HEALTH AND SAFETY IN THE SOUTH TEXAS BORDER REGION:
A CULTURALLY RELEVANT HEALTH RISK PREVENTION PROGRAM FOR HISPANIC YOUTH AND THEIR FAMILIES

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ABSTRACT

Millions of Americans suffer from chronic physical illness. The U.S.–Mexico border region has significantly higher rates of infectious and communicable diseases than other areas of the nation. The purpose of this study was to assess the effects of a comprehensive culturally relevant health risk prevention program on Hispanic youth and their families. The results indicated highly significant improvement in emotional competence, self-control, social competence, behavioral awareness, and learning skills of the fifth grade participants. Additionally, as a result of the prevention program, the parents and caregivers of the target youth demonstrated significant improvement in their knowledge of health and safety issues.

More than 90 million Americans live with chronic illnesses (Centers for Disease Control and Prevention, 2003). Chronic diseases account for 70% of all deaths in the U.S., and 60% of the nation’s medical costs are for people
with chronic illnesses. Chronic disease disproportionately affects women and ethnic minorities. The rates of infectious and communicable diseases are significantly higher in the U.S.-Mexico border region than anywhere else in the United States (Health Resources and Services Administration, 2001). The lack of information about health and safety related issues, lack of access to this information, and lack of training in resiliency skills to effectively utilize this information appear to be the three primary underlying causes of public health problems among the residents of the South Texas border region.

The population of this unique, southern frontier is predominantly (95%) of Hispanic origin. The area is characterized by numerous health-related risk factors including extreme poverty, high rates of unemployment and illiteracy, environmental pollution, drug trafficking, lack of adequate public and social services, and increased crime rates (Russell & Flores, 1996). An ever-growing segment of the population resides in isolated, rural areas inside small homes, which are often made of cardboard and other disposable materials. These isolated and unincorporated settlements along the border are known as colonias (Office of Border Health, 2000). Most homes in these settlements usually do not have electricity, running water, or sewage systems. Out-houses are still present in this area, as are extremely high incidences of birth defects, failure to thrive infants, and infectious diseases like tuberculosis, hepatitis, scabies, and intestinal parasites (Office of Border Health, 2000).

A considerably higher unemployment rate than the national or state average characterizes the South Texas borderlands that lie along the Rio Grande River. The unemployment rate of this area is approximately 8.1%, placing it near the very top of the unemployment figures for counties in the State of Texas and considerably higher than the state average of 6.4% (Texas Workforce Commission, 2003).

The border region of South Texas has a serious shortage of resources available to help youth and their family members develop in the healthiest manner possible (Office of Border Health, 2000). Existing health education programs and community prevention services are inadequate and not able to serve the needs of the entire population of high-risk Hispanic youth. Accordingly, one of the most pressing needs in this area of the state is to establish new health-related prevention services and programs for youth and their family members that are comprehensive, culturally sensitive, and community-based. The primary barriers to improving the health status of local youth are the fact that many of their parents or other significant adults in their lives—especially those residing in colonias—do not read or speak English, do not read Spanish, and do not watch American television stations or listen to American radio stations. Many of these adults are not able to attend presentations at schools due to transportation problems or work and/or child care commitments (Office of Border Health, 2000). Consequently, these adults are not available to be reached by traditional means to educate and inform them about health issues and thus cannot help reinforce health messages that are being delivered to their children.

Clearly, there is a serious need for health education, prevention, and intervention programs in the borderlands to address such issues as lead poisoning, infectious
diseases, diabetes, high blood pressure, heart disease, and allergies and asthma (Office of Border Health, 2000). Furthermore, it is crucially important that health-related prevention and intervention programs be tailored to the specific needs of the border communities and to build upon the strengths and values of the borderland Hispanic culture.

Perhaps the most prominent protective factor available to young people residing in the U.S.-Mexico border region is the cultural value of *familismo*, an emphasis on family. Families care deeply about the problems facing their children and will get involved toward the resolution of these problems when provided the opportunities to do so. By focusing on youth and their family members, an effective health risk prevention program must involve the entire family in helping to improve the health-related futures of the young people. Therefore, an effective prevention program for serving the population of the borderlands must be bilingual, bicultural, and must focus on individual youth as well as their families. Furthermore, the program must strive to foster a strong sense of ethnic identity and cultural pride and target the increase in positive health-related outcomes through a systems-based family focus that encourages youth to adult communication and promotes the development of positive role models for children.

**A Culturally Relevant Health Risk Prevention Program**

The *Futuros Saludables* (Healthy Futures) Health Risk Prevention Program was designed to achieve significant and lasting change in the health-related behaviors of young people by enhancing their social, emotional, and cognitive skills as well as their knowledge of specific health-related issues. The *Futuros Saludables* Program is based on the philosophy that effective health prevention programs must provide participants with both the resiliency skills and the health knowledge necessary to live productive and healthy lives. Historically in the border area of South Texas, very few programs have been established to address the health and safety needs of young people. The *Futuros Saludables* Program is a comprehensive and culturally relevant health risk prevention program. It was designed with the understanding that the effectiveness of prevention activities increases when those activities focus on family, school, and community (National Institute of Drug Abuse, 2003). This program is the first of its kind in Texas to specifically target high-risk Hispanic youth in elementary schools (and their family members) to participate in a comprehensive, long-term health risk prevention program.

The *Futuros Saludables* Program was designed to specifically address the significant and serious health and safety-related problems of poor nutrition, lack of exercise, diabetes, cardiovascular disease, infectious diseases, oral hygiene, alcohol and tobacco use, lung disease, cancer, home health hazards, and mental health among high-risk Hispanic youth residing in South Texas along the U.S.-Mexico border. A secondary population consisting of parents, siblings, guardians and other sig-
significant adults was included in order to meet the cultural needs of the population and to secure meaningful and sustained change. The prevention program was designed to be implemented over a nine-month period of time (academic school year), and it integrates and incorporates a curriculum-based resiliency skills education component, health risk prevention lectures and presentations to youth and adults, participation in health oriented “Family Fiestas” (family oriented educational health fairs), and community-based information dissemination, presentations, and organizational contacts.

The primary purposes of this study were to investigate the effectiveness of the *Futuros Saludables* Health Risk Prevention Program at increasing the knowledge of health and safety related information among Hispanic youth, increasing the self-control behaviors of the youth, increasing the emotional awareness and coping strategies of the youth, improving the social skills and prosocial behavior of the youth, and increasing the parents’ or caretakers’ knowledge of significant health and safety issues pertinent to the border region.

**Methods**

**Participants**

The *Futuros Saludables* Program specifically targeted selected classrooms of fifth-grade students attending public elementary schools in the target region and the parents or other significant adults of these children. A total of 571 fifth-grade children participated in this investigation. Of this total, 568 children were of Hispanic descent. Additionally, a total of 23 fifth-grade teachers participated, as well as 387 parents of the target fifth-grade children. Of these 387 adults, 187 completed all eight lessons. This investigation was conducted in communities located along the South Texas-Mexico border. More specifically, residents of the borderland *colonias* were directly and indirectly targeted to participate in this program due to the fact that the majority of public schools that participated in this program were located in or near *colonias*.

**Instruments**

All youth participating in the program were pretested and posttested on their knowledge of health and safety related information using the *Futuros Saludables* Health and Safety Quiz Youth Version (HSQY). Similarly, all parents and other significant adults of program youth were pretested prior to participating in education sessions and posttested after completing all lessons, on the Health and Safety Quiz Adult Version (HSQA). The researchers developed both versions of this instrument for use in this investigation. Each version of the instrument contains 20 multiple-choice questions about health, diet, and disease prevention.
All youth participants were pretested and posttested on emotional vocabulary as an indication of their levels of emotional awareness on the Emotions List Instrument. Prevention Specialists instructed the students to write down as many feeling words as they could think of in a two-minute period of time. Students were told that they could include feelings in either English or Spanish and that they should not worry about spelling. This measure was scored by counting the number of feeling words identified by the child in the two-minute time period of time (Kusché, Greenberg, & Beilke, 1988).

Fifth-grade classroom teachers completed the Teacher-Child Rating Scale (TCRS) for each student (Hightower et al., 1986). The TCRS was designed to assess a child’s social skills, emotional adjustment, behavioral control, and general school adaptation. The instrument consists of two sections: behavior-orientation (18 items) and competencies-orientation (20 items). Using a 5-point Likert-type scale, the behavior-oriented items are scored on three scales: (a) acting out behaviors, (b) shy and anxious behaviors, and (c) learning skills. The scores in this section are negatively loaded such that the higher the score, the more problematic the child’s behavior. The scale of Acting Out reflects a child’s demonstrations of aggressiveness, impulsivity, and disruptiveness. The scale of Shy-Anxious reflects a child’s level of shyness, anxiety, dependency, and withdrawn behaviors. The scale of Learning Skills includes those items that measure problems that children may be having in the skills that are needed for academic success. Four scales compose the strengths and competencies section of the TCRS: (a) frustration tolerance, (b) assertive social skills, (c) task orientation, and (d) peer social skills. The scores in this section are positively loaded such that the higher the score, the more adaptive and cooperative the child’s behavior. The Frustration Tolerance scale focuses on the skills that a child uses to adapt to and tolerate the limits that are imposed by the learning environment. The scale of Assertive Social Skills measures the social status and the interpersonal functioning that a child possesses for interaction with peers. The Task Orientation scale focuses on a child’s functional effectiveness in the classroom setting. The scale of Peer Social Skills reflects the popularity and likeability of a child among his or her peers. The authors of the test report a median alpha coefficient of .91 and an inter-scale correlation median coefficient of .58 (Hightower et al., 1986). Furthermore, the authors have established the concurrent and construct validity of the instrument. It has demonstrated the ability to discriminate between well adjusted and referred children.

All students were pretested and posttested to determine their own perceptions of their self-control abilities using the Children’s Perceived Self-Control (CPSC) Scale (Humphrey, 1982). The CPSC is an 11-item scale that asks students to determine whether or not the statements presented are usually true or usually not true for them. The items focus on such self-control issues as emotional coping strategies, classroom behavior management, interpersonal conflict resolution, delayed gratification, and task completion. The CPSC was initially normed on over 700 fourth and fifth-grade students (Humphrey, 1982). Test-retest reliability is reported as .71,
while criterion-related validity has been demonstrated with naturalistic observations (Humphrey, 1982).

**Treatment**

Designed for use in this study, the *Futuros Saludables* Health Risk Prevention Program is a community-based solution to health-related problems that makes prevention services a priority in attempting to improve health outcomes. The program utilizes a multifaceted, two-tiered approach to educate high-risk Hispanic youth and their family members about risky health behaviors and chronic diseases that are prevalent or of potential harm to residents of the South Texas border region. The *Futuros Saludables* Program is a school-based prevention program that specifically targets children in the fifth grade. The two-tiered approach utilized by the program consists of providing health education, resiliency skills training, and support to fifth-grade students at selected elementary schools, as well as health education and support to the adult family members or other primary caretakers of these students. The foundation of the program is the combined delivery of curriculum-based resiliency skills training in conjunction with health and safety-related educational presentations.

The curriculum-based component consists of the Promoting Alternative Thinking Strategies (PATHS) curriculum to help students develop their cognitive skills, enhance their emotional intelligence, improve their decision-making and problem solving skills, and increase their pro-social behaviors. Classroom teachers were trained to teach the PATHS lessons to their fifth-grade students twice a week for 30 minutes per session throughout the school year. The PATHS lessons were complemented and enhanced by the program’s comprehensive and culturally relevant health and safety educational presentation series. Health Prevention Specialists provided educational presentations to both students and their adult family members once a month concerning relevant health and safety issues of particular concern to the current and future well being of these individuals. Educational presentations utilized the most current, research-based information available and included such topics as nutrition and exercise, diabetes, infectious disease, alcohol and tobacco use, and cardiovascular disease. Additionally, during the health presentations to students, Prevention Specialists were able to provide additional resiliency skills training.

The PATHS curriculum was originally designed to strengthen the emotional expression and coping skills of hearing-impaired and deaf children (Greenberg & Kusché, 1993; Kusché & Greenberg, 1994). The goals of this program are to help children develop specific strategies for critical thinking, to become more intrinsically motivated, to obtain information necessary for social understanding and prosocial behavior, to increase children’s abilities to generate creative alternative solutions to problems, to learn to anticipate and evaluate situations, behaviors, and consequences, and to reduce aggression and hostility. The PATHS program is a comprehensive, kindergarten through fifth grade, affective education curriculum, based on an inte-
The selected fifth-grade students participated in the *Futuros Saludables* Youth Health and Safety Awareness Presentation Series. This series relied on eight lessons selected from the HealthTeacher Curriculum (HealthTeacher, 2002). Lessons selected were as follows: (a) What’s in Tobacco Smoke? (b) Healthful Eating and Exercise, (c) Preventing Infectious Illness, (d) Stress Me Out, (e) Managing Diabetes, Asthma, and Allergies, (f) Dental Hygiene, (g) Avoiding Weapons, (h) My Incredible Machine.

The parents, grandparents, godparents, and other extended adult family members of the target fifth-grade students were invited to attend *Futuros Saludables* Family Education Program sessions (Family Fiestas) which were scheduled at host program schools throughout the school year. Home visits were also utilized to provide education sessions. Adult family members received a total of eight 30-minute lessons. The lessons relied on information from a variety of sources; however, lessons from the HealthTeacher Curriculum were used as the primary foundation for the education program. The *Futuros Saludables* Family Education Program covered the following topics: helping children avoid danger at home; preventing infectious illness in children and adults; promoting good nutrition and physical activity; promoting oral hygiene; understanding diabetes, asthma, and allergies; preventing cardiovascular disease; promoting cancer awareness; and promoting awareness of alcohol, tobacco, and other drug use by children.

**Procedure**

Two large, public school districts in the South Texas border region were invited to participate in this prevention program and helped guide the selection of schools that received services. Once schools were identified and selected, administrators at the chosen schools picked the specific fifth-grade classrooms to participate. After the classrooms were identified, teachers in those classrooms were provided opportunities to receive formal training on the implementation of the PATHS curriculum.
Prior to beginning the prevention instruction, all youth in the selected classrooms were pretested on the number of emotions or “feeling words” that they knew (Emotions List), self-control skills (CPSC), and knowledge of basic health and safety issues (HSQY). Teachers were also asked to complete the TCRS for each student in their classrooms. Upon completion of all pretesting, the teachers began providing formal instruction on the PATHS curriculum, while the program’s Prevention Specialists provided health and safety presentations on a monthly basis to students in the classrooms.

Concurrent to the school-based services, the Prevention Specialists provided family education sessions on a monthly basis to parents and other significant adult family members. At the end of the school year, all students were posttested on their knowledge of emotional vocabulary, self-control skills, and knowledge of basic health issues. Similarly, all participating teachers completed a posttest of the TCRS for each student. All parents or other significant adults who completed the family education sessions were pretested and posttested on the HSQA.

Research Design and Data Analyses

A single group, pretest and posttest design was employed in this investigation. Initially, a doubly multivariate repeated measures analysis of variance (repeated measures MANOVA) was conducted to test the change, from pretesting to posttesting, among the sample of 571 students while simultaneously considering the 38 items of the TCRS, the Emotions List, the HSQY, and the CPSC. The researchers determined that if MANOVA results were significant, then subsequently paired-samples t-tests (or t-tests for non independent samples) would be employed as the method of analysis to determine which specific dependent variables had statistically significant ($p < .05$) pretest to posttest gains.

Results

The purpose of this study was to evaluate the effectiveness of the Futuros Saludables Health Risk Prevention Program at increasing the knowledge of health and safety issues, the self-control behaviors, the emotional awareness, the coping strategies, and the social skills and prosocial behavior of the Hispanic fifth-grade students. Additionally, this study investigated the program’s effectiveness at increasing the adult family members’ or caretakers’ knowledge of significant health and safety issues pertinent to the border region. The repeated measures MANOVA (SPSS, 1996) indicated highly significant changes from pretesting to posttesting, while considering all dependent measures simultaneously, $F(41, 463) = 63.05, p < .0001$.

Due to the significant finding of the initial repeated measures MANOVA, univariate analyses were conducted using paired-samples t-tests. Table 1 shows the means, standard deviations, obtained t-values, and the significance levels for each of
Table 1
Means, Standard Deviations, and Paired-Sample t Values for Comparisons of the Pretest and Posttest Scores on the Dependent Measures

<table>
<thead>
<tr>
<th>Dependent Instrument</th>
<th>Pretest M (SD)</th>
<th>Posttest M (SD)</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth Health/Safety Quiz (n = 531)</td>
<td>7.87 (2.74)</td>
<td>15.63 (3.15)</td>
<td>44.13****</td>
</tr>
<tr>
<td>Adult Health/Safety Quiz (n = 178)</td>
<td>9.72 (2.76)</td>
<td>18.09 (1.43)</td>
<td>39.75****</td>
</tr>
<tr>
<td>Self-Control Scale (n = 530)</td>
<td>5.30 (1.95)</td>
<td>5.60 (2.16)</td>
<td>2.99**</td>
</tr>
<tr>
<td>Emotions List (n = 530)</td>
<td>5.59 (2.75)</td>
<td>16.18 (9.24)</td>
<td>27.65****</td>
</tr>
<tr>
<td>TCRS Acting Out (n = 517)</td>
<td>9.16 (4.69)</td>
<td>8.82 (4.85)</td>
<td>1.70</td>
</tr>
<tr>
<td>TCRS Shy/Withdrawn (n = 517)</td>
<td>9.18 (4.14)</td>
<td>8.67 (4.19)</td>
<td>2.60**</td>
</tr>
<tr>
<td>TCRS Learning Skills (n = 517)</td>
<td>11.60 (6.29)</td>
<td>10.14 (6.06)</td>
<td>5.50***</td>
</tr>
<tr>
<td>TCRS Frustration (n = 515)</td>
<td>17.08 (4.70)</td>
<td>19.33 (4.99)</td>
<td>9.33****</td>
</tr>
<tr>
<td>TCRS Assertiveness (n = 515)</td>
<td>16.33 (4.67)</td>
<td>19.02 (5.38)</td>
<td>11.50****</td>
</tr>
<tr>
<td>TCRS Task Orientation (n = 515)</td>
<td>16.37 (4.94)</td>
<td>19.21 (5.31)</td>
<td>12.83****</td>
</tr>
<tr>
<td>TCRS Peer Social Skills (n = 515)</td>
<td>18.26 (4.28)</td>
<td>20.81 (4.70)</td>
<td>11.69****</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001; ****p < .0001

The dependent measures. Results of the analysis of the CPSC indicated that students were able to significantly improve their levels of self-control in the classroom after participating in the program. Results of the analysis of the emotional vocabulary assessment indicated highly significant positive change (p < .0001) in emotional awareness. As a result of participating in the Futuros Saludables Program, students almost tripled their scores on emotional vocabulary. By the end of the program, the average participant could identify more than 15 feeling words.

Results of the analysis of the TCRS indicated that students experienced significant (p < .0001) improvement in their personal coping strategies, stress tolerance, and task-oriented behavior; significant (p < .001) decreases in their levels of distraction and attending problems and in shy, withdrawn, and anxious behaviors; significant (p < .0001) increases in their levels of interpersonal functioning; and significant (p < .0001) increases in their likeability among peers.

Finally, highly significant (p < .0001) improvement in health and safety knowledge was found among the parents and family members of the target children. Clearly, the program was effective at teaching the adults valuable health and safety information.
Discussion

The purpose of this study was to investigate the effectiveness of a culturally relevant and comprehensive health risk prevention program with high-risk Hispanic youth. The results of the HSQY were impressive. The average score at the end of the program was basically double that obtained at the beginning of the program. This increase was highly statistically significant. On the HSQA, the scores obtained after treatment were nearly twice as high as the scores obtained prior to treatment. Participants demonstrated a statistically significant increase from pretesting to posttesting on this instrument. The youth participants also succeeded in demonstrating a statistically significant increase, from pretesting to posttesting, on self-control behaviors. Therefore, the program was effective at improving the children’s self-control. Additionally, the youth participants nearly tripled the number of feeling words they could identify as a result of the program. The changes from pretesting to posttesting were remarkable; from being able to identify an average of a little more than five feeling words prior to treatment and being able to identify an average of 16 words following treatment.

The program was highly effective at helping children improve their personal coping strategies, stress tolerance, and task-oriented behaviors. It was also effective at reducing the children’s shy, withdrawn, and anxious behaviors. After treatment, children scored significantly lower on these behaviors than they did at pretesting. As a result of the program, children experienced significant decreases in their attending problems and distractibility. They also experienced highly significant increases in their levels of interpersonal functioning, peer social skills, and likeability among peers.

The Futuros Saludables Health Risk Prevention Program creates a new and dynamic concept in health education and health risk prevention by incorporating and enhancing key research-based and best practices principles from the fields of drug prevention and intervention. One of the key lessons learned from the field of drug prevention during the past few years is that education alone—in and of itself—is not an effective strategy in preventing alcohol, tobacco, and other drug use or experimentation. Rather, a successful prevention program for youth, whether it be for drug use, sexually transmitted diseases, violence, or comprehensive health risk risks, must contain the following key elements: Enhance protective factors, reduce risk factors, teach resiliency or life skills, incorporate parents or other caregivers into the prevention process, utilize schools and school personnel to enhance prevention activities, meet the specific needs of the target population, be age specific, be developmentally appropriate, and be culturally sensitive (National Institute of Drug Abuse, 2003).

The Futuros Saludables Program can easily serve as a model for other agencies and schools interested in establishing a similar health risk prevention program in their geographic areas. The design of this program would be of particular interest and benefit to agencies and schools in proximity of the U.S.-Mexico border region. There is a significant need for comprehensive and culturally sensitive health preven-
tion and intervention programs in these regions (Office of Border Health, 2000). The Futuros Saludables Health Risk Prevention Program effectively provides comprehensive and culturally relevant health education and health risk prevention services to high-risk Hispanic youth and their family members.

References


