

Adapting Evidence-Based Programs to New Contexts: What Needs to Be Changed?

Edward Smith, DrPH;¹ and Linda Caldwell, PhD²

ABSTRACT: *Evidence-based substance use prevention programs have proliferated in schools and are being adopted by districts in rural settings and internationally. Little attention, however, has been paid to the adaptation process that occurs when these programs are moved to different contexts. In this commentary, the authors draw upon their experience with program adaptation to identify 6 areas for consideration when school-based programs are introduced in rural areas and in other countries. A key conclusion that emerges is that evidence-based programs should not be changed randomly but should be modified based on a careful review of program content, the theoretical underpinnings involved, and the context of the new environment.*

Over the past 20 years, substance use prevention programs that are evidence-based and delivered in schools have grown in number as researchers have moved from efficacy through effectiveness trials.¹ Accompanying this growth has been the commercial development of some of these programs in order to move effective prevention strategies out of (mostly) university research settings and into the hands of school districts and communities. Recent research² has also focused on how to encourage communities to choose effective programs by providing options to community leaders that are based on evidence. While such efforts are to be commended, little attention has been paid to the adaptation process that occurs when these programs are moved to different contexts than where they were developed and tested. Of particular concern from the rural perspective is the fact that many of these programs have been developed in urban and suburban school districts and not in rural areas.

Related to this concern is the fact that recently many countries throughout the world are turning to the United States for assistance with their prevention efforts. The United States is viewed by many as the leader in the development of prevention programs, thus prompting the application of the United

States-based prevention programs in a variety of countries. As globalization increases and the need for a prevention focus becomes more commonplace internationally, the use of United States-based prevention programs is likely to continue.

Moving prevention programs from an urban or suburban to a rural context, and from US to non-US contexts, raises some complex questions about the fit of such approaches to these different environments. Changing cosmetic elements of programs, such as pictures or language, is relatively easy to accomplish. Other issues involving content or delivery style, however, require a better understanding of the differences between the environments and what are viewed as key substantive and process issues within the curriculum. In essence, it requires a thorough evaluation of the theoretical conceptualization of the program as well as the program (implementation) theory to assess how the program might be best used, and moreover, what adaptations are needed. While we recognize that the proliferation of the United States-led media exposure and the Internet have had, to various degrees, a homogenizing effect on children and youth throughout the world, there remain a number of areas in which rural and non-US environments present different challenges to young people and raise different issues regarding what it means to be an adolescent in those contexts. As a result, adolescent development may differ.

The purpose of our paper is to address program adaptation of curricula developed in 1 context (eg, urban, US) to different contexts (eg, rural African American or urban South African). We have identified 6 areas for consideration in this contextual translation process. A key tenet guiding these 6 areas is that evidence-based programs should not be changed randomly but should be modified based on a careful

¹Prevention Research Center, The Pennsylvania State University, University Park, Pa.

²Department of Recreation, Park, and Tourism Management, The Pennsylvania State University, University Park, Pa.

review of the content of the program, the theoretical underpinnings involved, and the context of the new environment. In addition, we address the issue of dissemination and sustainability. While other researchers have identified common elements in prevention programs³ or have highlighted the need for cultural sensitivity⁴ none have specifically addressed the change processes discussed here. Our comments and observations rely heavily on our experience in adapting programs to rural and non-US settings. These experiences include rural adaptations of the drug prevention program Life Skills Training⁵ and a program to enhance healthy use of leisure known as TimeWise.⁶ TimeWise is commercially available throughout the United States and has been implemented in many states. TimeWise has also been implemented in Germany, and it is a central element in a drug and HIV prevention curriculum⁷ being implemented in a randomized control trial in South Africa. In addition, the authors have negotiated with partners in Colombia, Australia, Chile, and China over the use of these programs in those countries.

We proffer this paper to contribute to a nascent dialogue about how to adapt programs to different cultural, geographic, and political contexts. This is an area needing considerable research attention as internationalization at all levels increases. We wish to observe at the outset, however, that the adaptation process involves learning, which is bi- and multidirectional. Working with colleagues and constituents in different contexts requires an openness to learn from these settings. It is in this vein that effective adaptation and adoption of curricula can best be developed.

A Heuristic Tool for Reviewing Prevention Programs: Six Areas to be Considered. The first 4 points listed below specifically address issues involved in the review of the program's content and delivery. Points 5 and 6 are concerned with dissemination and sustainability.

(1) Which differences matter and what is the degree of difference between contexts? While all contexts differ to some degree from the context in which the program has been developed and tested, it is important to first ask: What are the important differences to assess, and how much do they differ?

In adapting any program, a first step is to determine what the potential differences might be. Since many curricula are based on a social ecological perspective, a review of the differences should at least address differences in personal characteristics, role of parents and family, language, customs, economic and power structures, and culture.

For example, basic human processes, like emotions, motivation, and sociability seem to apply globally, although the expression of those differs regionally within country and culture as well across countries and cultures. Thus, curricula that contain elements of socio-emotional learning, for example, will need to be adapted to the local culture. The level of adaptation may be minimal and as simple as embellishing different aspects of the program (eg, when talking about motivation or self-determination in a more individualist culture the emphasis is on the person, in a more collectivist culture the emphasis might be on the person interacting with important others). On the other hand, in a culture where emotions are not to be public, curricula that focus on emotions will need to be adapted to show children how to deal with emotions in a more private versus public context (eg, school).

It is also important to be sensitive to the history of the country's relationship with the US government, the influence of the US media (eg, access to US television shows and movies), and youth's access to computer technology (eg, the Internet). These more political and resource issues may make adoption or adaptation more difficult, or more easy.

The degree of difference is also important. Schools in rural areas, for example, may have as much variability within the rural context as one would find between urban and rural environments. Rural areas vary a great deal in population density, from small towns to isolated farms (and combinations thereof). In addition, any program adaptation needs to consider geographic proximity to more densely populated areas. Many children in rural schools have relatively close proximity to urban areas and shopping malls, and their parents may be daily commuters. Access to public transportation (or for older teens, private automobiles) may mean that a 20- to 30-minute drive brings the child to an urban-like context. In such settings program changes may be minimal. On the other hand, some rural schools serve truly frontier youth, living in very isolated population pockets with very low density. Such environments obviously create a more critical need to review a program's content for nonrelevant material.

(2) Do developmental processes differ? The role of culture in developmental processes needs to be carefully weighed. In many texts on human development the role of context or culture is often minimized; there is an implicit understanding that developmental processes are fairly uniform. For example, in adolescence, developmental processes include developing behavioral and emotional autonomy from parents, initiative, identity, and

intimacy. Furthermore, there is the premise that all youth need supports, opportunities, programs and services from caring adults in environments that are both physically and psychologically safe.

While these general principles may apply in most contexts, it would be prudent to review how they are applied within a program, especially since most prevention programs for adolescents incorporate them in their lessons.

A careful review of these principles within the applied context may reveal important differences that can alter the manner in which some of these developmental processes operate and at what age. Potential differences in rural or non-US contexts to be considered during adolescence, for example, include the role of work and chores, the extent to which children are expected to follow in their parents' footsteps, gender role rigidity, rites of passage, the age of adult role acquisition, and the influence of collectivism. All of these factors, and potentially others, may require program adaptation in order to increase a program's salience in a new environment.

(3) Do risk and protective factors operate similarly?

While the role of most risk and protective factors may be fairly uniform, the manner in which they influence the lives of rural and non-US youth may vary from typical urban youth. The traditional rural family and many families throughout the world, for example, are much more likely to involve relatives from the extended family (and, in some countries, polygamous relationships) in daily life. In such environments, the family name plays a more important role in a youth's identification, both positively and negatively. In addition, such environments often support family consultation in decision making; such processes may need to be incorporated into decision-making lessons in prevention programs.

Poverty, as a risk factor, may also operate differently. In most urban contexts, there is a wide range of poor and well-to-do families that are often visible on a daily basis. In rural and non-US environments, such disparities may not be as evident. In such contexts, the importance of relative poverty may not be as acute. The impact of education as a widely recognized protective factor may also not be as clear-cut. Aspirations for a generalized college degree, for example, may not be as functional for rural and international youth who are tied to an agricultural economy. Dropping out of school at age 16 to assist on a farm, may in fact, place the youth on a positive economic trajectory and not put the youth at risk for substance use.

Another contextual difference to consider is that the potential protective role of schools as the center of extracurricular activities may be nonexistent in

nonurban, non-US environments. Similarly, youth opportunities to access community recreation facilities or health clinics may be very limited. Thus, curricula or programs will need to assess the degree to which they are dependent upon these services and help youth negotiate access where needed. Increased knowledge, as another protective factor, may also operate differently. For example, knowledge of the health risks associated with unhealthy behaviors (eg, cigarette smoking or drinking alcohol) is usually a central ingredient in most prevention programs. Many prevention programs attempt to increase this protective factor as a key component of the program.

In doing so, programs also recognize that there are environmental forces that counteract these messages (eg, advertising, billboards, etc). In rural and non-US contexts, these environmental forces may be nonexistent, or may perhaps be more diverse. This diversity may include such forces as folk medicine, explicit rites of passage, and "wisdom" from extended family members. The impact of these different sources of knowledge, which may reinforce or negate the program's information, needs to be recognized and incorporated into the adapted program. Often, these sources of information are considered more valid, and to refute these sources in school (wittingly or unwittingly) without being sensitive to their existence may be counterproductive.

Finally, the role of personal safety and security needs to be considered in translating programs to different contexts. All youth in high-risk environments need to be cognizant of such issues; in rural areas, however, safety from gangs, for example, is not a major concern. Bullying, on the other hand, is probably as likely to occur. In some non-US environments, safety while in school may be a more salient issue than it is in the United States. All of these contextual differences need to be considered when adapting programs.

(4) What level of program adaptation is needed? Four different forms of adaptation need to be considered: structural, content, provider, and delivery. Structural adaptations, which need to be considered in all school environments regardless of context, include such things as the number of lessons and the time allotted per lesson. They also may include the need to reformat lessons from a more experiential format (eg, role-plays) to a more didactic approach. Although these adaptations seem relatively straightforward, the pedagogical theory must be considered. It is in these issues that a good deal of creativity may be needed. This is an important area for research, as there is little evidence as to the importance of these issues in terms of adaptation and effectiveness. These types of changes have also been referred to as "surface structure."⁴

Content adaptations, or “deep structure,” are even trickier and need to be approached with caution.⁴ Effective programs are theoretically derived, are intended to be internally consistent, and often build on sequential principles contained within lessons. Therefore, in adapting programs it is necessary to assure that the adaptation follows these basic principles. Content adaptations may be conceptualized as consisting of 2 types: core (or active) ingredients and pedagogical materials. Core ingredients for adolescent substance use prevention programs, for example, may include such things as decision-making rules, exploring one’s self-image, and the role of peer norms.

Any changes to these core ingredients should be carefully reviewed based on points 1-3 above. For example, the core ingredient of “decision making” in many US prevention programs is based on individualistic decision models. In more collectivistic contexts, “decision making” may need to incorporate a step of consultation with trusted adults to be effective in this context. Pedagogical materials, on the other hand, may be easier to modify than core ingredients without changing the program’s effectiveness.

Materials such as names, scenarios, and role-plays can be modified to fit geographical, historical, and cultural contexts as long as the changes are performed in the spirit of the original materials.

In addressing content adaptations, Castro and colleagues⁸ proposed a design strategy for hybrid prevention programs which incorporate adaptation to enhance program fit with the culture of the local community. If prevention programs are not culturally adapted, a cultural mismatch can threaten program efficacy despite high fidelity. Such adaptation involves the need to consider local-life issues and worldviews in order to be effective. Furthermore, Castro et al advocate adopting a community-based participation approach in program design and research, meaning that both a top-down approach (scientific experts in program design) and a bottom-up approach (mobilizing community involvement and buy-in) are incorporated.⁴ This need for cultural sensitivity has a variety of labels (eg, cultural competence, cultural tailoring, etc).⁹

Some settings may require that different providers be used to deliver different components of the program. Here, flexibility is needed to ensure that the material is covered by people knowledgeable of the specific content as well as assuring that any specialized provider knows how the specific material being delivered fits into the overall curriculum. Programs that involve sexuality content, for example, may recommend that people trained in sex education, a school nurse, or someone from a health clinic deliver this content. In rural areas, or under-resourced

environments, such accommodations may be difficult to arrange. In such instances teachers may need additional training in order to effectively deliver these components.

The program’s recommended style of delivery also needs to be considered. Most effective prevention programs are interactive in nature, involve small-group work, and minimize didactic lecturing. In schools where there are specialized teachers who focus on health topics, most are comfortable with this style of delivery. In rural areas, or in countries where teachers deliver a diversity of subjects, teachers may have little experience with this delivery mode. Teachers who are not comfortable with this interactive style, or who have large classes, may need to be coached in this method in order to have the program delivered effectively.

(5) *Can the program adoption process be controlled and are new programs sustainable?* Because the answers to the 4 issues raised above are not easily nor immediately addressed, we strongly encourage others to consider a phased process of program dissemination. In many school jurisdictions, there is an attempt to uniformly assign new curricula to every school within that district. If possible, where there is more than 1 school in a district, we suggest a trial period instead of blanket dissemination. A pilot phase should be conducted during which a careful process evaluation is employed to assure that the program adaptation is successful. Interviews and/or focus groups with teachers, students, and administrators can be very productive during this phase and help to modify the adaptation for future application. By working with school administrators to control the adoption process, there is an increased likelihood that the program will be better received and more likely to achieve its desired prevention effects through this phased adoption process.

Related to the adoption issue is sustainability. Programs that have been carefully adapted to the context stand a better chance of being sustained in that environment. Other issues in sustainability, however, need to also be addressed during this dissemination process. There is a need to know who makes curriculum decisions, how they unfold, and for what length of time. It is also important to understand how the curriculum addresses standardized educational objectives, be they imposed by state, provincial, or federal requirements. By carefully mapping a curriculum onto these standards, a program is more likely to be sustained and accepted.

Finally, there is a need to comprehend the relevant textbook/commercial curriculum market: How does this particular prevention program relate to these markets? Drug prevention programs, for example, are often taught within a broader health curriculum. While

the evidence-based drug prevention program may involve 12 lessons, the broader health curriculum (and related commercial textbook) may involve 36 lessons, some of which address drugs. Beyond the question of scheduling the 2 curricular sources, the adaptation process needs to understand, and provide suggestions, on how the classroom teacher should address the integration of these 2 sources of health education. Related to this question, of course, is cost. In the long run, will the school be able to maintain the financial burden of 2 sources of health information?

(6) *Who will initiate the program's adaptation and ensure fidelity?* If a school jurisdiction initiates the adaptation it obviously assumes this role. However, often universities or nongovernmental organizations (NGOs) initiate these program transfers as part of related research or service delivery projects. In these circumstances, it is important that the university or NGO involved in this process be recognized as a respected partner with the school system. Such partnerships rely upon an equal respect for the other institution, which often is enhanced by a history of successful relationships. If this history does not exist then it would be beneficial for the university or NGO to develop a partnership with another entity (individual or institution) that does have such a relationship with the school system. In such arrangements, it is important for everyone to know both the limits of the partnership and the constraints each faces. In any case, the bottom line is that someone must be passionate about the program and champion its systematic adoption and be concerned about fidelity to the agreed upon core elements to promote effectiveness.

Conclusion

The preceding 6 points are intended as a starting point for discussing the issue of program adaptation in new contexts. Little has been written about these issues, especially as they pertain to rural and international translation of evidence-based prevention programs. The issues that we raise in this paper are a product of our involvement since 1996 in adapting or creating programs for rural and international contexts.^{7,10,11} Our cumulative experiences across these projects, while at times frustrating, have been very rewarding and we have learned a great deal. These experiences suggest that many prevention programs, when adapted in an organized fashion, can be successfully transferred to new contexts with a minimum of problems.

Over the past 30 years, applied researchers in the United States have developed and evaluated a number of prevention programs aimed at improving the lives of

children and youth. This cumulative body of evidence, which has been funded mostly by the National Institutes of Health and private foundation efforts, indicates that prevention efforts can be effective in preventing problem outcomes. While the effects of these programs are often modest, taken from a public health perspective, the broader societal effects can be very encouraging. The results from these evidence-based programs also suggest that there is little need to reinvent the wheel; minor modifications, however, may be needed to improve the roll. This paper is a step in developing a strategy for addressing these modifications.

Conflict of Interest Statement:

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