income housing programs, an LGBTQ youth center, and a youth group on the Texas-Mexico border. In the project's first phase, high risk youth in community settings tailored KiR workbooks and videos to increase the relevance for their peers, older adolescents who are likely to have already initiated drug use. The second phase of the study, discussed here in detail, evaluates the effectiveness of the adapted versions of KiR compared with the original version and a comparison condition. The study employed a quasi-experimental pretest posttest design with a 6-week follow-up. Youth also participated in focus groups. Both qualitative and quantitative data suggest that participants receiving the adapted version of the curriculum experienced greater improvement in acceptance and use of substances than youth in the other two groups.

Keywords

Prevention; Adolescent Substance Abuse; Culture; Adaptation

Introduction

The problem of substance use among youth is of great concern to researchers, policy makers, and the general public in terms of health, education, and social consequences. A report by the Office of National Drug Control Policy (2004) indicated that economic costs related to substance use are on the rise and total as much of \$600 billion annually. There is evidence that tobacco, alcohol, and illicit drug use have declined slightly during the last two decades (Johnston, O'Malley, Bachman, & Schulenberg, 2011), but drug use among adolescents is still unacceptably high. The large increase in youth initiating drug use in the mid-1990's means there are now more young adults who have progressed to the stage of drug addiction. More than 90 percent of adults with current substance use disorders started using before age 18; half of those began before age 15 (Dennis et. al., 2002). While prevention science has made great strides with youth, there is still a group of youth who initiate use, disregard prevention messages, and are not willing or ready for treatment. Furthermore, drug and alcohol use and abuse during late adolescence and emerging adulthood have not been well studied. Yet, this is a particularly important area of research because the use of so-called 'hard drugs' often begins during late adolescence (NIDA, 2006). For youth who have already started using drugs, intervention during this period may prevent addiction.

The purpose of this study is to examine whether participation in youth-driven adaptations of an evidence-based prevention program results in reduced substance use and intentions to use substances. The study began with a systematic adaptation of an evidence-based prevention program, keepin' it REAL (KiR) (Holleran, Goldbach, Hopson, & Powell, 2011). The adaptations were intended to enhance the curriculum's cultural relevance for older adolescents who are likely to have initiated drug use. The second phase of the study, presented here, evaluates the effectiveness of the adapted versions of KiR compared with the original version and a comparison condition, in which youth received neither version. The following literature review highlights the need for culturally relevant substance abuse prevention for older adolescents who are already using substances and the potential benefits and challenges of adapting evidence-based programs in order to improve their cultural relevance.

Issues of Older, Drug-Using Youth

An alarming proportion of adolescents use drugs, with 38% of youth trying an illicit drug by the time they finish high school. Although marijuana use had been declining in recent years, this trend reversed in 2010, with students in 8th, 10th, and 12th grades reporting increased usage. About 71% have consumed alcohol by the end of high school (Johnston et al., 2011). Among youth who are already using substances, the high social acceptability of alcohol and marijuana use makes prevention difficult (Elickson, Tucker, Klein & McGuigan, 2001). Even when consequences arise, these youth often embrace the belief that, in their own words, "it isn't a serious problem" or "it's too late; I've already made my decisions" (Holleran & Hopson, 2006).

High risk youth in community and juvenile justice settings, who have already started using substances, continue to be neglected by our current system of service provision. For youth

who are experimenting with substances but not yet experiencing negative consequences of their use, neither prevention nor treatment adequately address their needs (Sussman, 2011). These youth often require more targeted, intensive services than those provided by traditional prevention programs. Yet, their substance use does not warrant referral to treatment programs (Chassin, 2008; Eggert, 1996).

Youth who have already started using substances are often prematurely admitted to addiction treatment programs, including residential programs, before they are at a stage of readiness to respond to the intensive treatment. Youth who have begun using substances are difficult to reach through any drug-related interventions because they report experiencing more positive pay-offs than consequences in decisional balances (Janis & Mann, 1977), resulting in significant “motivational barriers” when they are coerced into treatment (Winters, 1999). Approximately half of the youth in treatment relapse in the first 3 months following discharge (U.S. Department of Education, 2011), and 2/3 to 4/5 relapse after 6 months (Brown, Damico, McCarthy, & Tapert, 2001; Cornelius, Bukstein, Salloum, & Clark, 2003).

The implementation of developmentally appropriate prevention programs for older youth is critical for bridging the gap in services for this population. The effectiveness of substance abuse prevention programs improve when tailored and targeted with regard to age (White, 1992). Yet, most prevention programs are designed for middle school youth, with few interventions targeting high school aged youth. Drug abuse prevention programs that have been effective with general populations of younger adolescents in junior high and middle school are unlikely to be as effective with older, at-risk high school youth (Sussman, 1996; 2011).

Another gap in our understanding of effective prevention approaches with older youth involves the cultural competence of our prevention programs. Substance abuse prevention efforts are enhanced, and outcomes are improved, when programs are culturally grounded (i.e., reflect the culture of the youth that are receiving the interventions) (Hecht et al., 2003; Hecht & Krieger, 2006; Kumpfer, Alvarado, Smith, & Bellamy, 2002; Kumpfer, Pinyuchon, deMelo, & Whiteside, 2008).

Interventions may also be more effective if they are tailored for the culture of the organization in which they are implemented. Most prevention interventions for youth are designed for family and school settings (Eggert, L.L., Nicholas, L.J., & Owen, L.M., 1995; Kumpfer, K.L., Molgaard, V., & Spoth, R., 1996; Midford, 2010; Sussman et al., 1997). Research is needed to inform prevention efforts with youth in community-based, culturally unique settings.

Program Adaptation

Many states are beginning to require that agencies choose interventions that are designated as evidence-based programs, but a growing body of research suggests that practitioners do not use these interventions with fidelity. Instead, practitioners tend to make their own modifications to evidence-based interventions (Mihalic & Irwin, 2003). As an example, although school personnel increasingly report using evidence-based substance abuse

prevention programs, only about 25% report implementing these programs with adherence to the curriculum content and curriculum delivery strategies (Ennett et al., 2011).

Barriers to implementing evidence-based practices with fidelity include staffing inconsistency, lack of community support, lack of understanding of the model and technical assistance needs (Mihalic & Irwin, 2003). Research suggests that the failure of some prevention programs can be traced to their lack of cultural fit (Hansen, Miller, & Leukefeld, 1995; Palinkas, L. A., Atkins, C. J., Miller, C. & Ferreira, D, 1996). In schools and other settings with large numbers of minority youth, teachers report adapting curricula in response to such characteristics as limited English proficiency, and racial, ethnic, or cultural group membership (Ringwalt et al., 2004). Indeed, prevention program outcomes significantly improve when programs are culturally grounded, reflecting the culture of the youth who receive the intervention (Hecht et al., 2003; Hecht & Krieger, 2006; Kumpfer et al., 2008).

Engaging the target population in creating adapted version of evidence-based interventions may help to address the problem that, although many research dollars have been spent developing and evaluating evidence-based programs, few community settings are implementing these interventions with fidelity (Castro, Barrera, & Martinez, 2004).

Although youth are rarely involved in designing prevention programs (Marsiglia, F. F., Kulis, S., Hecht, M. L., & Sills, S, 2004; Warren, J. R., Hecht, M. L., Wagstaff, D. A., Elek, E., Ndiaye, K. & Dustman, P., 2006; Holleran Steiker, 2008), this is an ideal approach for ensuring that the curriculum captures the culture and life experiences of participants. Youth can incorporate their own language in discussing drug use and resistance strategies. They can portray use of drugs that are used among their peers and contexts in which they would be likely to receive a drug offer. Another potential benefit of involving youth in adapting prevention programs is that youth may change their own attitudes during the adaptation process and become motivated to change their own substance use behaviors.

Although the research base for substance abuse prevention interventions is strong, there is little research that can inform the process of creating adaptations that maintain the effectiveness of the original curriculum. Creating an effective adaptation of an intervention requires a structured adaptation process that maintains core, evidence-based components of original curriculum, while allowing community members to tailor the intervention so that it reflects their culture and life experiences (Castro, Barrera, & Martinez, 2004). In order to expand our knowledge about the potential impact of adaptations on program effectiveness, it is critical that the adaptation process be systematic and well documented (Hopson & Holleran Steiker, 2010).

Castro and colleagues (2004) discuss a need for rigorous studies of adapted versions of curricula, and recommend controlled research trials where culturally adapted versions of curricula can be tested against their original counterparts. To this end, the authors began to investigate the feasibility of utilizing a systematic adaptation process to create culturally grounded versions of an evidence-based drug abuse prevention program. Through a partnership with ten unique sites in Texas, the research employed youth as “experts” in prevention, in order to create more culturally appropriate versions of the original KiR

curriculum. The adapted versions of the curriculum were then compared with the original version.

Keepin' it REAL

The keepin' it REAL (KiR) program was developed in Phoenix, Arizona from 1995 to 2002 by Flavio Marsiglia and Michael Hecht (Marsiglia & Hecht, 2005). The culturally grounded program relied on youth input in creating a prevention program for minority youth. Four drug resistance strategies (refuse, explain, avoid, and leave, thus R.E.A.L.) serve as the foundation of the program. KiR has been evaluated with over 7,000 diverse students in middle schools that were randomly assigned to treatment conditions. Findings indicate that the participation in KiR results in increased use of resistance strategies and decreased substance use (Hecht et al., 2003).

While this program continues to be effective for culturally diverse youth, pilot research in Texas found that it was not culturally grounded for high risk youth in community settings in Texas. This project was conducted in two phases. During the first phase of this research, high risk youth adapted the evidence-based KiR curriculum (Marsiglia & Hecht, 2005) for their peers in ten unique settings (Holleran Steiker, 2008). Phase II evaluated the effectiveness of the adapted curriculum compared with the original curriculum and a comparison group at each site.

Preliminary Research: Phase I

Holleran and colleagues (2005) conducted a pilot study of youth responses to KIR in central Texas and found that students felt that the materials did not reflect their culture or life experiences. Students suggested that they could make videos for the curriculum that would make it more relevant for their peers (Holleran, Taylor-Seehafer, Pomeroy, & Neff, 2005). Thus, the purpose of Phase I research was to adapt a substance abuse prevention intervention with high-risk youth, with a particular focus on the impact of organizational and group culture in prevention efforts.

Phase I data were gathered at four alternative schools and one public high school, a homeless youth shelter, a juvenile justice day program, a YMCA-run program for youth at low-income housing centers, a drop-in center for gay, lesbian, bisexual, transgendered, and questioning (GLBTQ) youth, and a youth advocacy group on the Texas-Mexico border. All of these settings serve youth who are at higher risk for substance abuse than the general population, but each population is likely to have different cultural values, life experiences, and prevention needs.

The research team created video and workbook adaptation manuals created in close collaboration with the original KiR curriculum developers (Holleran, Hopson, & Gerlach, 2005). Personnel at each site used the manual to guide students through the process of creating the adapted materials. While no changes were made to the core curriculum (i.e., research-based aspects of the program including social skill building, resistance skill enhancement, assertiveness training, problem solving skills, self awareness and articulation of needs, and competency building) the participants adapted the culture-specific scenarios in

the workbook and remade the videos to include such local nuances as drugs of choice, settings, language, styles, drug offer particulars, and relevant clothing and music in videos.

Feedback from agency personnel indicated that the original 10-week curriculum was too long, since some of the youth are engaged in some of the settings for no more than 6 weeks. The researchers worked with developers of KiR to shorten some modules of the curriculum and condense them into a curriculum that would be delivered in six weekly sessions (Holleran Steiker, 2008).

By involving youth as drug and alcohol experts in the context of their culture, the curriculum is tailored to reflect their life experiences, making it more relevant than the original curriculum (Holleran Steiker et al., 2011). Participants created four new videos (one for each prevention strategy; Refuse, Explain, Avoid, and Leave) to accompany the curriculum and illustrate each of four KiR resistance strategies. In addition, participants revised workbook materials to convey the types of drugs used by their peers and the contexts in which drugs offers were made.

Youth who created the adapted materials participated in focus groups and completed questionnaires before and after creating the adapted versions of the curriculum. The findings from Phase I include the following: (1) adaptation processes engage youth who are often averse to prevention programs and messages, and (2) by engaging older adolescents (who often have already used or even abused drugs) as experts, the curriculum can be transformed into culturally-grounded versions for younger youth and peers of the adapters (Holleran Steiker et al., 2011; Holleran, Sagun, Hopson & Goldbach, 2007). The study qualitatively supported the use of adaptation processes to improve the curriculum and the process of adapting the curriculum as a means of changing participants' attitudes and behaviors regarding drugs and alcohol (Holleran Steiker et al., 2011).

Methods

Design

This study evaluates the effectiveness of the adapted versions of KiR using a quasi-experimental pretest posttest design with a 6-week follow-up and focus groups with participating youth. The authors hypothesized that youth receiving the adapted versions of KiR would experience greater reductions in marijuana and alcohol use than youth receiving the original version of the curriculum or neither version. In addition, they hypothesized that youth participating in adapted version of KiR would report greater reductions in intentions to accept offers of alcohol and marijuana than youth in the other two conditions.

Sample

The sites participating in Phase I also participated in Phase II, although the samples consisted of different youth within these settings for Phases I and II. The sites included four alternative schools, a homeless youth shelter, a juvenile justice day program, a YMCA-run program for youth at low-income housing centers, a drop-in center for GLBTQ youth, and a youth advocacy group on the Texas-Mexico border. Purposive sampling was used to select sites that were willing to participate both in creating the adapted versions of KiR and in the

evaluation of the adapted curricula. Participants were youth between the ages of 14 and 19. Although there were 222 students who agreed to participate in the study at pretest and 138 who completed posttest measures, the main analyses for this study include only the 73 students who completed questionnaires at all three time points: pretest, posttest, and six-week follow-up.

Procedures

Study procedures were approved by the Institutional Review Board prior to initiating research activities. Because random assignment to conditions was not feasible, the researchers worked with administrators at each site to select pre-existing groups of youth that could participate in the project. Groups of youth were assigned to one of three conditions: the adapted KiR condition (n=20), the original KiR condition (n=20), and a comparison condition (n=33) that received neither version. The administrators and researchers collaborated to identify similar groups of youth at each site to minimize pre-existing differences between youth in each condition. All participating youth were administered measures (see details below) at pretest, posttest, and 6-week follow-up. Youth in the intervention groups received the KiR modules in 6 weekly sessions that were approximately 60–90 minutes in length. Youth receiving either version of the curriculum also participated in a focus group immediately after completing the curriculum.

Measures

Youth completed the following measures of beer, wine, liquor, and marijuana use, and measures of their intentions to accept beer/wine, liquor, and marijuana. The youth responded to items on a range of substances, but the small sample size required that this study focus only on the most commonly used substances, alcohol and marijuana.

Past Month Use of Beer, Wine, Liquor, and Marijuana—Participants responded to items pertaining to beer, wine, liquor, and marijuana use during the past 30 days. These items were used in the Texas School Survey of Substance Use developed by the Texas Commission on Alcohol and Drug Abuse (TCADA, 2000) and in the pilot research exploring youth reactions to the KiR videos (Holleran, Taylor-Seehafer, Pomeroy, & Neff, 2005). Items asked participants to identify the number of times during the past 30 days they had used each of the substances. Response categories were as follows: Never used it; 1–2 times; 3–10 times; 11–20 times; and 20 or more times.

The items used to measure past month substance use in this study were included in a substance use scale in the pilot study examining local youths' impressions of the KiR videos (Holleran et al., 2005). The Texas School Survey of Substance Use was extensively tested for validity for use with students in grades seven through twelve. The survey includes quality control measures to promote confidence in the validity of the results. Responses to survey items were analyzed for problems with misinterpreting questions, dishonest responses, and failure to follow instructions. The analysis revealed few students whose responses were affected by these problems (TCADA, 2000).

Acceptance of Beer and Wine, Liquor, and Marijuana—Items adapted from the measure used for the original KiR research conducted in Phoenix were used to measure intentions to accept offers of substances. These items were also used in the pilot study examining youth perceptions of the KiR videos (Holleran et al., 2005). The items read, “If someone offered, I would accept beer or wine”, “If someone offered, I would accept liquor”, and “If someone offered, I would accept marijuana”. Response categories were represented as follows: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, and Strongly Disagree. Higher scores indicate greater willingness to accept an offer.

Demographic Characteristics—Students were also asked to indicate their age in years, their gender (boy or girl), and their ethnicity (White/Caucasian; Black/African American, Hispanic/Latino/Mexican/Mexican-American; Asian; Pacific Islander; Native American/Indian/First Nation; and Other).

Youth Focus Groups

Youth who received the adapted curriculum were asked to participate in a 45 to 60 minute focus group following participation in the curriculum to discuss their perceptions about the program. Student focus groups were conducted at posttest to provide information in the youth’s own words that can supplement quantitative findings. The focus group included questions on the following topics:

- Substance use by peers
- Approaches that would be useful in preventing abuse of substances
- Videos used in the curriculum
- Components of the curriculum that were useful
- Components of the curriculum that were not useful

The focus group discussions were audio recorded and transcribed verbatim.

Quantitative Analyses

Quantitative analyses were conducted using SPSS software. Differences between groups at pretest on demographic and dependent variables were assessed using chi-square and one-way Analyses of Variance (ANOVAs). Analyses included youth who participated at pre-test, post-test, and the one-month follow-up (N = 73). A repeated measures Multivariate Analysis of Variance (MANOVA) was used to test for group differences in changes on the dependent variables over time. Friedman’s analyses were conducted to verify the MANOVA findings because the data were not normally distributed. The Mauchly’s Test of Sphericity was used to test whether the variance matrix is circular in form. The test was not significant for Intentions to Accept Beer or Wine, Liquor, and Marijuana, or Use of Beer and Wine, indicating that the data do not violate the assumption of sphericity for these variables. The test was significant, however, for Liquor Use and Marijuana Use. Therefore, these variables were interpreted using the Huynh-Feldt statistic.

Missing data—An analysis of missing data was conducted to determine the number of cases missing for each variable and the number of variables missing for each case. The sample includes seven participants who completed a pretest and follow-up but did not complete a posttest questionnaire. Because the sample size is small, the missing data for these cases was replaced with the mean for the scores of the variable at the other two testing occasions. In order to ensure that replacing the missing values with the mean would not have a substantial impact on the analysis, the analysis was conducted with and without the seven cases that did not complete a posttest. There was no difference in the patterns of significance with the cases removed.

Qualitative Analysis

Data collection involved semi-structured focus groups with youth who completed the curriculum and posttest measures. The focus group questions were open-ended and concerned topics related to the research questions and theoretical framework for this study. These topics included substance use, attitudes about substances, attitudes about the curriculum, and helpful prevention strategies for the participants. The focus groups were audiotaped and transcribed verbatim. In addition, the researcher took detailed notes during the focus groups.

The purpose of the focus groups was to supplement data collected from the questionnaires. Therefore, focus group discussion related to the variables measured quantitatively, including substance use and resistance skills. The analysis began with open coding of focus group transcriptions in which two researchers independently assigned codes to statements related to the research questions. The transcriptions were analyzed for themes related to substance use, attitudes about substances, attitudes about the curriculum, and helpful prevention strategies for the participants.

Two researchers analyzed transcriptions independently and manually assigned codes to pertinent statements. Each developed a list of preliminary codes and met after coding transcripts to achieve consensus on the preliminary codes. They, then, independently coded the transcripts again with the aim of combining redundant codes and achieving greater specificity of codes when necessary. The researchers met to achieve consensus on these secondary codes. A third repetition of this process was used to further combine related codes and achieve the final list of codes and themes. Every theme was a result of ideas that occurred repeatedly in each of the focus groups. Codes that were not supported were either dropped or labeled as anomalies. The coding procedure continued until codes reached the point of saturation in which further analysis resulted in no additional themes and the researchers agreed on the core themes (Strauss, 1987; Lofland & Lofland, 1995).

Results

Chi-square analyses indicated that there were no significant differences between the three groups at baseline for gender ($\chi^2 = 2.81$, $df = 2$, $p = .25$) or ethnicity ($\chi^2 = 7.95$, $df = 6$, $p = .24$). One-way ANOVAs were conducted to assess for group differences in age and the dependent variables at pretest. There were no significant age differences between the groups ($F = 1.70$; $p = .19$). There were significant differences between groups in acceptance of beer/

wine ($F = 11.78$; $p = .00$), with the group receiving the original KiR curriculum reporting greater likelihood of accepting beer or wine than the comparison group. The group receiving the original KiR curriculum also reported significantly higher beer use ($F = 10.33$; $p = .01$) than the comparison group. The adapted KiR group reported significantly higher wine use ($F = 4.51$; $p = .01$) and liquor use ($F = 10.01$; $p = .00$) than the comparison group. There were no significant differences for marijuana use or likelihood of accepting marijuana at pretest. Table 1 provides demographic information for the sample in addition to pretest scores for the dependent variables by group.

Separate repeated measures Multivariate Analyses of Variance (MANOVAs) were performed with the Acceptance outcomes of beer/wine, liquor, and marijuana ($N = 73$), and for the Past Month Use outcomes of beer, wine, liquor, and marijuana ($N = 69$). Analyses included youth who participated at pre-test, post-test, and the six-week follow-up. With regard to acceptance of each substance offered, there was a significant multivariate interaction between time and group, (Wilks' $F(12, 365) = 1.93$, $p < .05$), with significant univariate interactions for acceptance of beer/wine ($F(4, 140) = 3.28$, $p < .05$), with a small effect size ($\chi^2 = .09$), and acceptance of liquor ($F(4, 140) = 4.26$, $p < .01$), with a small to moderate effect size ($\chi^2 = .11$). There were no significant group differences in likelihood of accepting marijuana over time.

The comparison group increased its reported acceptance of beer/wine at each successive wave of data collection; the group receiving the adapted KiR curriculum decreased acceptance across all three waves, and the group receiving the original KiR curriculum decreased acceptance from pre-test to post-test, but, then, increased acceptance from post-test to follow-up. The comparison group increased acceptance of liquor across all three waves of data collection, while the original KiR group fluctuated down at posttest and, then, back up at follow-up. Only the adapted group decreased consistently in acceptance from pretest through follow-up. Univariate results for acceptance of substances are presented in Table 2 below.

The past-month use analysis resulted in a significant multivariate interaction between time and group (Wilks' $F(16, 116) = 2.92$, $p < .001$), with significant univariate interactions for all 4 dependent variables with Huynh-Feldt corrections for lack of sphericity for liquor and marijuana use. Univariate results are described below and presented in Table 3 along with means and standard deviations for each dependent variable over time. Across the three time points, groups differed significantly in their use of beer ($F(3.98, 129.35) = 4.17$, $p < .01$) with a small to moderate effect size ($\chi^2 = .11$), wine ($F(4.00, 130.00) = 3.95$, $p < .01$) with a small to moderate effect size ($\chi^2 = .11$), liquor ($F(3.89, 126.33) = 3.53$, $p < .05$) with a smaller effect ($\chi^2 = .09$), and marijuana ($F(3.17, 102.90) = 3.17$, $p < .05$; $\chi^2 = .09$) with a small effect ($\chi^2 = .09$). Of the three groups, only the adapted group displayed consistent decreases in use across all three time points; this group showed significant drops in wine and liquor use, but non-significant drops in beer and marijuana use.

To summarize, the group which received the adapted curriculum demonstrated significantly greater decreases in their acceptance of beer, wine, and liquor than the comparison group. As the outcomes were non-normal, the MANOVAs were supplemented with Friedman's

non-parametric analyses for each group; these analyses supported the findings of the MANOVAs. The past-month use model showed that the adapted group demonstrated significantly greater decreases in use of beer, wine, and liquor than the comparison group. Both qualitative and quantitative data suggest that participants in the comparison group and those who received the original curriculum changed less dramatically than the group receiving the adapted version of KiR.

Attrition

Approximately 51% of the youth who agreed to participate continued the project to complete follow-up measures. One of the primary reasons for attrition was relocation, as many participants' home addresses changed during the course of the study, and attempts to obtain new contact information were unsuccessful. There were some differences between youth who complete the study and those who dropped out. Youth who reported using more substances at time 1 were more likely to participate in later waves of the project. Lower-using youth were more likely to drop out of the study prior to posttests. The researchers hypothesize that the youth for whom this intervention is targeted (i.e., highest risk youth, already seriously engaged in substance use) are most likely to stay with the project because it specifically targets them and captures their interest the most, therefore retaining them in the study.

Qualitative Findings

Analysis of the focus group data revealed important themes that provide a greater depth of understanding in interpreting the quantitative analyses. The researchers agreed on several core themes related to youth perceptions of substance use and prevention programming. Most importantly, these data suggest that, even though youth in the adapted group experienced improvements in substance use, they felt that the curriculum was not entirely relevant for their peers. They perceived that prevention programs, including KiR, were not developmentally appropriate for older youth. Students overwhelmingly expressed that the curriculum was better suited for younger students who have not initiated use. They expressed feeling that the KiR curriculum materials, including the adapted videos created by their peers, were unrealistic for older youth who are actively using substances.

A second theme involved characteristics of prevention programs that would be effective for the participants and their peers. Youth felt prevention programs that focused on abstinence, in general, were inappropriate for their peers because they already use substances. They felt that an effective strategy for changing their behavior would include testimonials by individuals who had experienced negative consequences due to substance use.

Another theme involved youth perceptions about the potential for substance use to cause harm. This theme captures the opinion that marijuana was not dangerous. Opinions about alcohol, pharmaceuticals, and mushrooms were mixed, and most students expressed feeling that cocaine and heroine were dangerous.

Youth stated that peer pressure is less of an influence than prevention programs would suggest, although it may indirectly affect behavior. For example, rather than pressuring each

other directly to use drugs, youth may feel pressure to use because it is normal, acceptable behavior among their peers.

A theme that seemed to emerge frequently in focus groups at different locations involves a need for providing information about the actual reasons people use substances. Students perceived that there needed to be a discussion of the negative consequences but wanted some acknowledgement that youth have reasons for using drugs and sometimes have no negative consequences resulting from their drug use. In fact, some students reported experiencing positive consequences of their drug use, including improved concentration and reduced feelings of stress. They indicated that prevention programs that do not discuss this issue fail to adequately reflect their values and experiences.

Discussion and Implications

This article has presented the findings of a mixed-methods study on the value of engaging youth in the adaptation of an evidence-based substance abuse prevention program. Though this research utilized a somewhat heterogeneous sample, it shows the preliminary benefits to conducting research that engages the participants in a useful way, for the benefit of similar peers. Utilizing adolescents as experts in the cultural dynamics of their community setting is beneficial when seeking to adapt an evidence based prevention program.

It is important to note that there was variation in site receptiveness and enthusiasm towards participation in the project. However, ongoing collaboration with site administrators had clear pay-off in the participation level seen by the youth. Youth were highly engaged and willing to participate in the program, although they cited that this program would be more relevant for younger youth. This finding is consistent with the goals of the original program, which is intended for younger youth between the ages of 12 and 17.

Limitations of this study include the small sample and lack of random assignment to treatment conditions, which limit our ability to draw firm conclusions from these data. Differences between groups at pretest could account for some of the group differences in substance use and likelihood of accepting substances over time. Attrition of participants between pretest and follow up also raises questions about whether the intervention was more helpful for relevant for some participants than others.

Notwithstanding limitations, the findings emphasize that prevention research must attend to the complexities of contextual factors in real-world situations (Lau, 2006; Holleran Steiker, 2008). In particular, the study provides additional support that substance abuse prevention efforts are enhanced and outcomes improved when programs are culturally grounded (i.e., reflect the culture of the youth that are receiving the interventions) (Hecht et al., 2003; Hecht & Krieger, 2006; Kumpfer et al., 2008). While more agencies are choosing a designated evidence-based “model programs,” the reality is that many workers at agencies that host “evidence-based” substance abuse prevention curricula intuitively and creatively, rather than systematically, adapt the program for the youth they serve (Ennett et al., 2011; Mihalic & Irwin, 2003; Ringwalt et al., 2003). Due to the complex nature of implementation in real-world settings, programs that are designed as “one size fits all” are not effective (Kreuter,

Strecher, & Glassman, 1999) and, ultimately, some amount of curriculum adaptation is unavoidable (Ringwalt et al., 2003). It has long been recognized that programs utilized in settings other than where they were developed often suffer from a lack of fit between the package and the host agency (Price & Lorion, 1989). The present study offers one way to systematically adapt evidence-based curriculum without altering the core curriculum.

Individuals who administer prevention programs include social workers, teachers, administrators, community organizers, clinical staff and other allied professionals. While it is important that they maintain fidelity to evidence-based curricula, the model of adaptation presented in this study offers direction for cultural tailoring without compromising the core components of the curriculum. Preventionists are in a unique position to embrace the true experience of their participants, and it is clear that speaking the “language” of the youth has significant impact on the ability for the professional to reach their target audience. This research suggests that prevention programming should allow for the careful and deliberate adaptation of prevention programs, in order to attain higher effectiveness and greater impact.

The authors recommend that further studies be conducted across diverse community and school settings in order to understand more clearly the complexities involved in adapting prevention programs. Though the benefit is becoming increasingly clear through continued attention, it is important to find the right balance of fidelity to program requirements and flexibility needed for site-specific, cultural adaptations.

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Table 1

Sample Characteristics

Characteristic	Adapted KiR Group N = 20	Original KiR Group N = 20	Comparison Group N = 33
Age <i>M (SD)</i>	15.75 (1.16)	16.20 (.95)	16.39 (1.41)
Gender <i>n (%)</i>			
Female	13 (65)	13 (65)	15 (45)
Male	7 (35)	7 (35)	18 (55)
Ethnicity <i>n (%)</i>			
Black/African American	1 (5)	1 (5)	3 (9)
Hispanic	10 (50)	10 (50)	20 (61)
White	6 (30)	9 (45)	5 (15)
Other	3 (15)	0	5 (15)
Beer Use <i>M (SD)</i>	2.35 (1.60)	2.68 (1.76)	1.23 (.77)
Wine Use <i>M (SD)</i>	2.20 (1.47)	1.63 (.83)	1.17 (.59)
Liquor Use <i>M (SD)</i>	2.40 (1.42)	2.10 (1.24)	1.33 (.80)
Marijuana Use <i>M (SD)</i>	2.45 (1.85)	2.16 (1.71)	1.57 (1.33)
Intentions to Accept Marijuana <i>M (SD)</i>	3.15 (1.84)	2.75 (1.65)	2.27 (1.59)
Intentions to Accept Liquor <i>M (SD)</i>	3.55 (1.50)	3.75 (1.37)	2.18 (1.36)
Intentions to Accept Beer/Wine <i>M (SD)</i>	3.50 (1.28)	3.04 (1.25)	2.24 (1.35)

Table 2

MANOVA Results for Acceptance of Substances

Variable	Adapted		Original		Comparison		Group × Time F(12, 365)	Effect Size
	M	SD	M	SD	M	SD		
Acceptance of Beer/Wine							3.28*	0.09
Pretest	3.50	1.28	3.90	1.25	2.24	1.35		
Posttest	3.20	1.32	3.05	1.61	2.42	1.32		
Follow-up	3.10	1.29	3.45	1.39	2.45	1.46		
Acceptance of Liquor							4.26**	0.11
Pretest	3.55	1.50	3.75	1.37	2.18	1.36		
Posttest	3.25	1.45	3.10	1.65	2.42	1.41		
Follow-up	2.95	1.50	3.45	1.43	2.61	1.43		
Acceptance of Marijuana							1.36	
Pretest	3.15	1.84	2.75	1.65	2.27	1.59		
Posttest	3.10	1.65	2.85	1.76	2.39	1.56		
Follow-up	2.70	1.52	2.70	1.72	2.45	1.52		

NOTE:

* p<.05.

** p<.01

Table 3

MANOVA Results for Past Month Use of Substances

Variable	Adapted		Original		Comparison		Group × Time F(16, 116)	Effect Size
	M	SD	M	SD	M	SD		
Beer Use							4.17**	0.11
Pretest	2.35	1.60	2.68	1.77	1.23	0.77		
Posttest	2.20	1.61	2.05	1.47	1.40	0.93		
Follow-up	1.85	1.31	2.58	1.30	1.57	0.90		
Wine Use							3.95**	0.11
Pretest	2.20	1.47	1.63	0.83	1.17	0.59		
Posttest	1.95	1.23	1.68	1.16	1.20	0.76		
Follow-up	1.35	0.59	1.79	0.92	1.27	0.64		
Liquor Use							3.53*	0.09
Pretest	2.40	1.43	2.11	1.24	1.33	0.80		
Posttest	2.15	1.31	1.79	1.13	1.30	0.60		
Follow-up	1.60	0.82	2.32	1.29	1.23	0.50		
Marijuana Use							3.17*	0.09
Pretest	2.45	1.84	2.16	1.71	1.57	1.38		
Posttest	2.25	1.55	2.32	1.80	1.57	1.33		
Follow-up	2.00	1.69	2.53	1.71	1.67	1.45		

NOTE:

* p<.05.

** p<.01