Behind the scenes of “Keepin’ it REAL,” a model substance abuse prevention program for middle school students: Lessons learned through the process

Flavio F. Marsiglia, Ph.D.
School of Social Work
University of North Carolina- Chapel Hill
February 25, 2013

Acknowledgments

- SIRC is an Exploratory Center of Excellence funded by the National Institute on Minority Health and Health Disparities (NIMHD) of the National Institutes of Health (NIH), Awards: P20MD002316 & R01MD006110. The keepin’t REAL R01s were funded by NIDA/NIH
- SIRC is also partially funded by Arizona State University, by community partners’ contracts, and by revenues generated from licenses, patents, fees, and royalties
- Our work is made possible by the dedication of the research team and our very engaged Community Advisory Board members

Outline

- The cultural and social context of the borderlands
- The Southwest Interdisciplinary Research Center (SIRC)
- Bottom-up approaches and the integration of unique needs and assets of communities in intervention research
- The development and evaluation of keepin’t REAL and related interventions
- Findings, ethical and practical issues, lessons learned

The Borderlands/ La Frontera

- The US and Mexico share almost 2,000 miles (3,138 km) of frontera, the longest international border separating a developed and a developing country in the world.
- The borderlands include 80 municipios in 6 Mexican states and 48 counties in 4 U.S. states.
- Gloria Anzaldúa (1987, p. 3) described the US-Mexico border as “una herida abierta donde el tercer mundo raspa contra el primero y sangra” [an open wound where the Third World grates against the first and bleeds].

La Frontera/ The Borderlands

- From 2000 to 2010 Arizona experienced a 24.6% increase in the total population; Texas 20.6%, New Mexico 13.2%, California 10.0%.
- The total population in US borderland states is 70,850,713
- 38.2% of that total identified as Latino or Hispanic, the majority of which are Mexican heritage
- There has been a recent decline in immigration from Mexico to Arizona, however, Texas experienced a significant increase from 2007 to 2010

(US Census Bureau, 2011; Pew Hispanic Center, 2010)
AZ Demographic Trends

• Despite declines in migration from Mexico, the Latino population in AZ continues to grow.
• Latinos made up 30% of the AZ population in 2010 and there are now more Latino children (43%) than White children (42%) in the state.

(US Census Bureau, 2011; Passel, Cohn & Gonzalez-Barrera, 2012)

Social & Cultural Determinants

➢ Nonmedical factors play a fundamental role in the occurrence of illness and injury among individuals, and disparities in health across populations.
➢ Family, social, and economic factors can influence children's development, through many different and complex pathways (Braveman, 2011).
➢ 95% of children of immigrants are US born; ecodevelopmental influences place these children at greater risk than their parents. There is a need to prevent the erosion of original protective factors (Vega & Srinney, 2011).

Acculturation as a risk factor

➢ Study sample = 2,487 middle school students of Mexican heritage.
➢ Using multi-group structural equation modeling, linguistic acculturation was found to be positively and directly related to adherence to pro-drug norms, substance use intentions, and recent alcohol use, controlling for age, poor grades, and socioeconomic status.
➢ In addition, linguistic acculturation had an indirect effect on substance use intentions and recent alcohol use through pro-drug norms. The direct effect of linguistic acculturation on pro-drug norms was stronger for girls than for boys, as was its indirect effect on substance use intentions.

(Marsiglia et al, 2010)

Perceived Ethnic Discrimination

Mexican heritage 5th grade children (N=1,374) in Phoenix perceived high levels of ethnic discrimination, which predicted:

➢ Greater recent and lifetime use of alcohol, cigarettes and marijuana
➢ Attitudinal risk factors for later substance use—intentions to use substances, pro-drug norms, positive substance use expectancies, and peer approval of substance use.

(Kulis, Marsiglia, & Nieri, 2009)

SIRC’s Mission Statement

To generate use-inspired knowledge and interventions on social and cultural determinants of health in partnership with communities of the Southwest to prevent, reduce and eliminate health disparities.
Keeping’ it REAL - a model SA prevention program for students: Lessons learned

2/25/2013

NC-ACE Workshop by Flavio Marsiglia, PhD

### Action Model

**Social Determinants of Health**

- Policies
- Programs
- Prevention Interventions
- Health Literacy

**Outcomes**

- Behavioral outcomes
- Specific risk factors
- Health related quality of life
- Health equity

**Assessment, evaluation and dissemination**

(Adapted from Healthy People 2020)

### Use-inspired Intervention Research

**Community Need**

**Research Project**

**Community Solution**

Our communities deserve the best available science.

---

### Community Based Participatory Research (CBPR)

- Is not a method per se but an orientation to research that applies a number of qualitative, quantitative and mixed methodologies.
- Begins with a research topic of importance to the community with the aim of combining knowledge and action for social change.
- Is a collaborative process that equitably involves all partners in the research process and recognizes the unique strengths that each brings.

(Viswanathan et al., 2004)

### Health Equity Action Research

Race & Ethnicity

- First generation: Detect
  - Understand
  - Provide solutions

- Second generation: Take action

- Third generation: Promote solutions

- Fourth generation: Understand

---

### A Culturally Grounded Approach

- Grounded in race/ethnicity, gender, sexual orientation, religion, social class, and ability status.
- Facilitates a process of awareness about culture and its protective factors (*la cultura cura*). It recognizes *intersectionality* – individuals form complex multidimensional identities.
- Aims at generating change in partnership with communities (CBPR). Aims at improving equity, quality, and access to care from a social justice and distributive justice perspective.

(Marsiglia & Kulis, 2009)
Designing, Testing, and Disseminating Interventions

*Keepin’ it REAL* (Refuse, Explain, Avoid & Leave) is SIRC’s signature substance abuse prevention intervention originally funded by multiple NIH/NIDA awards.

This SAMHSA Model Program was licensed by ASU and is commercially available.

**Program Rationale**
- Role of culture in youth substance use and prevention
- Substance & format of successful prevention models reflect the culture and learning styles of the students
- Minority youth respond favorably to programs in which teachers or characters presented are from their own group
- Standard prevention messages enforce dominant values
- Don’t validate cultural experiences of minority children
- Superficial attempts to include culture may fall short
- Rely on overly simplistic and stereotypical representations of culture, and “ethnic glosses”
- Need for further tests of culturally grounded prevention

**Theoretical Model**

<table>
<thead>
<tr>
<th>Communication Competency</th>
<th>Social Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge, Motivation</td>
<td>Life Skills, Resistance Skills, Modeling Behavior</td>
</tr>
</tbody>
</table>

**Ecological Risk & Resilience**

- Parent/Family/Peer Influence
- Neighborhood Contexts
- Psychological Factors

**Culturally Grounded Approach**

- Home Environments: Single, 2 Parent, Grandparent
- Religion: Cath, Prot, Jewish, Muslim
- Local: Phoenix, AZ
- Youth: 5th Graders
- Ethnic Groups: Mex-Am, Euro-Am, African Am, Native Am

**keepin’ it REAL Strategies**

*Strategies for resisting offers of substances used most often by adolescents.*

- **Refuse**
  - Say “NO” to the offer without giving a reason why.

- **Avoid**
  - Avoid getting into a situation because you think beer might be offered there.

- **Explain**
  - Give an explanation or an excuse to turn down the offer.

- **Leave**
  - Just leave the situation without accepting the offer.

**Research Design**

- **Curriculum design**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Videos & PSA prod**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Video ethnography**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Field testing**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Teacher training**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **School ethnography**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Lessons taught**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Psychosocial groups**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Ethnography**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Survey evaluation**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Booster campaign**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

- **Research & disseminat**
  - 97-98
  - 98-99
  - 99-00
  - 00-01
  - 01-02

Key:
- **O** = Observations: O₁ = Pretest; O₂,₄ = Posttests
- **X** = Treatment: X₁ = Mexican Program; X₂ = White/Af-Am Program; X₃ = Multicultural Program
- **B** = Boosters
Summary Results: (significant effects)

<table>
<thead>
<tr>
<th>PRO-DRUG USE</th>
<th>Mexican American Versus Control</th>
<th>White/ Afr. Am. Versus Control</th>
<th>Multi-Cultural Versus Control</th>
<th>Culturally Matched Versus Mismatched</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2</td>
<td>T3</td>
<td>T4</td>
<td>T2</td>
<td>T3</td>
</tr>
<tr>
<td>Recent Alcohol Use</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
</tr>
<tr>
<td>Recent Cigarette Use</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
</tr>
<tr>
<td>Recent Marijuana Use</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
</tr>
<tr>
<td>Descriptive Norms</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
</tr>
<tr>
<td>Positive Drug Expectancy</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
<td>↓ ↓ ↓ ↓</td>
</tr>
</tbody>
</table>

ANTI-DRUG:
- Use of **R.E.A.L.** Strategies: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
- Injunctive Norms: Parent: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
- Injunctive Norms: Friends: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
- Personal Norms: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
- Self Efficacy: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
- Personal Intentions: ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑

Program Effectiveness: Summary (I)

- Over time, both Mexican American and Multicultural versions had similar desired impacts.
- Mexican American version had largest initial impact:
  - lower alcohol use;
  - stronger anti-drug norms;
  - more frequent use of **R.E.A.L.** strategies;
  - most effects persisted after 6 and 12 months.

Test of cultural matching between curriculum and student’s ethnicity...

- ...more use of **R.E.A.L.** alcohol resistance strategies
- ...strengthened injunctive norms (friends)
- ...lowered perceptions of friends’/peers’ substance use
- ...increased self efficacy (confidence to resist drugs)
- But effects small, scattered, inconsistent across waves
- Effectiveness of Multicultural version after 12 months suggests cultural inclusiveness may be as important as ethnic matching.
Keeping' it REAL - a model SA prevention program for students: Lessons learned

2/25/2013

NC-ACE Workshop by Flavio Marsiglia, PhD

The prevention to treatment continuum

Prevention

Treatment

- 1,365 students reporting using (alcohol, cigarettes, or marihuana) in the last 30 days at baseline.
- Event history analysis
- Separate models for each substance

Summary of Results (Odds Ratios) Intervention Vs. Control

<table>
<thead>
<tr>
<th>Substance</th>
<th>Reduction</th>
<th>Discontinuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>1.72 : 1 *</td>
<td>1.66 : 1 *</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>1.05 : 1</td>
<td>1.30 : 1</td>
</tr>
<tr>
<td>Marijuana</td>
<td>1.19 : 1</td>
<td>1.31 : 1</td>
</tr>
<tr>
<td>All three</td>
<td>---</td>
<td>1.61 : 1 *</td>
</tr>
</tbody>
</table>

* p<0.05

The probability of reduction is 72% higher in experimental than in control group.

Conclusions

- keepin’ it REAL participants reduced and discontinued their use of alcohol at higher rates than those in the control group
- They also discontinued their use of all three substances at higher rates than the control group
- There were effects in the same direction for cigarettes and marihuana, but they were not significant
- The detected desired effects were found among students that initially reported low, medium and high rates of use

Another Surprise... When to Intervene?

- Growth Curve Models
- 32 schools, 1,447 Mexican heritage students
Some conclusions…
- Ascending trajectories in marihuana use significantly less pronounced among students in 7th only and in 5th & 7th than in control group
- The trajectory for students who received the intervention only in the 5th grade was almost the same as those in the control group
- Intervening both in the 5th and the 7th grade (double dosage) was not more effective than intervening only in the 7th grade

Ethical and Practical Issues
- Testing prevention programs with Latinos in AZ schools, amidst anti-immigration legislation, raised ethical and practical challenges
  - State laws prohibiting the use of Spanish language in schools made it challenging to offer bilingual instruction to youth, high mobility rates...

Ethical and Practical Issues cont.
- Asking undocumented parents to meet at school may have been placing them at risk.
- Additionally, fear of deportation may have inhibited undocumented parents from participating in the parent component of the program, resulting in the exclusion of a vulnerable population.
- We did not ask participants about documentation status in survey instruments to protect participants.
- Not asking for information about documentation status may have limited our understanding of the psychosocial dynamics impacting Latino adolescent substance use in AZ.

Ethical and Practical Issues cont.
- Implementing Keepin’it REAL in Mexico raised practical challenges:
  - More students in each classroom (50+)
  - Limited availability of audio visual equipment
- Adapting Keepin’it REAL for urban American Indian youth and implementing it in schools raised questions about who should be recruited to participate in the intervention

Persistent Issues in Cultural Adaptation
- The fidelity-adaptation dilemma
- What procedures should intervention developers follow when conducting a cultural adaptation?
- Is there evidence that cultural adaptations are effective?
- How can wide within-group cultural variation be accommodated in a cultural adaptation?
- How do we know when culture has been properly integrated in an intervention?
- What does that look like?
- Should cultural adaptation be required for all EB interventions?

Some consensus is emerging...
To culturally adapt evidence-based prevention programs:
- Modify content and delivery modalities but preserve fidelity to core principles.
- Incorporate cultural values and contextual variables
- Address cognitive issues/problems with the original program (translation, relevant examples, learning styles)...
- And affective issues: lack of cultural resonance, values conflicts with the target population
Implications

- **Policy**: Documenting needs, designing answers with communities, testing for evidence, cost-effectiveness, sharing results with policy makers.
- **Direct Practice**: For participants to recognize themselves in the content and delivery format of the intervention appears to be more important than segregating them by ethnic group (Marsiglia et al., 2005).
- **Research**: cultural adaptation & translational research. Model for community based research.
- **Social Work Education**: The practitioner-researcher model

---

and globally...

Research Trajectory: Continuing to adapt

- Family component RCT N = 1,304 efficacy
- Adapted in Jalisco-Mexico N = 431
- Adapted with urban Am. Indian youth RCT N = 247
- Adapted with urban American Indian families RCT N = 600
- Keepin’ REAL* middle schools RCT N = 6,035
- Adapted for 5th graders RCT N = 3,038

---

Thank you!

You can contact me at: marsiglia@asu.edu

Please visit us at: http://sirc.asu.edu