



Published in final edited form as:

*J Sch Nurs*. 2010 February ; 26(1): 42–52. doi:10.1177/1059840509351021.

## Feasibility and Acceptability of a School-Based Coping Intervention for Latina Adolescents

**Carolyn Garcia, PhD, MPH, RN [Assistant professor],**  
University of Minnesota, School of Nursing, Minneapolis, Minnesota

**Jessie Kemmick Pintor, BA [Research assistant],** and  
University of Minnesota, School of Nursing, Minneapolis, Minnesota

**Sandi Lindgren, LSW [Social worker]**  
El Colegio Charter School, Minneapolis, Minnesota

### Abstract

Latino girls (Latinas) experience disproportionate rates of emotional distress, including suicidal ideation, which may be indicative of inadequate coping abilities. Prevention of mental health problems, a U.S. public health priority, is particularly critical for Latina adolescents due to lack of access to mental health treatments. The purpose of this study was to examine the feasibility of Project Wings, a 14-session stress management/coping intervention. Latinas in school (ages 15–21) met weekly for 2-hr with two bilingual experienced facilitators to participate in sharing circles, relaxation exercise, and skill building. Intervention participation and post-intervention focus group data were analyzed. Fall semester intervention ( $n = 10$ ) occurred during school (72% attendance rate); spring semester intervention ( $n = 11$ ) was after school (84% attendance rate). Focus group data confirmed acceptability. Latina adolescents will participate in a school-based, group-based stress management/coping intervention. The findings offer insights about intervention recruitment and retention that are specifically relevant to school nurses. Future research includes intervention testing using a randomized study design.

### Keywords

adolescent girls; Latina; school-based intervention; mental health; coping; prevention

---

In the United States, adolescents are demonstrating mental health problems that portend problematic trajectories into adulthood (Knopf, Park, & Mulye, 2008). By high school, nearly 40% of ninth-grade Latino females (Latinas) are reporting they have experienced depressive symptoms or suicidal ideations in the past year compared to 20% of non-Latino ninth-grade girls (Grunbaum et al., 2004; Garcia, Skay, Sieving, Naughton, & Bearinger, 2008). Latinas report more symptoms of emotional distress compared to their non-Latino female peers and to Latino males. These mental health problems have immediate and future consequences. In the short term, youth with depressive symptoms are at greater risk of suicidal ideation and social isolation, including high school dropout (Center for Mental Health in Schools, 2007). Latina high school students are twice as likely as their female peers in other racial and ethnic groups to drop out of high school, and up to 40% of Latino students, boys and girls, are not completing high school (Pew Hispanic Center, 2004). In the long term, depressed adolescents entering adulthood may experience lower satisfaction with

employment or social relationships, resulting in personal and societal negative effects such as poor job performance (Department of Health and Human Services [DHHS], 2001).

“In the long term, depressed adolescents entering adulthood may experience lower satisfaction with employment or social relationships, resulting in personal and societal negative effects such as poor job performance.”

There are considerable individual- and societal-level benefits to preventing mental health problems among adolescents such as healthy functioning and subsequent school and work productivity. Demographic trends and predictions necessitate particular attention to the mental well-being of Latina adolescents, who as adolescents today will be the mothers and grandmothers to nearly 25% of the U.S. population by 2050 (Alegria et al., 2008; Bergman, 2003; U.S. Census, 2008). Many Latina adolescents are overlooked because they exhibit subclinical depressive symptoms that may not warrant treatment (Garcia et al., 2008; Mikolajczyk, Bredehorst, Khelaifat, Maier, & Maxwell, 2007). Many who do exhibit clinical depressive symptoms may not receive treatment due to lack of insurance or negative stigma about receiving mental health services (Mikolajczyk et al., 2007). Amid many complex contributing factors, it is possible these adolescent girls lack coping skills that could be useful in managing their responses to stressful situations (Choi, Meininger, & Roberts, 2006; Edwards & Romero, 2008; Umana-Taylor, Vargas-Chanes, Garcia, & Gonzales-Backen, 2008). Although researchers are testing school-based mental health programs that universally target adolescents, these are not yet established and have not been designed with consideration of the unique needs of Latino adolescents or of females (Puskar, Sereika, & Tusaie-Mumford, 2003; Tacker & Dobie, 2008). Gender-specific interventions, grounded in knowledge about how girls uniquely cope with stress, are needed.

Leading adolescent health researchers have established guiding principles for intervention success. These are grounded in promoting healthy youth development and include being strength-based, competence-focused, and relationship-centered (Bernat & Resnick, 2006; Rodriguez & Morrobel, 2004). Using these principles, we developed Project Wings, a mental health promotion intervention to increase the coping repertoire available to Latina adolescents. The purpose of this article is to discuss the participant characteristics, feasibility, and acceptability of Project Wings, a school-based coping intervention for girls.

## Method

A pre and post intervention, single group design was used with measurement taken at baseline and post intervention. The goal of the study was to establish the feasibility and acceptability of the intervention; therefore, there was no control group, and there was insufficient power to establish intervention effectiveness.

“The goal of the study was to establish the feasibility and acceptability of the intervention; therefore, there was no control group, and there was insufficient power to establish intervention effectiveness.”

## Participants and Setting

A convenience sample of Latina adolescents was recruited from two high schools in neighboring metropolitan cities of Minnesota. The schools are in separate districts with minimal contamination potential. Both high schools (9th–12th grades) are public charter schools serving diverse student bodies and offering bilingual (English and Spanish) education. Latina enrollment in each school during the study period varied between 12 and 18, averaging 15 Latina students. Both schools selected one professional staff person to collaborate with the principal investigator (PI) and to assist with study recruitment and implementation. One school selected a school nurse and the other, a social worker.

**Recruitment**—Following university and school Institutional Review Board (IRB) approval of the study protocol, Latina adolescents were recruited using personal contact. Initial contact was made by a school staff member, who invited all interested Latina girls to meet with University staff. A research assistant described the study purpose and answered questions with groups of girls. Interested girls were asked to complete a screening instrument. Initially, the Center for Epidemiologic Studies Depression Scale ([CES-D]; National Institute of Mental Health [NIMH], 2005), a depression screening tool, was used to exclude girls with scores indicating potential for a clinical diagnosis of depression (score of 16 on a 0–60 scale). However, all 10 girls at the first recruitment session were interested in participating but upon administration and scoring of the CES-D, only 1 girl remained eligible to participate. The other nine interested girls had scores that were higher than the designated CES-D cutoff score.

To address this eligibility criterion, the PI immediately contacted the University IRB office suggesting a protocol change providing for recruitment of girls with any score on the CES-D. Simultaneously, discussions were taking place with the school social worker to ensure appropriate follow-up for the girls and to gain insights respective to the scores. There was concurrence among the research team that the girls were experiencing high levels of stress and depressive symptoms and had understood the screening instrument questions accurately. The cohort of girls was recruited during the first few weeks of fall semester, often a stressful adjustment period. There was concurrence that it was ethically appropriate to include the girls who wanted to be in the program as they could benefit from the skills and knowledge gained. All girls scoring 16 or greater were directed to the school social worker for appropriate referral for a diagnostic examination. The IRB approved a protocol change to retain the CES-D as a study measure at baseline and post intervention and remove it as a screening tool for recruitment. In this way, it provided an indication of depression but was not an exclusion criterion for study participation.

“The IRB approved a protocol change to retain the CES-D as a study measure at baseline and post intervention and remove it as a screening tool for recruitment.”

In addition to written assent obtained from each adolescent, written parental consent was required. Parental information sessions were held at each school although not many parents came. All parents who attended consented for their adolescents to participate. Those who did not attend were informed about the study through phone calls and information sent home; these parents provided written consent by returning the form to school with their adolescent.

**Sample**—All girls who met inclusion criteria (Latina, in 9th through 12th grade, Spanish-speaking, interested in being in the study) were invited to participate. The total sample consisted of 21 participants (approximately 70% of the eligible sample). The two cohorts had similar demographics (see Table 1). One school cohort participated during fall semester 2007 and the other during spring 2008. The fall cohort received the intervention during school hours using a room in the church building behind the school whereas the spring cohort completed the intervention immediately after school in an open library space at the school.

## Procedure

**Intervention development and components**—An interdisciplinary, participatory approach was employed to develop the intervention, including university and community-based colleagues in social work, nursing, education, and public health (Mulvaney-Day, Rappaport, Alegria, & Codianne, 2006; Olshansky, 2005). The stress management/coping intervention was created using existing evidence from interventions that have been successful in reaching adolescent girls but have addressed other health or risk areas such as

sexual risk taking and substance use (Bruzzese, Unikel, Gallagher, Evans, & Colland, 2008; Dunton, Schneider, & Cooper, 2007; Elder et al., 2008). The intervention goals are to (a) increase participants' ability to identify stress and its physical, emotional, and mental manifestations; (b) provide participants with practical tools to help them cope with life's stressors; and (c) educate participants on health realization. Health realization is a stress management approach with a primary focus on realizing the influence of one's thoughts on behaviors, such as reactions in a stressful scenario.

The intervention has three core components, which occur in each of the 14 2-hr weekly sessions held over the course of a semester (see Table 2). These components—sharing circles (Irvine, 2005;Roa, Irvine, & Cervantez, 2007), relaxation exercises and techniques (Guszkowska, 2005), and life skills (Kelley, 2003;Sedgeman, 2005)—included an assortment of interactive, hands-on activities that complement variable learning and personality styles.

**Intervention implementation and logistics**—The intervention is school-based because existing evidence supports this approach with Latino youth (Dishion & Kavanagh, 2003; Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004). In addition to the University-hired group facilitator, the intervention employed a school staff member as a coleader. The school staff co-facilitator ensured continuity and on-site support for girls between interventions as well as after the intervention concluded. The intervention length was determined based on anecdotal evidence of the school-based staff collaborators and sentiment that fewer sessions do not provide enough time to establish the relationships and trust needed between facilitators and girls and among the girls themselves. Sessions were conducted in Spanish and lasted approximately 2 hours.

The sessions followed a similar format each week: sharing circles (40 min), physical movement (30 min), refreshments (10 min), and a life skills lesson (40 min). The life skills lessons were developed into a manual with session objectives, activities, material and resource lists, and content organized. Participants were given note cards at the end of each session to write down any thoughts or feedback they had regarding the group. Healthy refreshments provided the participants with nourishment during the sessions. Transportation was provided for data collection at the University; transportation home was provided for the girls participating after school. Incentives were provided for data collection (\$20 gift card at baseline and post intervention) and attendance (\$5 gift card per week). The intervention concluded with a celebratory event, during which participants shared a meal with the facilitators and were congratulated for completion with a certificate and small gift bag.

### Data Collection and Analysis

At the University, the participants completed baseline and post-intervention surveys. Girls who were not currently pregnant also completed the Trier stress test protocol (Kirschbaum & Hellhammer, 1994). The protocol consists of collecting salivary samples before, during, and after a scripted 10-min stress task involving spontaneous story telling and mathematical subtraction performed for two adult judges. Participants self-collect the saliva by pushing saliva through a straw into the collection tube.

Demographics including health status and immigration experience were collected along with the following measures using self-report paper surveys at baseline and post intervention: Adolescent Coping ([A-COPE]; Patterson, McCubbin, & Needle, 1985), Perceived Stress Scale ([PSS]; Cohen, Kamarck, & Mermelstein, 2004), Profile of Moods States ([POMS]; McNair, Lorr, & Droppleman, 2005), CES-D (NIMH, 2005), and Optimism ([LOT-R]; Scheier, Carver, & Bridges, 1994). Spanish and English versions of the surveys were available. Existing Spanish measures were assessed for cultural and developmental accuracy

with modifications made as needed. Youth advisors reviewed the surveys and offered feedback regarding Spanish word choice and readability. Linguistic congruence was confirmed by expert reviewers independent of the study. The experts examined the Spanish word/phrase and confirmed that it was equivalent in meaning to the English word/phrase. Observations on the measurements are not reported in this article because the study foci were intervention and protocol feasibility and acceptability.

Feasibility data included recruitment and weekly participation records and data collection completion rates. The formula for calculating participation rates was as follows: Numerator is the sum of the total number of sessions attended by participants and the denominator is the total number of sessions offered multiplied by the total number of participants (see Table 3).

Participants provided weekly anonymous feedback on note cards, indicating anything they liked or disliked that particular week, and suggestions. A formal focus group was conducted at the end of the fall cohort, which was moderated by an experienced individual not associated with the school or the research team (Morgan, 1998). While every fall session participant was invited to participate, six agreed or were available to join the focus group, and received a \$20 target gift card. The focus group lasted approximately 1 hr and included questions such as:

“Try to remember when you had just started the program. And I want you to tell me what you imagined that the program would be like,” “What were some of your favorite activities?” “What didn't you like?” and “Thinking about the activities and the things that you have learned here in the program, what were the things that you think that you can apply to your daily life?”

Descriptive statistics were generated, including frequencies for attendance and data completion. The acceptability of the intervention was assessed qualitatively using the weekly feedback and focus group data. Focus group data were transcribed into English and analyzed to identify themes using content analysis strategies.

## Results

### Recruitment and Participation Rates

Recruitment efforts were successful at both schools within the goal of 1 month. Every girl who attended the informational sessions about the study indicated interest. This resulted in recruiting more participants than the anticipated 8–10 for each cohort. Recruitment in the fall resulted in 13 interested girls following two recruitment sessions although only 10 completed consent and joined the program. In the spring, 14 girls were interested and 11 were successfully recruited and provided required written assent along with written parental consent. This recruitment process took 2–3 weeks at each school and resulted in an overall recruitment rate of 77% of eligible Latinas.

The weekly participation rates for the 14 sessions were high (72% fall; 84% spring; see Table 3). In the fall cohort, three participants attended all the sessions and in the spring, six participants had perfect attendance. Among the reasons for missing the weekly sessions were: pregnancy, work, and deportation.

Between the two sites, there were three participants who dropped out of the study approximately halfway through. One had to drop out because her mother had diabetes-related foot problems, requiring that she work in the factory until her mother's foot healed. Another had to stop coming because she found work to support raising her two children. The

third returned to Mexico halfway through the semester because her single-parenting mother had been deported.

Data collection rates (surveys and Trier stress protocol) were satisfactory. Survey administration took approximately an hour, including a short break. All participants completed the baseline survey (100%). Due to dropout or not being available the week data were collected, fewer completed the post-intervention survey (60% in the fall cohort and 91% in the spring cohort). Baseline cortisol data completion rates were high (88% and 73%, respectively).

### Acceptability

**Weekly Feedback**—Comments consistently indicated the girls enjoyed the program. There were no negative responses offered from participants and examples of comments are provided in Table 4. Substantively, the girls had many comments about what they were learning, and how they were applying strategies to real-life issues. Logistically, the feedback focused on desire for the sessions to last longer, snack preferences, and appreciation of the weekly \$5 gift card. The girls regularly expressed gratitude for the weekly participation incentive, and the incentive for data collection.

**Fall Semester Cohort Focus Group**—There were six participants and their responses to the open-ended questions were organized using three thematic categories: substantive, logistic, and personnel.

**Substantive:** When asked what they liked about the program, the girls emphasized the opportunity to talk about real-life issues and challenges. A girl shared, “What I like the best was when we talk when we had the topics and we laid out our own life according to the topic.” Another girl elaborated:

What I will remember the most, because now I practice it, is when we had to think about positive things about oneself and not the negative things. For example, I say I am intelligent and things like that because one never sees the positive things. We always see the bad things.

A girl spoke about exercise and physical movement:

Yes, because they also told us that if you do exercise there is like a hormone—a liquid that, I don't know, in the brain that expands and also that exercise like Zumba can lower your stress level and then if we are stressed we can dance.

Another girl emphasized life skills she had learned to use: “And like things to do when you are stressed. Like when, like our peers, later said that they took a bath to relax ... or when they taught us how to breathe.” Another girl explained what she had learned:

Well, like coping skills to control stress. There are a lot of ways—there will always be situations when we feel stressed, and now with this, it helps to know that we can't change those things. What we can change is our thoughts. And that will affect our feelings. And if we think negative things our body will feel it. And if we think positively, our attitudes will change. So, it is something that you can apply always, always in your life. I think that it is important because many times we don't know about that and we feel bad. That can affect us in the future. So when you learn ways to lessen your stress, to control yourself, then you learn to make your life a little easier.

One girl demonstrated application of what had been learned to her school setting: “When we had exams. You were super nervous and in that way you are able to relax and then you begin



to answer.” Yet another described how what they had learned benefited their relationships: “Like when you have a problem trying to talk to someone. Like us, when someone has a problem and we talked to each other and, yes, it helped.”

One girl used the example of the salivary cortisol data collection process to demonstrate the benefits of the program:

When we went to the university the first time everyone was really nervous, right? And now this time everyone was smiling. We relaxed and now it is more fun. And the first time it was really stressful. Then, it was like we applied what we learned about relaxation and it helped us.

**Logistical:** The fall cohort girls disliked the walk between buildings during the winter. One girl said, “It was cold. So I didn't like it. I didn't like walking. That's the only thing.”

When asked about the challenges to participating, the girls honed in on their own self-responsibility. One girl shared: “Every time that they gave us a topic, they told us that we had to do something to relax during the week when we were stressed out and almost no one did it.” When asked about reasons for this, the girls emphasized they didn't do things because they were not used to it rather than because they didn't want to. Another shared, “It was hard at the beginning but later it did help us a lot.”

**Personnel:** The girls had clear ideas of what types of qualities were needed in the group leaders. These qualities included being discrete, trustworthy, a good person, and friendly. In addition, the girls felt a facilitator needed to be understanding “To be at our level, how we feel, that which we are, the youth,” happy “And they always had a smile and that always made you feel like it,” and equitable “That they don't have favorites.”

## Discussion

Despite the need, evidence-based interventions that prevent mental health problems among adolescents and more narrowly among Latino adolescents do not exist. This school-based, semester-long coping intervention was found to be feasible and acceptable with two Latina adolescent cohorts demonstrating high rates of weekly attendance, satisfactory data collection procedures, and program satisfaction. As well, the study is the first to our knowledge to demonstrate the ability to implement a salivary cortisol protocol in conjunction with a health behavior intervention.

“This school-based, semester-long coping intervention was found to be feasible and acceptable with two Latina adolescent cohorts demonstrating high rates of weekly attendance, satisfactory data collection procedures, and program satisfaction.”

The following are lessons learned that will be useful to school-based professionals in the design of future preventive interventions for Latina youth and in further testing of this program:

First, urban Latina girls will participate in a group-based program made for them despite potential or real barriers and stressors. Girls in this study described facing personal and familial stressors ranging from school expectations to deportation fears, which is consistent with existing literature (Garcia & Lindgren, 2009). Yet, these stressors did not appear to significantly affect their commitment to participate in this semester-long weekly intervention.

Second, research participation incentives encouraged high levels of Latina adolescent engagement and commitment. Some of the girls shopped and spent their cards immediately

and others saved up the cards over the course of the study to purchase a more expensive item.

Third, there were observed benefits to being a school-based program and some challenges. Being in school facilitated recruitment and attendance because it was held during or immediately after school. Parents seemed to appreciate the program being associated with the school. Anecdotally, we observed strengthening of the girls' connection to school. For example, the school-based facilitators observed that girls in the program had increased their interactions with her on a daily basis at the school. This possible increase in school connectedness is an outcome we intend to measure in a future randomized, controlled trial. Indeed, the high school dropout rate of Latino adolescents in Minnesota and across the United States necessitates interventions that strengthen school connectedness while addressing priority health concerns (Pew Hispanic Center, 2004).

Fourth, no characteristic or participation differences were observed between the cohort attending the program during school and the cohort attending as an after-school program. Girls' feelings were divided about when the program should occur. For some in the during-school cohort, they preferred an after-school program to avoid missing regular class time. In contrast, some of the after-school participants preferred an in-school program to avoid conflict with after-school work or home responsibilities. And some in both groups preferred after-school because it gave them somewhere to be and something to do when school was over. There are challenges with both models. National performance standards limit the extent to which such programs can be offered during school time. After-school programs can have limited participation because they are occurring simultaneously with extracurricular school offerings and there may be family or work obligations. However, our data demonstrated that between the two models, the after-school model had better participation.

Fifth, the characteristics of the group leaders strongly influence girls' decisions to participate or remain engaged. Program acceptability was largely a factor of the girls connecting with experienced and trained co-facilitators. The University facilitator and both school-based co-facilitators were selected because they had prior experience working with Latina girls and managing group dynamics. The school-based coleader provided consistency so that when the semester was over and girls returned from break, the relationship with their school-based facilitator remained.

Sixth, parental support of the program facilitated girl participation. Parents were grateful for the program, as noted in their support of girls' participation and their feedback to school staff. As one component of a multipronged school-based mental health intervention, this coping program could complement parent-focused outreach and support components. This would be consistent with leading researchers demonstrating the benefit of multi-pronged preventive interventions for Latino youth (Coatsworth, Duncan, Pantin, & Szapocznik, 2006; Dishion & Kavanagh, 2003; Pantin et al, 2003).

### **School Nursing Implications**

School nurses offering programs to adolescent girls can maximize time using a group-based approach, yet this requires that nurses optimize the interest and appeal of the group for girls. In this way, potential barriers to participation by at-risk girls, or girls experiencing unique or excess stressors, may be overcome. School nurses can maximize resources by including small but effective participation incentives, such as random drawings for iTunes songs or small gifts that reinforce the group focus (e.g., a pedometer for a walking group).



Some school nurses may not have strong facilitator skills; instead, they might serve as conduits to space and students thereby encouraging the presence of a program, with experienced facilitators (such as a school social worker). This is also an effective strategy when nurse time is scarce, and practically it would be difficult for the nurse to commit to a regular group meeting.

## Conclusions

The next logical step is to address questions of effectiveness in a randomized controlled trial. Does program participation improve coping abilities, perceived stress, and school connectedness? The feasibility and acceptability of Project Wings are promising and suggest further intervention testing and refinement.

## Acknowledgments

The authors thank the Latina girls who eagerly participated in this study and also the statistician (O. Gurvich), colleagues (K. Pajer, R. Sieving, S. Naughton), school coleader (K. Borntrager), and the study sites (El Colegio High School and LEAP Academy). This research is supported by a Building Interdisciplinary Research Careers in Women's Health Grant (# K12HD055887) from the National Institutes of Child Health and Human Development administered by the Deborah E. Powell Center for Women's Health and by a Center for Health Trajectory Research grant (Grant #P20 NR008992) from the National Institute of Nursing Research. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Child Health and Human Development, the National Institute of Nursing Research, or the National Institutes of Health.

## References

- Alegria M, Canino G, Shrout PE, Woo M, Duan N, Vila D, et al. Prevalence of mental illness in immigrant and nonimmigrant U.S. Latino groups. *American Journal of Psychiatry* 2008;165:359–369. [PubMed: 18245178]
- Bergman, M. U.S. Census Bureau; 2003. Foreign-born population surpasses 32 million, Census Bureau estimates. 2003. Retrieved May 8, 2008, from <http://www.census.gov/PressRelease/www/2003/cb03-42.html>
- Bernat D, Resnick M. Healthy youth development: Science and strategies. *Journal of Public Health Management Practice*, November Supplement 2006:S10–S16.
- Bruzzese J, Unikel L, Gallagher R, Evans D, Colland V. Feasibility and impact of a school-based intervention for families of urban adolescents with asthma: Results from a randomized pilot trial. *Family Process* 2008;47:95–113. [PubMed: 18411832]
- Center for Mental Health in Schools. California University; Los Angeles: 2007. Suicide prevention in schools. A center policy issues analysis brief. Retrieved May 8, 2008, from <http://smhp.psych.ucla.edu/pdfdocs/policyissues/suicide/pdf>
- Choi H, Meininger JC, Roberts RE. Ethnic differences in adolescents' mental distress, social stress, and resources. *Adolescence* 2006;41:263–283. [PubMed: 16981616]
- Coatsworth JD, Duncan LG, Pantin H, Szapocznik J. Retaining ethnic minority parents in a preventive intervention: The quality of group process. *Journal of Primary Prevention* 2006;27:367–389. [PubMed: 16802072]
- Cohen S, Kamarck T, Mermelstein R. Perceived stress scale—"English". *Journal of Human Behavior in the Social Environment* 2004;9:129–146.
- Department of Health and Human Services. Mental health: Culture, race, and ethnicity. A Supplement to Mental Health: A report of the Surgeon General. Washington, DC: Department of Health and Human Services, U.S. Public Health Service; 2001.
- Dishion, T.J.; Kavanagh, K. *Intervening in adolescent problem behavior A family-centered approach*. New York: The Guilford Press; 2003.
- Dunton GF, Schneider M, Cooper DM. Factors predicting behavioral response to a physical activity intervention among adolescent females. *American Journal of Health Behavior* 2007;31:411–422. [PubMed: 17511576]

- Edwards LM, Romero AJ. Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences* 2008;30:24–39.
- Elder JP, Shuler L, Moe SG, Grieser M, Pratt C, Cameron S, et al. Recruiting a diverse group of middle school girls into the trial of activity for adolescent girls. *Journal of School Health* 2008;78(10):523–531. [PubMed: 18808471]
- Garcia C, Lindgren S. “Life Grows Between the Rocks” Latino adolescents' and parents' perspectives on mental health stressors. *Research in Nursing and Health* 2009;32:148–162. [PubMed: 19170104]
- Garcia C, Skay C, Sieving R, Naughton S, Bearinger L. Family and racial factors associated with suicide and emotional distress among Latino students. *Journal of School Health* 2008;78:487–495. [PubMed: 18786041]
- Grunbaum JA, Kann L, Kinchen S, Ross J, Hawkins J, Lowry R, et al. Youth risk behavior surveillance—United States, 2003. *MMWR Surveillance Summary* 2004;53:1–96.
- Guszkowska M. Physical fitness as a resource in coping with stress among high school students. *Journal of Sports Medicine and Physical Fitness* 2005;45:105–111. [PubMed: 16208298]
- Irvine, A. Girls circle: Summary of outcomes for girls in the juvenile justice system. Ceres Policy Research. 2005. Retrieved May 8, 2008, from [http://www.girlscircle.com/docs/Final\\_Report.pdf](http://www.girlscircle.com/docs/Final_Report.pdf)
- Kelley TM. Health realization: A principle-based psychology of positive youth development. *Child & Youth Forum* 2003;32:47–72.
- Kirschbaum C, Hellhammer DH. Salivary cortisol in psychoneuroendocrine research: Recent developments and applications. *Psychoneuroendocrinology* 1994;19:313–333. [PubMed: 8047637]
- Knopf, D.; Park, MJ.; Mulye, T. The mental health of adolescents: A national profile, 2008. San Francisco: National Adolescent Health Information Center; 2008.
- McNair DN, Lorr M, Droppleman L. Profile of mood states—“Spanish”. *Journal of Consulting and Clinical Psychology* 2005;73:272–283. [PubMed: 15796635]
- Mikolajczyk RT, Bredehorst M, Khelaifait N, Maier C, Maxwell AE. Correlates of depressive symptoms among Latino and non-Latino White adolescents: Findings from the 2003 California Health Interview Survey. *BMC Public Health* 2007;7:21. [PubMed: 17313675]
- Morgan, D. The focus group guidebook. Thousand Oaks, CA: Sage; 1998.
- Mulvaney-Day NE, Rappaport N, Alegria M, Codianne LM. Developing systems interventions in a school setting: An application of community-based participatory research for mental health. *Ethnicity & Disease* 2006;16:S107–S117. [PubMed: 16681134]
- National Institute of Mental Health. Center for epidemiologic studies depression scale—“English”. *Psychosomatic Medicine* 2005;67:1006–1012. [PubMed: 16314607]
- Olshansky E. Toward alleviating health disparities through collaboration. *Journal of Professional Nursing* 2005;21:197–198. [PubMed: 16061165]
- Pantin H, Coatsworth JD, Feaster DJ, Newman FL, Briones E, Prado G, et al. Familias Unidas: The efficacy of an intervention to promote parental investment in Hispanic immigrant families. *Prevention Science* 2003;4:189–201. [PubMed: 12940469]
- Pantin H, Schwartz SJ, Sullivan S, Prado G, Szapocznik J. Ecodevelopmental HIV prevention programs for Hispanic adolescents. *American Journal of Orthopsychiatry* 2004;74:545–558. [PubMed: 15554814]
- Patterson JM, McCubbin HI, Needle RH. Adolescent-coping orientation for problem experiences—“English”. *Family Relations* 1985;34:51–62.
- PEW Research Center. Latino teens staying in high school: A challenge for all generations. Pew Hispanic Center Fact Sheet. 2004. Retrieved May 8, 2008, from [http://www.pewtrusts.org/uploaded-Files/wwwpewtrustsorg/Fact\\_Sheets/Hispanics\\_in\\_America/pew\\_hispanic\\_education\\_fact\\_sheet\\_persistence.pdf](http://www.pewtrusts.org/uploaded-Files/wwwpewtrustsorg/Fact_Sheets/Hispanics_in_America/pew_hispanic_education_fact_sheet_persistence.pdf)
- Puskar K, Sereika S, Tusaie-Mumford K. Effect of the teaching kids to cope (TKC) program on outcomes of depression and coping among rural adolescents. *Journal of Child & Adolescent Psychiatric Nursing* 2003;16:71–80. [PubMed: 12873069]
- Roa, J.; Irvine, A.; Cervantez, K. Girls circle national research project. Ceres Policy Research. 2007. Retrieved May 8, 2008, from [http://www.girlscircle.com/docs/Final\\_Report\\_2007.pdf](http://www.girlscircle.com/docs/Final_Report_2007.pdf)

- Rodriguez MC, Morrobel D. A review of Latino youth development research and a call for an asset orientation. *Hispanic Journal of Behavioral Sciences* 2004;26:107–127.
- Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology* 1994;67:1063–1078. [PubMed: 7815302]
- Sedgeman JA. Health Realization/Innate health: Can a quiet mind and a positive feeling state be accessible over the life-span without stress-relief techniques. *Medical Science Monitor* 2005;11:HY47–HY52. [PubMed: 16319796]
- Tacker KA, Dobie S. MasterMind: Empower yourself with mental health. A program for adolescents. *Journal of School Health* 2008;78:54–57. [PubMed: 18177301]
- Umana-Taylor AJ, Vargas-Chanes D, Garcia CD, Gonzales-Backen M. A longitudinal examination of Latino adolescents' ethnic identity, coping with discrimination, and self-esteem. *Journal of Early Adolescence* 2008;28:16–50.
- U.S. Census. Census Population Estimates. 2007. 2008. Retrieved May 8, 2008, from <http://www.census.gov/popest/national/asrh/NC-EST2007-asrh.html>

TABLE 1

Participant Demographics (N = 21)

Sample Characteristics	Fall Cohort, n = 10	Spring Cohort, n = 11			
Mean age (SD)	17 (1.89)	17.5 (2.25)			
Grade (%)					
9th	2 (20%)	3 (27%)			
10th	4 (40%)	3 (27%)			
11th	3 (30%)	3 (27%)			
12th	1 (10%)	2 (18%)			
Country of birth					
Costa Rica	1 (10%)	2 (18%)			
El Salvador	–	4 (36%)			
Mexico	6 (60%)	1 (9%)			
United States	3 (30%)	4 (36%)			
Household status					
Live with mom only	5 (50%)	4 (36%)			
Live with dad only	0	1 (9%)			
Live with both parents	2 (20%)	4 (36%)			
Live with neither parent	3 (30%)	2 (18%)			
Health insurance (%)					
Yes	3 (30%)	2 (18%)			
No	6 (60%)	8 (72%)			
Missing data	1 (10%)	1 (9%)			
General health Rating					
Very good	3 (30%)	3 (27%)			
Good	3 (30%)	3 (27%)			
Average	4 (40%)	4 (36%)			
Poor	–	1 (9%)			
Language preferences	Prefer English	Prefer English	Prefer Spanish	Both Equally	Prefer Spanish
At home	2	–	6	2	9
With friends	–	–	6	4	7

**TABLE 2****Intervention Components**

Sharing circles	Discussion of real-life experiences within their level of comfort such as relationship challenges or how their week has gone.
Physical movement	Variety of physical movement techniques offered through the sessions as strategies to manage stress, ranging from yoga and meditation to Latin American-inspired aerobics.
Life skills	Grounded in health realization principles; encourages awareness of coping and stress response abilities.
Life skills topics	<p>Stress: Defining and identifying stress</p> <p>Stress: Physical, mental, and emotional manifestations of stress</p> <p>Stress: Coping with stress</p> <p>Self: Self-identity</p> <p>Self: Self-respect</p> <p>Self: Jealousy in relationships</p> <p>Self: Family relationships</p> <p>Self: Acculturation</p> <p>Self: Spirituality</p> <p>Strategies: Introduction to health realization</p> <p>Strategies: Creative ways to deal with stress</p> <p>Strategies: Decision-making</p> <p>Strategies: Health realization—Separate realities</p> <p>Strategies: Health Realization—Internal locus of control</p> <p>Strategies: Developing a stress management plan</p>

**TABLE 3**

**Rates of Attendance and Data Collection<sup>a</sup>**

	<b>Fall Cohort, n = 10</b>	<b>Spring Cohort, n = 11</b>	<b>Cohorts Combined, n = 21</b>
Overall attendance	101/140 (72%)	130/154 (84%)	231/294 (79%)
Individual attendance			
# Attended 100% sessions	3 (30%)	6 (55%)	9 (43%)
# Attended more than 50% of sessions	8 (80%)	10 (91%)	18 (86%)
Data collection	Survey	Survey	Survey
	Cortisol <sup>b</sup>	Cortisol <sup>b</sup>	Cortisol <sup>b</sup>
Pre intervention	10/10 (100%)	11/11 (100%)	21/21 (100%)
Post intervention	6/10 (60%)	10/11 (91%)	5/20 (75%)
	n/a <sup>c</sup>	n/a <sup>c</sup>	n/a <sup>c</sup>

<sup>a</sup>Numerator: sum total number of sessions attended by participants, and denominator: total number of sessions offered × total number of participants.

<sup>b</sup>For the Cortisol data collection, the denominator reflects the total number of eligible girls (pregnancy precluded participation in cortisol data collection).

<sup>c</sup>Cortisol data were not collected at post intervention for the Spring cohort.



TABLE 4

Acceptability Results: Weekly Feedback ( $N = 21$ )

<i>Fall Cohort, n = 10</i>	<i>Spring Cohort, n = 11</i>
"Me gusta ya que es como un desahogo y además te escuchan."	"Quiero decir que me encantó la charla acerca de las conexiones entre los pensamientos y los sentimientos y el sol me gustó mucho porque ese sol para mí es como fuerza de voluntad, la esperanza de que todo puede ser bien, que si se puede hacer. Sentí que me lo estaba diciendo a mí porque hay muchas cosas en mi vida que no puedo dejar atrás. Pero el sol más grande de mi vida son mis hijos."
"I like it because it's like a release and even more people listen to you."	"I want to say that I loved the conversation about the connections between thoughts and feelings and I liked the 'sun' a lot because the 'sun' for me is like will power, hope that everything can be OK, that everything can be done. I felt like [she] was talking to me because there are a lot of things in my life that I can't leave behind. But the biggest 'sun' in my life are my children."
"Me pareció muy bueno porque le enseña de cosas que uno no sabe qué hacer para tener buena conversación."	"Me gustó mucho la lección de [facilitadora] porque me ayuda a saber y reconocer lo que soy y lo que puedo ser. Lo que tengo dentro de mí que a pesar de todo no tengo que dejarme llevar por los comentarios de los demás porque nadie puede ni tiene el derecho de hacerme sentir inferior a los demás."
"It seemed really great because it teaches you things you can do to have to a good conversation."	"I liked the lesson of [facilitator] because it helps me know and recognize what I am and what I can be. What I have within me and in spite of everything I don't have to pay attention to other people's opinions because no one can nor has the right to make me feel inferior."
"I liked today's meeting because we got to talk about what we feel."	"Me gustó mucho la charla acerca de cómo manejar el estrés. Pienso que es muy buena idea tratar de perdonar a las personas que nos han hecho un poco de daño y tratar de entender un poco mejor a las personas."
"Me gustó mucho el tema de hoy porque nos impulsa a superarnos como personas."	"I really liked the conversation about how to manage stress. I think that it is a good idea to try to forgive people who have hurt us a little and try to understand other people a little better."
"I really liked today's topic because it inspires us to better ourselves."	"Me gusta mucho esta clase. Porque me divierto y me relajo mucho. Esta clase me ayuda a olvidar mis problemas. Espero tener esta clase mas seguida."
"Me gustó mucho el tema de hoy acerca de la culturización a un nuevo país."	"I really like this class because I have fun and I relax a lot. This class helps me forget my problems. I hope to have this class more often."
"I really liked today's topic about acculturation to a new country."	"El día de hoy fue muy divertido. Pienso que cada día esto está más divertido. Me des estreso y me divierto aunque me canso cuando bailamos, pero es divertido."
"Me gusta este grupo porque me des estreso."	"Today was a lot of fun. I think that every day this is more fun. I de-stress and have fun, even though I get tired when dancing, its fun."
"I like this group because it lowers my stress."	