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Making Drug and Alcohol Prevention Relevant:

Adapting Evidence-based Curricula to Unique Adolescent Cultures

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Abstract

There is profound value in involving youth in the cultural adaptation of evidence-based drug prevention curricula. Presently, despite the existence of noteworthy, evidence-based programs, few community settings that serve youth are aware of, utilizing, and following evidence-based curricula in practice. Therefore, to transfer such programs to practice, systematic adaptation procedures should be further developed, utilized, and evaluated. It is recommended that community settings adapt curricula to meet their youths' unique needs to be effective, particularly with diverse cultures.

Keywords

adaptation; *adolescents*; *culture*; *drug prevention*

DESIGNERS of prevention curricula have long been aware that, in addition to core activities addressing risk and protective factors and social and resistance skills, they must consider other aspects to create effective programs. For example, research shows that didactic lecture approaches are less effective in comparison with interactive, experiential activities for youth.[1,2] Videos have also been shown to improve youth interest, and therefore engagement in the program.[3] Furthermore, when youth resonate with the cultural aspects of a program, this has a strong impact on interest, retention, and positive outcomes.[4,5] Yet, while some activities appeal to some youth, the very same activity might be considered inappropriate by another,[6] and videos that "speak to" some youth may bore or offend others.[7] Scenarios and examples in a curriculum may or may not capture young peoples' life experiences. As designers bear these crucial considerations in mind, one of the poignant questions they face is: How much change or adaptation to a curricula is beneficial for recipients while still maintaining the core curricula's effectiveness?

There is no such thing as "one size fits all" in health interventions.[8] Because of the complex nature of implementation in real-world settings, as noted by Dr Christopher Ringwalt and his team at the Pacific Institute for Research and Evaluation, "some degree of curriculum adaptation is inevitable."[9] I have discussed the values of cultural adaptation of drug prevention curricula, related research, and our cultural adaptation processes of the evidence-based "Keepin' It REAL" program as an example.

At the point of implementation, facilitators of prevention programs often do not stringently follow the written curricula.[10–12] Findings suggest that about one fifth of teachers of substance use prevention curricula did not use a curriculum guide at all, whereas only 15% reported they

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followed one very closely.[9] Even when host agencies' workers follow manuals closely, other issues, such as staffing inconsistency, lack of technical assistance, and the presence or lack of community support, complicate technology transfer from research to "where the rubber hits the road."[13] Many practical limitations that can lead to this lack of adherence include lack of training and support, inadequate time and resources, large class sizes, and low morale and burnout among teachers and school staff.[14] Workers in agencies often contend that prevention programs need to be tailored to serve their unique, diverse youth.[14]

As written, many drug prevention curricula often fail to be relevant and engaging to the youth who receive them.4 As a result, adaptation can be critical in situations where the culture of the audience is unique, ethnically, socially, organizationally, or economically. In fact, the failure of some prevention programs can be traced to their lack of cultural sensitivity.5 Given that teachers in high-minority schools were more likely to adapt curricula in response to such characteristics as youth violence, limited English proficiency, and various racial/ethnic or cultural groups, Ringwalt et al[15] suggest that curriculum developers "make a systematic effort to understand how (implementers) are adapting their curricula in high minority schools and incorporate these modifications, if found effective, into their curricula." Agencies have fortunately become more apt in choosing a designated "model prevention program," but the reality is that many workers at agencies that host such substance abuse prevention curricula instinctually adapt the programs for the youth whom they serve. This researcher's qualitative research has highlighted how implementers at lesbian, gay, bisexual, transgendered, and questioning (LGBTQ) agencies add examples of gay youth; agencies serving incarcerated youth often add the legal consequences that many universal curricula ignore; and agencies serving homeless youth often omit examples that refer to parents and homes. For example, in one instance during preliminary research, this researcher found that agencies on the Texas border were not utilizing the videos that are an integral part of the Keepin' It REAL curriculum because they perceived that the youth would find the videos irrelevant, outdated, and even, on some occasions, offensive.[16] Upon further inquiry, social service staff noted that the curricula were often perceived as "remedial," and they felt that their older youth were particularly untouched by the program information and structure.

This "adaptation-versus-fidelity" discussion is often referred to as the "local adaptation-fidelity debate."[17] Since there is a gap in the literature clarifying the issue, the prevention research field is still in conflict around this issue.[18,19] In the social sciences, although research is abundant regarding the effectiveness of prevention curricula, research on fidelity of implementation is rare. In fact, many of the highest quality programs' administrators fail to monitor and verify program integrity.[20] When researchers attempt to measure fidelity, definitions and operationalization methods of the concept vary widely. Fidelity measures tend to fall into 5 classifications: adherence, dose, quality of delivery, participant responses, and program differentiation.[22,23] This issue is critical in drug abuse prevention work, for it is clearly established that poor implementation is likely to result in a loss of program effectiveness.[23]

Although some prevention scientists have maintained that their programs are effective regardless of the race, ethnicity, gender, sexual orientation, and/or culture of the youth who receive them, they often present findings from what they call "high-fidelity samples," which include only the youth who received a certain number of sessions.[24–26] Although this makes sense from a research standpoint, it often fails to capture the high-risk youth who tend to need the programs the most (ie, youth with poor attendance, truancy, illness, hiatus at alternative schools, and legal system involvement). As Botvin[14] himself admits, "Issues related to implementation fidelity and adaptation need to be better understood as well as factors associated with institutionalization of effective prevention programs."

CULTURALLY GROUNDED PREVENTION

Over the past few decades, social scientists have emphasized on the role of culture in social interventions. "Culture"has been defined as "integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups."[27] Substance abuse prevention efforts are enhanced and outcomes improved when programs are *culturally grounded* (ie, reflect the culture of the youth who are receiving the interventions).[4,28] Different disciplines and realms utilize varied terminology for capturing culture—interchangeably utilized terms with varied definitions include cultural sensitivity, cultural competence, and cultural responsiveness.[27,29,30] For the purpose of this article, *cultural groundedness* is utilized since the term is mostly linked with substance abuse prevention literature.[4,28]

Researchers in the field of prevention often emphasize the importance of *evidence-based practices*. Definitions of "evidence-based" vary widely, but the criterion standard is clearly composed of the assessment of research findings from randomized controlled clinical trials, which constitutes a rigorous research design.[31] Preliminary analyses in this study (a pre-follow-up–post-follow-up designed clinical trial with comparison groups) have found that culturally adapted versions of the evidence-based drug prevention curriculum, Keepin' It REAL, have better outcomes with high-risk youth in community settings than the original Keepin' It REAL curriculum.[28,32]

Castro et al[33] emphasize the need for rigorous studies of adapted versions of curricula. They suggest the importance of such studies, recommending controlled research trials in which cultural adaptations of model prevention program are tested against their original versions.[33] Following this suggestion, Holleran and colleagues[32] designed and utilized a systematic adaptation process to create culturally grounded versions of an evidence-based drug abuse prevention program. The adaptation process incorporated the unique culture of Texas youth at each site into prevention curriculum scenarios and videos that accompany the original core curriculum.

INVOLVING PARTICIPANTS AS EXPERTS

As public health experts have long known, and as highlighted by Hopson and Holleran, interventions cannot thrive without the full participation and commitment—ownership, if you will—on the part of the host environment.[12,34,36] Partnerships and collaborations with agency administrators, staff, youth, and other community members make it possible to adapt and ensure not only that the intervention "talks so youth can listen" but also that the intervention continues beyond the researchers' presence.[37] Relationships between program designers and the facilitators and recipients are critical elements in the utility and effectiveness of curricula.[38]

The design processes of the original Keepin' It REAL curricula captured the complex cultural characteristics of participants and incorporated them into the research process.[39] A number of substance abuse prevention programs (described as "evidence based") are adopted nationally because of their effectiveness with certain ethnic populations. However, although a program might be *indigenously grounded* (ie, reflecting characteristics and details of the indigenous group that helped design it), it may not necessarily be *culturally grounded* (for ethnicity or other cultural aspects) in a way that is generalizable to other locations and groups of youth.[40]

The few programs that claim to be culturally grounded incorporate some cultural values, practices, and/or beliefs. Still fewer are designed to capture the norms and mores of organizational cultures such as juvenile justice settings. However, when these programs are utilized in settings other than those where they were developed, there is often a lack of fit between the package and the host, as has been recognized for years.[34] Most prevention research

is conducted in school settings with students. The original Keepin' It REAL curriculum targeted middle-school youth. This project utilizes youth as experts in the process of adapting the Keepin' It REAL curriculum's student workbook and videos, extending the age target to 14- to 19-year-olds in high-risk, unique community settings. This is an important age group to target because use rates are often higher in these settings and the initiation of use of so-called "hard drugs"often takes place during this period.[41]

School-based programs often miss the populations that need prevention the most. For example, lifetime rates of alcohol and other drug use are higher among homeless and street youth than among sheltered or household youth.[42] Furthermore, 70% to 80% of street youth report daily use of alcohol, and 35% to 55% report weekly or higher use of cocaine, crack, heroin, and/or amphetamines.[42,43]

Considering adolescents to be experts in their own life experiences allows program media to portray current and popular vernacular speech, customs, and styles of the target population. [16] Current language, terminology, and slang terms change quickly and constantly.[44] Youth are the richest resource for securing accurate portrayals of drug-related culture.

THE KEEPIN' IT REAL ADAPTATION PROJECT

Recent research findings support the use of a cultural adaptation intervention for high-risk adolescents between 14- and 19-year-olds in community settings.[32] The data were gathered at 4 alternative schools and 1 public high school, a homeless youth shelter, a juvenile justice day program setting, 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 US-Mexico border in Texas.

As noted, the purpose of this project was to adapt and evaluate a substance abuse prevention intervention with high-risk youth, with a particular focus on the impact of organizational and group cultures in prevention efforts. The intervention employed videos and skills-building exercises to teach adolescents about strategies for resisting drug use. This project was conducted in 2 phases. Phase I was designed to engage adolescents in adapting the curriculum to make it culturally appropriate for their own setting.

Phase II evaluated the effectiveness of the adapted curriculum in comparison with the original curriculum and a comparison group at each site. This project aimed to assess whether adaptations improved the curriculum as well as providing opportunities for adolescents to take an active role in making prevention curricula relevant.

Procedures

While there are many ways to adapt a program culturally, the procedures used in the Keepin' It REAL adaptation are presented as a simple and systematic option that has proven feasible and advantageous. For the purpose of clarity, it is important to note an overview of the research process used for both phases of this participatory research project. Phase I employed both qualitative methods (focus groups and naturalistic process evaluation) to study adolescents' process of adapting the curriculum to suit their culture and setting as well as the specific mechanisms of adaptation and the behavioral impact of participating in this process and quantitative measures to assess the impact, if any, on their drug use and attitudes. Participants created 4 new videos (1 for each prevention strategy; refuse, explain, avoid, and leave) to accompany the curriculum and rewrote scenarios used in the workbooks. While no changes were made to the core curriculum, the participants adapted 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. Adaptations to the curriculum were structured so that the videos and scenarios covered the same topics as the original curriculum.

Adaptation sessions were supervised by voluntary staff at the project site in collaboration with a member of the research team.

This systematic adaptation utilizes agency facilitators to orchestrate the youth process of changing the scenarios, wording, and details in the student workbooks as well as creating 4 new videos to accompany the core curriculum. First, the agency facilitator is given group ground rules to help the group set some expectations and to structure the process: (*a*) each member of the group should have an equal opportunity to contribute to the process; (*b*) each participant should be respectful of everyone in the group; (*c*) what is discussed in the group stays in the group (ie, confidentiality); and (*d*) if someone is not fulfilling the expectations listed, the group and facilitator will decide whether that person can continue to participate.

Next, facilitators are given clear written directions on how the adaptation should proceed. For example, the youth are instructed as follows:

> The scenes/scenarios chosen to appear in the workbook and/or videos should be decided upon by the WHOLE YOUTH GROUP. Videos should not show extreme consequences such as injuries or fatalities that result from drug use because such illustrations are not effective due to youth's tendency to assume “this won’t happen to me.”Scenarios depicted in workbooks and videos should be events that at least 75% of group members have witnessed or experienced to assure that common scenarios are being captured.

These instructions confine the process to reality-based details. In the experience of the researchers, these directions frame the process well. Facilitators also provide page-by-page instructions on how to have students change the student workbook and how to create their versions of the videos.

Because the process of developing videos and adapting the workbook was hypothesized to impact youth attitudes toward drug use, participants in phase I were administered questionnaires before and after adapting the curriculum. Participants participated in a focus group before and after developing the videos and scenarios to learn about their beliefs, attitudes, and experiences related to substances and prevention curricula. They were given monetary incentives, and it was noted that they were being recruited as expert consultants in youth and the culture in which youth use substances. Phase II consisted of the implementation of original and adapted curricula, along with comparison groups. Data are presently being analyzed and preliminary findings are discussed.

PRELIMINARY FINDINGS

In preliminary analyses, we found that (1) adaptation processes engage youth who are often oppose to prevention programs and messages, and (2) by engaging older adolescents (who often have already used or even abused drugs) as experts, the curricula can be transformed into culturally grounded versions for younger youth and peers of the adapters. These findings support adaptation processes to improve the curriculum, and it has emerged that the actual act of adapting the evidence-based program for others shifts attitudes and behaviors regarding drugs and alcohol. Specifically, the overall model including all substance use variables indicates the groups differ significantly in substance use over time ($P < 0.05$; $F_{(36,292)} = 1.889$, $P < 0.05$). The following variables had independent significant effects: beer, wine, liquor, marijuana, hallucinogens, and ecstasy. Youth receiving any version of the curriculum reported less beer, wine, and liquor use over time in comparison with youth. The adapted versions yielded greater reductions in wine and liquor use than the original version.[32]

Youth adaptations of the drug prevention curriculum “student workbooks” yielded interesting products. At some sites, the youth made basic changes such as updating the popular names of

substances such as “weed” for “pot.” Youth had different opinions about which drugs were best targeted with their peers, and some sites’ youth felt that it was important to aim at “harder drugs”rather than cigarettes, marijuana, and alcohol (which they tended to minimize as problematic). Some youth groups made changes to the popular youth activities (eg, basketball instead of soccer) and names of frequented locations. Many sites made changes to the specifics of drug offer scenarios (eg, who made the offer, where, and how). Another trend included population-specific changes: homeless youth took out scenarios with parents, GLBTQ youth made the workbook more gender neutral, incarcerated youth added drug court scenarios, and low-income youth portrayed scenarios in their homes and friends’ homes because they did not have transportation options elsewhere.

Some participants, such as the homeless youth, made more drastic changes to the text. Some youth included curse words when administrators would allow it, because, as they stated, “This is how we really talk.”Even when the facilitators said curse words could not be used, the youth often opted to include representations faithful to their actual communicating (eg, using a euphemism “@!%$”). Many of the groups infused the workbooks with slang terms and popular culture phrases: for example, “slacker” for the original “(a student who) never pays attention or does his homework”; “blowing up your phone” for “keeps calling you”; “chillin”’ for “are at the house”; “get throwed” for “get drunk”; “homeboy” for “friend”; and “blazin’ KB” for “smoking pot.” One of the most illustrious examples came from the groups facilitated by the YMCA for youth in a low-income housing complex. They changed the I-statement exercise because they felt that they would never identify with the original version that read, “I feel — when I dance in front of people. . . .” They opted to change it to a popular hip-hop tune lyric, “I feel — in ‘da club with a bottle full of bub.” At first, the facilitator thought that they were not taking the exercise seriously, but they soon realized that the youth resonated with the new version; even finding it funny was engaging. (“In da Club” was a popular hit by US rap star 50 Cent's from his 2002 album, *Get Rich or Die Tryin’*.)

The video adaptation also yielded powerful products. The ownership and involvement of youth in the creation of the videos culturally grounds them in a way that no other process can.[45] Each of the sites had the youth participants conceptualize, script, act, and film 4 drug prevention videos. A drug prevention video was created for each of the Keepin’ It REAL resistance strategies (ie, refuse, explain, avoid, and leave, thus the acronym REAL).[28] Each site filmed the videos at its agency ground, so the location is recognizable to the youth and their peers who would receive the adapted curricula. The scenarios range from drug deals gone awry to decisions to leave or avoid a party. The youth incorporated specific experiences. One youth depicted the story of a friend who was given pills in her drink at a party and came to consciousness the next morning without knowing what happened. Another group depicted a peer's experience of taking a drug offer and winding up in the hospital. The group of incarcerated youth depicted getting caught in relapse and winding up in drug court with sanctions.

The most effective mechanism, however, according to the youth in focus groups (across sites) was the “explain” video that simply filmed youth talking candidly about their drug perceptions, beliefs, and experiences. The “testimonial” was perceived as the most grounded portrayal of their real-life experiences. Different sites, as noted, had different perceptions about effective drug prevention strategies. Some of the sites considered, for example, that the abstinence model (ie, “Just say no”) was unrealistic and that a harm-reduction model would be more effective. In these testimonials, youth note that although they choose to use certain substances (especially marijuana), they absolutely would not use other substances (eg, crack and heroin), and they note their reasons. Several sites had youth who used to abuse substances and now are “sober” or “clean” (which meant that they no longer use drugs and alcohol.)

Although initially the researchers were concerned that the youth would feel guarded or intimidated about the video process, it is noteworthy that the youth not only were willing to express their drug beliefs and histories but also welcomed the opportunity to share with their peers. Overall, preliminary data suggest that participating in adaptation processes may genuinely change attitudes about drug use, suggesting that more research needs to be done on consideration of the adaptation process as an intervention in and of itself.

IMPLICATIONS FOR RESEARCH, PRACTICE, AND POLICY

A commitment to the cultural adaptation of prevention curricula is not a vote against fidelity —especially in light of the emphasis on technology transfer from research to practice, it is important to see that these two commitments are not mutually exclusive. It is a travesty to make the two distinct merely to perpetuate the debate. Similar to the field's “qualitative versus quantitative” debates, the two are best seen as complementary and both necessary. Although agencies struggle to engage and retain adolescents in varied settings, it is critical that prevention scientists consult with the experts to capture the emic (or insider) perspective, the language, the style, and the needs of the youth being targeted by the intervention.

As noted in this article, the best mechanism to achieve a truly culturally grounded curriculum is to enlist youth as experts. Practitioners should go beyond perusing the Substance Abuse and Mental Health Services Administration “model programs”list and engage key stakeholders in the process of choosing the prevention intervention that is likely the best fit, and creating a structure for youth and staff input on the intervention's adaptation process. Although the core of the curriculum needs to be preserved, the scenarios, language, music, culture, and videos in the project can be recreated to enhance the curriculum and make the program resonate with those who will receive it. Although fidelity to the core program is important, complex, and reality-based interactions cannot be scripted.[46] Therefore, clinicians should hesitate to stray too far from the scripted program manuals, but allow for natural and true interactions with youth. By engaging the youth in adapting the curricula first, it may prevent a sea of blank faces and glances at watches that are so common in high-risk youth receiving drug prevention curricula.[47]

A critical issue to consider is the reality portrayed by the programs. Many high-risk youth in community settings are already using substances, sometimes at high rates. It is important to avoid presenting the “Just say no”message without considering nonabstinence and harm-reduction frames.[48] In addition, it is the instinct of many implementers to try to scare youth with worst possible scenarios, but this is not an effective mode of intervention.[23] The bottom line is that when presenting drug prevention messages, it is important to honor the true life experiences of the youth recipients.

The policy implications for cultural adaptation drug prevention curricula include the need to illuminate health agencies, funding agencies, and communities about the importance of youth voices in the creation of curricula and the most effective means of implementing such programs. Also, the universal implementation (ie, administration of curricula to all youth in a broad scope, such as the DARE program) of model drug prevention programs in schools may not only miss the highest risk youth but also ostracize them in iatrogenic ways, making them even less amenable to change. School settings should consider more targeted means of prevention.

Second, administering nationally marketed versions of drug prevention curricula that have been named “culturally grounded” may be problematic (if not unethical) due to the perception that they are effective with diverse youth across the board. They may be foreign, and possibly even offensive, to youth who do not fit the mean, such as LGBTQ youth, incarcerated youth, homeless youth, youth in unique regions (eg, border towns, rural areas), and youth of low socioeconomic status. For these reasons, this author maintains the vision that at some point in

the near future, all drug prevention curricula will be distributed with directions on how to culturally ground them for the youth served. This will allow for a systematic means for transforming prevention programs into the real world, and as true mechanisms for change.

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REFERENCES

1. Tobler NS, Stratton HH. Effectiveness of school-based drug prevention programs: a meta-analysis of the research. Journal of Primary Prevention 1997;18(1):71–128.
2. Sussman S, Rohrbach LA, Patel R, Holiday K. A look at an interactive classroom-based drug abuse prevention program: interactive contents and suggestions for research. Journal of Drug Education 2003;33(4):355–368. [PubMed: 15237862]
3. Hecht ML, Corman S, Miller-Rassulo M. An evaluation of the drug resistance project: a comparison of film versus live performance. Health Communication 1993;5:75–88.
4. Hecht ML, Marsiglia FF, Elek E, Wagstaff DA, Kulis S, Dustman P. Culturally-grounded substance use prevention: an evaluation of the Keepin' It REAL curriculum. Prevention Science 2003;4(4):233–248. [PubMed: 14598996]
5. Hansen WB, Miller TW, Leukefeld CG. Prevention research recommendations: scientific integration for the 90's. Drugs & Society 1997;8(3–4):161–167.
6. Harthun ML, Drapeau AE, Dustman PA, Marsiglia FF. Implementing a prevention curriculum: an effective researcher-teacher partnership. Education & Urban Sociology 2002;34(3):353–364.
7. Holleran LK, Taylor-Seehafer MA, Pomeroy EC, Neff JA. Substance abuse prevention for high-risk youth: exploring culture and alcohol and drug use. Alcohol Treatment Quarterly 2005;23(2–3):164–184.
8. Kreuter MW, Strecher VJ, Glassman B. One size does not fit all: the case for tailoring print materials. Annals of Behavioral Medicine 1999;21(4):276–283. [PubMed: 10721433]
9. Ringwalt CL, Ennett S, Johnson R, et al. Factors associated with fidelity to substance use prevention curriculum guides in the nation's middle schools. Health Education & Behavior 2003;30(3):375–391. [PubMed: 19731502]
10. Backer, TE. Finding the Balance: Program Fidelity and Adaptation in Substance Abuse Prevention: A State of the Art Review. Center for Substance Abuse Prevention; Rockville, MD: 2001.
11. Gottfredson DC, Gottfredson GD. Quality of school-based prevention programs: results from a national survey. Journal of Research in Crime and Development 2002;39:55–59.
12. Hopson LM, Holleran Steiker LK. Methodology for evaluating an adaptation of evidence-based drug abuse prevention in alternative schools. Children in Schools. In press.
13. Mihalic SF, Irwin K. Blueprints for violence prevention: from research to real-world settings—factors influencing the successful implementation of model programs. Youth Violence and Juvenile Justice 2003;1(4):307–329.
14. Botvin GJ. Advancing prevention science and practice: challenges, critical issues, and future directions. Journal of Prevention Science 2004;5(1):69–72.
15. Ringwalt CL, Vincus A, Ennett S, Johnson R, Rohrbach LA. Reasons for teachers' adaptation of substance use prevention curricula in schools with non-White student populations. Journal of Prevention Science 2004;5(1):61–67.
16. Holleran Steiker LK. Consulting with the experts: utilizing adolescent input in substance use prevention efforts. Sociological Perspective 2006;8(1):53–66.
17. Elliott DS, Mihalic S. Issues in disseminating and replicating effective prevention programs. Journal of Prevention Science 2004;5(1):47–53.
18. Kumpfer KL, Alvarado R, Smith P, Bellamy N. Cultural sensitivity and adaptation in family-based prevention interventions. Journal of Prevention Science 2002;3(3):241–246.

19. Pentz MA. Form follows function: designs for prevention effectiveness and diffusion research. Journal of Prevention Science 2004;5(1):23–29.
20. Domitrovich CE, Greenberg MT. The study of implementation: current findings from effective programs that prevent mental disorders in school-aged children. Journal of Educational & Psychological Consulting 2000;11(2):193–221.
21. Domitrovich CE, Greenberg MT. Introduction to the special issue: preventive interventions with young children: building on the foundation of early intervention programs. Early Educational Development 2004;15(4):365–370.
22. Dane AV, Schneider BH. Program integrity in primary and early secondary prevention: are implementation effects out of control? Clinical Psychological Review 1998;18(1):23–45.
23. Dusenbury L, Brannigan R, Falco M, Hansen WB. A review of research on fidelity of implementation: implications for drug abuse prevention in school settings. Health Education Research 2003;18(2): 237–256. [PubMed: 12729182]
24. Botvin GJ, Kantor LW. Preventing alcohol and tobacco use through life skills training. Alcohol Research & Health 2000;24(4):250–257. [PubMed: 15986720]
25. Gorman DM. Overstating the behavioral effects of the Seattle Social Development Project [letter]. Archives of Pediatric & Adolescent Medicine 2002;156:1155.
26. Gorman DM. The “science” of drug and alcohol prevention: the case of the randomized trial of the Life Skills Training (LST) program. International Journal of Drug Policy 2002;13:21–26.
27. Department of Health and Human Services. Office of Minority Health. What is cultural competency?. [June 14, 2007]. Available at: http://www.omhrc.gov.
28. Marsiglia, FF.; Hecht, M. Keepin’ It REAL Drug Resistance Strategies (Curriculum Manual). ETR Associates; Santa Cruz, CA: 2005.
29. Bernal G, Bonilla J, Bellido C. Ecological validity and cultural sensitivity for outcome research: issues for the cultural adaptation and development of psychosocial treatments with Hispanics. Journal of Abnormal Child Psychology 1995;23(1):67–82. [PubMed: 7759675]
30. National Association of Social Workers. NASW standards for cultural competence in social work practice. [June 14, 2007]. Available at: http://www.socialworkers.org/pub/standards/cultural.htm.
31. Substance Abuse and Mental Health Services Administration. Report to Congress on the prevention and treatment of co-occurring substance abuse disorders and mental disorders. [June 14, 2007]. Available at: http://www.samhsa.gov/reports/congress2002.
32. Holleran Steiker, LK.; Sagun, D.; Hopson, LM.; Gold-back, J. A community-based adaptation of an evidence-based substance abuse prevention program: effectiveness for reducing alcohol use among adolescents.. Poster presented at: Society for Prevention Research; Washington, DC. May 31, 2007;
33. Castro FG, Barrera M, Martinez CR. The cultural adaptation of prevention interventions: resolving tensions between fidelity and fit. Prevention Science 2004;5(1):41–45. [PubMed: 15058911]
34. Price, RH.; Lorion, RP. Preventing programming as organizational reinvention: from research to implementation.. In: Shaffer, D.; Phillips, I.; Enzer, NB., editors. Prevention of Mental Health Disorders, Alcohol and Other Drug Use in Children and Adolescents. US Government Printing Office; Washington, DC: 1987. p. 90-1646.OSAP Prevention Monograph-2. DHHS Pub. No. (ADM)
35. Kelly, JG. Seven criteria when conducting community-based prevention research: a research agenda and commentary.. In: Steinberg, JA.; Silverman, MM., editors. Preventing Mental Disorders: A Research Perspective. US Government Printing Office; Washington, DC: 1987. p. 87-1492.DHHS Publication No. (ADM)
36. Tornatzky, LG.; Fergus, EO.; Avellar, JW.; Fairweather, GW. The Process of Technological Innovation: Reviewing the Literature. National Science Foundation; Washington, DC: 1983.
37. Hopson, LM. Effectiveness of Culturally Grounded Adaptations of an Evidence-based Substance Abuse Prevention Program With Alternative School Students [dissertation]. School of Social Work, University of Texas; Austin, TX: 2006.
38. Harthun ML, Drapeau AE, Dustman PA, Marsiglia FF. Implementing a prevention curriculum: an effective researcher-teacher partnership. Education & Urban Society 2002;34(3):353–364.
39. Gosin MN, Dustman AE, Drapeau AE, Harthun ML. Participatory action research: creating an effective prevention curriculum for adolescents in the southwestern US. Health Education Research 2003;18(3):363–379. [PubMed: 12828237]

40. Holleran, LK.; Castro, F.; Coard, S.; Kumpfer, K.; Nvborg, V.; Stephenson, H. Moving towards state of the art, culturally relevant prevention interventions for minority youth.. Paper presented at: the Society for Prevention Research Annual Meeting; Washington, DC. May 27, 2005;

41. National Institute on Drug Abuse. Drug abuse prevention intervention research. Program Announcement No. PA-05-118. [June 2007]. Available at: http://grants.nih.gov/grants/guide/pa-files/PA-05-118.html.

42. Greene J, Ennett S, Ringwalt C. Substance use among runaway and homeless youth in three national samples. American Journal of Public Health 1997;87:229–235. [PubMed: 9103102]

43. Koopman C, Rosario M, Rotheram-Borus MJ. Alcohol and drug use and sexual behaviors placing runaways at risk for HIV infection. Addictive Behaviors 1994;19(1):95–103. [PubMed: 8197897]

44. Shapiro T. Adolescent language: its use for diagnosis, group identity, values, and treatment. Adolescent Psychology 1985;12:297–311.

45. Holleran LK, Dustman P, Reeves L, Marsiglia FF. Creating culturally grounded videos for substance abuse prevention: a dual perspective on process. Journal of Social Work Practice in the Addictions 2002;2(1):55–78.

46. McClain K, Zhao Q, Bowen E, Schmitt P. The relationship between teachers and text: in search of grounded theory. North American Chapter of the International Group for the Psychology of Mathematics Education Proceedings 2006;2:594–599.

47. Barrera M, Castro FG. A heuristic framework for the cultural adaptation of interventions. Clinical Psychology: Science and Practice 2006;13(4):311–316.

48. MacMaster SA, Holleran L, Chaffin K. Empirical and theoretical support for non-abstinence-based prevention services for substance using adolescents. Journal of Evidence-Based Social Work 2005;2 (1–2):91–111.