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## Life is Precious: A Community-Based Program to Reduce Suicidal Behavior in Latina Adolescents

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### Abstract

**Objectives**—Latina adolescents have high rates of suicidal behavior. Life is Precious (LIP), a community-based program in New York City, helps adolescents and families address risk factors facing Latinas.

**Methods**—Participants are assessed for suicidal ideation, depressive and other psychiatric symptoms, and family functioning, at program entry and every four months during participation. Demographic characteristics and suicide attempts are also tracked.

**Results**—In the study period, there were no attempted or completed suicides in this high-risk population. Suicidal ideation, depressive symptoms, anger, and posttraumatic stress symptoms decreased significantly during participation.

**Conclusion**—The LIP model shows promise for helping to address suicidal risk factors facing Latinas. However, in the absence of a comparison group, participants' improvement may be due to their engagement in mental health treatment more generally, or to the passage of time, rather than specifically to LIP. Nevertheless, as very little is known about how to address risk factors unique to Latina adolescents, these early findings may be of interest to the community serving Latina adolescents and the lessons may be of interest to programs serving adolescents from other racial/ethnic groups. Future research should develop comparison groups and test LIP implementation in other settings.

Adolescent Latina girls face a myriad of risk factors for suicidal ideation (defined by the Centers for Disease Control and Prevention (CDC) as “thinking about, considering or planning suicide”) and suicide attempts (self-directed behaviors conducted “with an intent to die”) (CDC, 2016). Previous research has found that adolescent Latinas have higher rates of suicidal ideation and attempts, compared to their non-Latina black and white age peers

(Baumann et al, 2010; Eaton et al, 2011; Humensky et al, 2013). Data collected in 2015 from the Centers for Disease Control and Prevention find that, nationwide, among girls in grades 9-12, over one in four Latinas (26%) reports seriously considering attempting suicide in the 12 months prior to the interview, which is significantly greater ( $p=.01$ ) than the rates for non-Latina blacks (19%) though not significantly different from rates for non-Latina whites (23%; CDC, 2015). Additionally, Latina girls have higher rates of suicide attempts in the previous 12 months (15%), compared to non-Latina blacks (10%) and whites (10%) ( $p<.05$ ) (CDC, 2015). In New York City, Latinas have greater rates of suicide attempts compared to non-Hispanic black and white girls in the past 12 months (13% for Latinas versus 10% for blacks and 8% for whites) ( $p<.05$ ) though no significant differences were found in rates of those seriously considering attempting suicide between the groups (CDC, 2015).

Research has identified risk factors for suicidal ideation and attempts faced by Latinas. Latinas have high rates of living in poverty and in disadvantaged neighborhoods, including high crime rates, low-quality housing and schools, substance abuse and teen pregnancy (Zayas et al., 2010). Extensive qualitative research has identified risk factors that may particularly affect Latinas. Like many adolescents, Latinas may face many struggles, including issues of developing their own identity in the face of struggles with self-confidence, self-esteem, and body image (Zayas and Pilat, 2008), challenges in school, challenges with family and peer relationships, and challenges associated with living in poverty (Zayas and Pilat, 2008; Goldston et al, 2008; Humensky et al, 2013). However, for Latinas, the move in adolescence towards autonomy occurs within a phenomenon known as *familism*, a cultural context that places a high priority on family allegiance, unity and respect for parents, with obligations to the family valued ahead of individual obligations (Goldston et al, 2008). As described by Dr. Luis Zayas (2011), a leading researcher in suicidal risk factors for Latinas, “this pull of the connection to the family and its cultural traditions and the counter-pull of the adolescent's need for increased autonomy” can create psychological conflict and family tension. If this tension occurs in an already-stressful family environment or in the context of other social stressors, the risk of suicidal ideation and attempts is increased (Zayas and Pilat, 2008). Latina adolescents who have different aspirations from their parents (Hausman-Stabile et al, 2013), who have acculturated to US mainstream culture more quickly than their parents (Cervantes et al, 2014), and who have greater feelings of powerlessness and of feeling unloved and disconnected from their families (Gulbas et al, 2015, Gulbas & Zayas, 2015) have higher rates of suicidal ideation.

The findings from qualitative analyses have been confirmed in quantitative analyses of population-based epidemiologic surveys. In the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), Latina adolescents who migrated to the US at a younger age, lived in the US longer, had a high degree of English-language orientation, and reported lower Hispanic ethnic identification had higher risk of suicidal ideation (Pérez-Rodríguez et al, 2014). An analysis of the National Latin and Asian American Study (NLAAS) found that Latinas who were employed or who reported greater family cohesion had lower risks of suicidal ideation (Ai et al, 2014). In the National Longitudinal Study of Adolescent to Adult Health (AddHealth), Latinas with greater connectedness to their mothers and fathers, and whose parents took an interest in their academic achievement, had lower rates of suicidal ideation (Pina-Watson et al, 2014).

Despite the breadth of research examining risk factors for Latina adolescents, very little is known about how to address these risk factors to help address suicidal risk factors among Latinas. No current suicide prevention strategy listed in the Best Practice Registries maintained by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2015) or the Suicide Prevention Resource Center (SPRC, 2015) address the unique risk factors facing Latinas. One school-based program has been specifically designed to serve Latinas: *Project Wings* is a school-based intervention conducted over 14 sessions that offers activities such as sharing circles, relaxation exercises, and skill-building techniques to help Latinas cope with stress. Trials in two Minneapolis high schools found substantial feasibility and acceptability, and resulted in reduced stress and depression and increased connectedness (Garcia et al, 2013). *Con Mi Madre* is a program operating in Austin, TX that works with Latina adolescents and their mothers or another adult role model specifically to help Latina adolescents succeed in school. Program graduates have high rates of completing high school and continuing to college; however, the program does not specifically emphasize risk factors for suicide (Con Mi Madre, 2015).

Previous studies that have examined suicide prevention interventions in adolescents (not limited to Latinas) have experienced difficulty in demonstrating significant reductions in suicidal ideation. According to SAMHSA (2015), of 44 studies of suicide prevention programs serving youth from the 1980s to the 2000s, only three showed any decrease in suicidal thoughts, and none specifically targeted Latinas. Small studies of Cognitive-Behavioral Therapy (CBT) (N=36) (Esposito-Smythers et al, 2011) and Dialectical Behavior Therapy (N=29) (Rathus and Miller, 2002) found reductions in suicidal ideation among adolescents. Other studies of CBT (Donaldson et al, 2005), multi-systemic therapy (Huey et al 2004), home-based family therapy (Harrington et al, 1998), and psychoeducation (King et al, 2009) did not find changes in suicidal ideation. We know of no interventions providing a comprehensive set of services specifically designed or culturally adapted to address the unique risk factors for suicidal ideation and attempts faced by Latinas, including challenges regarding mental health, academic achievement, family relationships, and peer networks. Thus, the Life is Precious™ (LIP) program provides a unique opportunity to examine how to address suicidal risk factors in this vulnerable population.

## Life Is Precious™ Program and Evaluation Development

In light of the high rates of suicidal ideation and attempts in Latina adolescents, Dr. Rosa M. Gil, President and CEO of Comunilife, Inc. led the development of LIP. Comunilife consulted with leading Latina suicide researchers and reviewed the literature in order to identify the risk factors facing Latina adolescents. Comunilife then conducted initial focus groups with Latina adolescents and their mothers to learn what they thought would be most helpful to them, and so the program was designed with community-led participation from its inception. Four main programmatic goals emerged from the focus group findings: the need for support in promoting family relationships, academic support, creative expression, and wellness education. In terms of family relationships, mothers and daughters expressed a need for improved communication. Many of the girls in the focus groups stated that their mothers were their role models, and yet felt that their parents did not understand the US cultural norms that the girls were experiencing outside the home. Research in this area has

shown that poor relationships and mutuality, particularly between mothers and daughters (Zayas et al, 2009), acculturation gaps, and family conflict are associated with suicidal risk factors in Latinas (Zayas and Pilat, 2008, Goldston et al, 2008, Pina-Watson et al, 2014). Thus, LIP developed therapeutic services to help participants build communication skills. For example, participants may learn about their parents' cultural beliefs and expectations, how to understand the parent's point of view, and then how to communicate their own point of view in a way that was not perceived by the parents as disrespectful. Likewise, if parents choose to participate in family therapy, they may also learn about how to communicate with their adolescent daughters in a way that does not threaten their authority. LIP can thus act as a cultural broker to help participants learn to communicate with their families to overcome acculturation gaps.

A second programmatic goal was providing academic support. Focus group participants stated that when they don't do well in school, they don't feel good about themselves. This is consistent with research that states that vocational participation is associated with lower rates of suicidal ideation (Ai et al, 2014, Pina-Watson et al, 2014). LIP provides a variety of supported education services, including resources for homework completion, tutoring, and assistance with competitive applications to high school (in New York City) and college.

A third programmatic goal that emerged was the need for creative expression. Focus group participants indicated the need to find outlets to communicate their feelings. This is consistent with previous research showing that art therapy reduces trauma-related symptoms in adolescents (Lyshak-Stelzer, Singer, and Chemtob, 2007), and that creative engagement helps foster social connection in adolescent Latinas (Ford-Paz et al, 2015). Licensed art, music, and dance therapists use these media to help participants express their feelings.

The fourth programmatic goal was the need for wellness support. Several of the focus group participants described being mocked or ostracized in school due to being overweight. The LIP developers recognized that access to healthy foods can be limited in many low-income areas, the so-called 'food deserts' (Jack et al, 2013), and that promoting a positive body image has been shown to reduce self-injury in adolescents (Muehlenkamp and Brausch, 2011). Participants learn to purchase and cook healthy food and pursue available exercise options as an LIP activity.

Thus, in response to the suggestions proffered in the focus groups, the LIP program model was designed to promote family relationships, academic support, creative expression, and wellness education activities. The program does not have a defined catchment area, and accepts participants from several schools and neighborhoods. Referrals can come from outpatient mental health clinics, schools, hospitals, and self-referrals from Latinas and their families (Humensky et al, 2013). All participants must be adolescent Latinas (ages 12-18) and must have experienced suicidal ideation or attempts prior to referral and continue to experience suicidal ideation at the time of referral. Past suicidal ideation and attempts have been identified as risk factors for future ideation and attempts in adolescents (King et al, 2014, Scott et al, 2015). Participants must be receiving mental health treatment, either at Comunilife or another clinic. LIP currently operates in three locations in New York City (Bronx, Brooklyn, and Queens). The program runs as an after-school program

(3:00pm-7:00pm) on weekdays and on Saturday mornings. Participants come on a drop-in basis and can take advantage of any or all of the services offered by LIP; there is no set curriculum or sequence in which services must be received. It should be noted that the enrolled participants are the adolescent Latinas. While LIP has the goal of providing education to participants on communication with family members, those family members, including parents, are not enrolled participants. Communication education is thus designed primarily to educate the adolescent in how to improve communication with family members; if other family members choose to participate, they may also learn these skills. As LIP operates as an after-school program, many parents are working or otherwise not available at those hours, and so the program is designed primarily to provide adolescents with the tools and strategies that they may find beneficial, regardless of the level of participation of other family members.

In 2011, Comunilife partnered with the New York State Center of Excellence for Cultural Competence (CECC) to evaluate LIP. In 2013, pilot funding was awarded by the American Foundation for Suicide Prevention. This study described the population served by LIP and examined trajectories of suicidal ideation, depressive symptoms, other associated symptoms (anxiety, anger, posttraumatic stress, dissociation, and sexual concerns), and family functioning during program participation.

## Methods

This study examines retrospective data collected from the LIP program; this is an uncontrolled trial with no comparison group. Demographic data was collected from participant self-reports in initial intake assessments conducted by LIP staff. Suicidal ideation, depressive symptoms, trauma exposure, and family cohesion were assessed every four months. Suicidal ideation was measured by the Suicidal Ideation Questionnaire, a 30-item assessment of suicidal thoughts that is reliable and valid in adolescents, including Latinas (Reynolds & Mizza, 1999, King et al, 2009). Scores range from 0 to 180; higher scores indicate greater suicidal ideation. Depressive symptoms were assessed using the 30-item Reynolds Adolescent Depression Scale: 2<sup>nd</sup> Edition (RADSD2), which is reliable and valid among young adults, including Latinas (Osman et al, 2010; Stockings et al, 2015). Scores range from 30-120; higher scores indicate greater depressive symptoms. Depressive symptoms and other associated symptoms (anxiety, anger, posttraumatic stress, dissociation, and sexual concerns) were also assessed using the Trauma Symptom Checklist for Children (TSCC). The TSCC includes nine questions for each of these six symptom clusters, for a total of 54 items. Scores on each of the six symptom clusters range from 0 to 27; higher scores indicate greater severity. The TSCC is reliable and valid in adolescent populations (Nilsson et al, 2008, Martinez et al, 2014). Family functioning was assessed using the Family Cohesion and Adaptability Scale: 4<sup>th</sup> Edition (FACES-IV), which assesses family cohesion and adaptability. Family cohesion is measured by the degree of agreement on seven items: the extent to which family members are involved in one another's lives, feel close to each other, are supportive of each other doing different things, consult one another on important decisions, like to spend some of their free time with each other, participate in family activities, and have a good balance of separateness and closeness. Adaptability is assessed by the degree of agreement on seven items: family tries new ways of dealing with

problems, parents share equally in leadership of the family, discipline is fair, family is able to adjust to change when necessary, family shifts household responsibilities from person to person, there are clear rules and roles in the family, and compromise occurs when problems arise. FACES-IV is reliable and valid in studies of young adults, including Latinas (Olsen et al, 2011). Scores range from 7 to 35; higher scores indicate greater family cohesion and adaptability.

Data were collected on all 107 participants who attended LIP during our study period at the Bronx and Brooklyn sites (the Queens site had not yet begun operation during our data collection period). Data were collected every four months during program participation, and some girls had up to six assessments. Linear mixed effects models were used to examine the rate of change over time from all participants, using all available data. Models were clustered to account for variations between program sites. All analyses were conducted in Stata 13.1.

The New York State Psychiatric Institute Institutional Review Board approved this study. LIP participants received an information sheet and could opt-out of having their de-identified data reported to researchers; information sheets were also posted at the LIP locations. No participant opted out of allowing their data to be reported. Consistent with IRB requirements, cell sizes with fewer than 5 respondents were not reported to reduce the risk of deductive disclosure.

## Results

The population served by LIP is reported in Table 1. All of the 107 study participants were Latina adolescents ages 11-18; 29% reported their subgroup as Puerto Rican, and about a quarter (24% each) reported being Dominican or Mexican. Most (85%) were born in the US (including Puerto Rico); fewer than five were born in Puerto Rico. Most were fluent in both English (93%) and Spanish (88%). Almost all (98%) were enrolled in school at the time of program entry and about one-third (35%) had repeated a grade in school. About 6% reported tobacco use, 9% alcohol use, and 7% marijuana use at the time of program entry. One quarter (25%) report having been sexually abused, and 17% attempted suicide prior to entering the program. The most common mental health diagnosis was “depression” (including major depression) (45%). Most mothers of participants were fluent in Spanish (97%) and less than half (43%) were fluent in English. Nearly half of participants (49%) lived with both biological parents, and 45% lived with a single parent.

During the period of assessment, no participant attempted or completed suicide. Suicidal ideation, as measured by the SIQ, decreased by about 1/5 of a point per month (-0.19) of program enrollment, for an average of 2.3 points per year of enrollment (-0.19\*12=-2.3) ( $p=0.05$ ) (Table 3). Persons who reported a history of sexual abuse, tobacco use, or alcohol use had greater decreases in suicidal ideation (-0.40 points, -1.44 points, and -2.16 points per month, respectively, all  $p<.01$ ).

Depressive symptoms, as measured by the RADS2 and TSCC, decreased significantly over the period of program enrollment (-0.23 points and -0.10 points per month, respectively;  $p<$ .



01) (Table 3). Anger and posttraumatic symptoms, as measured by the TSCC, also decreased significantly (-0.07 points and -0.08 points per month, both  $p < .01$ ) (Table 4). No significant changes were found for TSCC anxiety, dissociation, and sexual concerns (Table 4). No significant changes were found for changes in family cohesion (Table 3), though rates of family adaptability, as measured by the FACES-IV scale, decreased (worsened) 0.02 points per month ( $p < .01$ ).

## Discussion

Among participants entering the LIP program, 18 individuals (17%) had experienced a suicide attempt in their lifetimes. The CDC estimates that, in New York City, 13% of Latina girls in grades 9-12 reported a suicide attempt in the past year (lifetime prevalence data not available). After entering the program, no participant attempted or completed suicide, despite the fact that LIP is serving a high-risk population of adolescent girls. Suicidal ideation, as measured by the SIQ, decreased by about 1/5 of a point per month of program enrollment, or an average of 2.3 points per year. This appears to be a modest decrease; however, as the average SIQ score on program entry is about 20, a decrease of about 2.3 points per year suggests a decrease of about one symptom from twice a week to twice a month. Results are even stronger for participants with a history of sexual abuse, tobacco use or alcohol use at program entry (about 5, 17, and 26 points per year, respectively). Statistically significant reductions in depressive symptoms are seen in both the RADS2 and TSCC scales, and reductions in anger and posttraumatic stress are also seen in the TSCC. However, slight but significant worsening in family adaptability is also observed over time.

Previous studies have experienced great difficulty in demonstrating significant reductions in suicidal ideation (SAMHSA, 2015, Donaldson et al, 2005, Huey et al, 2004, King et al, 1999, Harrington et al, 1998). Although the effect sizes we are seeing in suicidal ideation, depressive symptoms, anger, and posttraumatic stress symptoms are modest, they are statistically significant, and these changes are seen in multiple assessment tools (SIQ, RADS2, TSCC).

No significant changes in family cohesion are observed. LIP functions primarily as an after-school program for adolescents, and thus, the primary target of the intervention is the adolescent. While the program acts to improve parent-adolescent communication and relationships, it might be expected to have limited influence on the ways in which family members function outside of the program, particularly those who have little or no direct contact with LIP. Reports of family adaptability seem to worsen slightly. One potential explanation is that, with LIP's focus on acculturation issues, participants might become more aware of their family gender roles and the expectations of Latino and mainstream US cultures. The adaptability scale items (e.g. family leadership and roles) might be tapping participants' growing questioning over time of how their family roles are defined. Future research should examine how participants view leadership and gender roles after participating in LIP.

LIP was developed to address specific risk factors facing Latinas identified in previous research. While some underlying issues, such as poverty (Zayas et al, 2010), cannot be

addressed by LIP, the program aims to create a safe haven for adolescents to learn to confront key risk factors by helping them resolve family and acculturation conflicts (Zayas and Pilat, 2008, Cervantes et al, 2014, Ai et al, 2014, Pina-Watson et al, 2014, Gulbas et al, 2015), improving peer relations (Goldston et al, 2008), and enhancing academic achievement (Goldston et al, 2008, Hausman-Stabile et al, 2013). Future research should examine the specific mechanisms that help to address risk factors for suicide among adolescents. Reductions in suicidal ideation were even greater for the adolescents with a history of sexual or substance abuse at baseline. Since LIP participants are required to attend mental health treatment, this greater improvement may be due to their work on these issues in therapy and with LIP staff. LIP also provides a place for adolescents to go after school to reduce the temptation for substance use.

This study has several limitations. There is currently no control group; participants' improvement may be due to their engagement in mental health treatment more generally, or to the passage of time, rather than specifically to LIP. However, suicide prevention programs have generally not found stable reductions in suicidal ideation over time. As very little is known about how to address risk factors unique to Latina adolescents, these early findings may be of interest to the community serving Latina adolescents. Moreover, as of March 2016, our collaboration has received funding to begin developing an efficacy trial, which will allow us to compare outcomes to a comparison group. An additional limitation is that data are currently only available while participants remain in the program; it is unknown whether results are sustained after their departure. We have only tracked 107 participants at two sites; it is unknown whether results would be replicated in other settings. All our assessments are self-reported by the adolescents, and we did not assess parents' perceptions of change. However, the measures have been found reliable and valid in populations of adolescents, including Latinas (Reynolds & Mizza, 1999, King et al, 2009, Osman et al, 2010; Stockings et al, 2015, Nilsson et al, 2008, Martinez et al, 2014, Olsen et al, 2011). Data on assessments were collected by the LIP program at intake and during participation, but attendance data were not consistently collected at the time of this study. As of March, 2016, with newly available resources, the program has begun collecting attendance data, which will enable us to assess whether intensity of service use or participation in particular activities was associated with improved outcomes. Still, these results reflect changes in assessments during overall program participation; future research should examine the contribution of individual activities versus the program as a whole. Additionally, assessment data were only available for adolescent participants; while it would be valuable to know if the education on communication skills influenced the parents' attitudes or behaviors, parents were not enrolled participants and their participation with the program was not tracked. However, LIP services were designed to benefit the adolescent participant, regardless of the level of parental involvement. Moreover, in December 2015, LIP received separate grant funding to implement and evaluate a family curriculum. The data from this evaluation will provide a valuable opportunity to assess the impact of family involvement on LIP outcomes.

In conclusion, LIP is a community-based program that was developed with input from community stakeholders and is attempting to reduce the risk of suicidal ideation and attempts among Latina adolescents. A wide array of data on all program participants to date shows considerable promise in suicide prevention and in the improvement of depressive and



other associated symptoms. Future research should continue to examine trajectories of program participants over time, how results compare to a comparison group of Latinas not enrolled in LIP, and whether results are upheld as the number of participants served increases and as the program expands into additional locations. Results may be of interest to programs serving not only Latina adolescents, but adolescents from all racial/ethnic groups.

## References

- Ai AL, Weiss SI, Fincham FD. Family factors contribute to general anxiety disorder and suicidal ideation among Latina Americans. *Women's Health Issues*. 2014; 24(3):345–52.
- Bangser M. *A Funder's Guide to Using Evidence of Program Effectiveness in Scale-Up Decisions*. MDRC. New York, NY: 2015. Retrieved from [http://www.mdr.org/sites/default/files/GPN\\_FR.pdf](http://www.mdr.org/sites/default/files/GPN_FR.pdf)
- Baumann AA, Kuhlberg JA, Zayas LH. Familism, mother-daughter mutuality, and suicide attempts of adolescent Latinas. *Journal of Family Psychology*. 2010; 24:616–624. [PubMed: 20954772]
- Centers for Disease Control and Prevention. Definitions: Self-Directed Violence. 2016. Retrieved from <http://www.cdc.gov/violenceprevention/suicide/definitions.html>
- Centers for Disease Control and Prevention. Youth Online: High School Youth Risk Behavior Survey (YRBS). 2015. Retrieved from <https://nccd.cdc.gov/youthonline/App/Default.aspx>
- Cervantes RC, Goldbach JT, Varela A, et al. Self-harm among Hispanic adolescents: investigating the role of culture-related stressors. *Journal of Adolescent Health*. 2014; 55(5):633–9. [PubMed: 25085649]
- Con Mi MADRE: Mothers And Daughters Raising Expectations. 2015. Retrieved from <http://www.conmimadre.org/home.html>
- Donaldson D, Spirito A, Esposito-Smythers C. Treatment for adolescents following a suicide attempt: Results of a Pilot Trial. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2005; 44(2):113–20. [PubMed: 15689724]
- Eaton DK, Foti K, Brener ND, et al. Associations between risk behaviors and suicidal ideation and suicide attempts: do racial/ethnic variations in associations account for increased risk of suicidal behaviors among Hispanic/Latina 9th- to 12th-grade female students? *Archives of Suicide Research*. 2011; 15(2):113–26. [PubMed: 21541858]
- Esposito-Smythers C, Spirito A, Kahler CW, et al. Treatment of Co-Occurring Substance Abuse and Suicidality Among Adolescents: A Randomized Trial. *Journal of Consulting and Clinical Psychology*. 2011; 79(6):728–39. [PubMed: 22004303]
- Ford-Paz RE, Reinhard C, Kuebbeler A, Contreras R, Sánchez B. Culturally tailored depression/suicide prevention in Latino youth: community perspectives. *The Journal of Behavioral Health Services & Research*. 2015; 42(4):519–533. [PubMed: 24132548]
- Garcia C, Pintor J, Vazquez G, Alvarez-Zumarraga E. Project Wings: A Coping Intervention for Latina Adolescents: A Pilot Study. *Western Journal of Nursing Research*. 2013; 35(4):434–458. [PubMed: 21593284]
- Goldston DS, Molock SD, Whitbeck LB, et al. “Cultural considerations in adolescent suicide prevention. *American Psychologist*. 2008; 63(1):14–31. [PubMed: 18193978]
- Gulbas LE, Zayas LH. Examining the interplay among family, culture, and Latina teen suicidal behavior. *Qualitative Health Research*. 2015; 25(5):689–99. [PubMed: 25288407]
- Gulbas LE, Hausmann-Stabile C, De Luca SM, et al. An exploratory study of nonsuicidal self-injury and suicidal behaviors in adolescent Latinas. *American Journal of Orthopsychiatry*. 2015; 85(4):302–14. [PubMed: 26052816]
- Hausmann-Stabile C, Gulbas L, Zayas LH. Aspirations of Latina adolescent suicide attempters. *Hispanic Journal of Behavioral Sciences*. 2013; 35(3):390–406. [PubMed: 24013464]
- Harrington R, Kerfoot M, Dyer E, et al. Randomized trial of a home-based family intervention for children who have deliberately poisoned themselves. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1998; 37(5):512–8. [PubMed: 9585653]

- Huey SJ, Henggeler SW, Rowland MD, et al. Multisystemic therapy effects on attempted suicide by youths presenting psychiatric emergencies. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2004; 43(2):183–90. [PubMed: 14726725]
- Humensky JL, Gil R, Coronel B, et al. “Life is Precious™: Reducing Suicidal Behavior in Latinas. Ethnicity and Inequalities in Health and Social Care. 2013; 6(2/3):54–61.
- Jack D, Neckerman K, Schwartz-Soicher O, Lovasi GS, Quinn J, Richards C, Viola D. Socio-economic status, neighbourhood food environments and consumption of fruits and vegetables in New York City. *Public Health Nutrition*. 2013; 16(07):1197–1205. [PubMed: 23388104]
- King CA, Jiang Q, Czyz EK, Kerr DC. Suicidal ideation of psychiatrically hospitalized adolescents has one-year predictive validity for suicide attempts in girls only. *Journal of Abnormal Child Psychology*. 2014; 42(3):467–477. [PubMed: 23996157]
- King CA, O'Mara RM, Hayward CN, et al. Adolescent Suicide Risk Screening in the Emergency Department. *Academic Emergency Medicine*. 2009; 16:1234–1241. [PubMed: 19845554]
- Lyshak-Stelzer F, Singer P, Patricia SJ, Chemtob CM. Art therapy for adolescents with posttraumatic stress disorder symptoms: A pilot study. *Art Therapy*. 2007; 24(4):163–169.
- Martinez K, Callejas L, Hernandez M. “Community-Defined Evidence: A Bottom-Up Behavioral Health Approach to Measure What Works in Communities of Color”. Report on Emotional & Behavioral Disorders in Youth: Evidence-Based Assessments and Interventions for the Real World. 2010; 10(1):11–16.
- Martinez W, Polo AJ, Zelic KJ. Symptom Variation on the Trauma Symptom Checklist for Children: A Within-Scale Meta-Analytic Review. *Journal of Traumatic Stress*. 2014; 27:655–663. [PubMed: 25522729]
- Muehlenkamp JJ, Brausch AM. Body image as a mediator of non-suicidal self-injury in adolescents. *Journal of Adolescence*. 2012; 35(1):1–9. [PubMed: 21777971]
- Nilsson D, Wadsby M, Svedin CG. The Psychometric Properties of the Trauma Symptom Checklist for Children (TSCC) in a Sample of Swedish Children. *Child Abuse and Neglect*. 2008; 32:627–636. [PubMed: 18584867]
- Olson D. FACES IV and the Circumplex Model: Validation Study. *Journal of Marital and Family Therapy*. 2011; 37(1):64–80. [PubMed: 21198689]
- Osman A, Gutierrez PM, Bagge CL, et al. Reynolds Adolescent Depression Scale – Second Edition: A Reliable and Useful Instrument. *Journal of Clinical Psychology*. 2010; 66:1–22. [PubMed: 19941327]
- Perez-Rodriguez MM, Baca-Garcia E, Oquendo MA, et al. Relationship between acculturation, discrimination, and suicidal ideation and attempts among US Hispanics in the National Epidemiologic Survey of Alcohol and Related Conditions. *Journal of Clinical Psychiatry*. 2014; 75(4):399–407. [PubMed: 24813407]
- Piña-Watson B, Castillo LG, Rodriguez KM, et al. Familial factors related to suicidal ideation of Latina adolescents in the United States. *Archives of Suicide Research*. 2014; 18(2):213–20. [PubMed: 24593057]
- Rathus JH, Miller AL. Dialectical behavior therapy adapted for suicidal adolescents. *Suicide Life Threatening Behavior*. 2002; 32(2):146–57. [PubMed: 12079031]
- Reynolds WM, Mizza JJ. Assessment of Suicidal Ideation in Inner-City Children and Young Adolescents: Reliability and Validity of the Suicidal Ideation Questionnaire – JR. *School Psychology Review*. 1999; 28(1):17–30.
- Scott LN, Pilkonis PA, Hipwell AE, et al. Non-suicidal self-injury and suicidal ideation as predictors of suicide attempts in adolescent girls: A multi-wave prospective study. *Comprehensive Psychiatry*. 2015; 58:1–10. [PubMed: 25595520]
- Substance Abuse and Mental Health Services Administration (SAMHSA). National Registry of Evidence-Based Practices. 2015. Retrieved from <http://www.nrepp.samhsa.gov>
- Suicide Prevention Resource Center. Best Practices Registry. 2015. Retrieved from <http://sprc.org/bpr>
- Stockings E, Degenhardt L, Lee YY, et al. Symptom Screening Scales for Detecting Major Depressive Disorder in Children and Adolescents: A Systematic Review and Meta-Analysis of Reliability, Validity, and Diagnostic Utility. *Journal of Affective Disorders*. 2015; 174:447–463. [PubMed: 25553406]

- Zayas LH, Pilat AM. Suicidal behavior in Latinas: Explanatory cultural factors and implications for intervention. *Suicide and Life-Threatening Behavior*. 2008; 38:334–342. [PubMed: 18611132]
- Zayas LH, Bright CL, Alvarez-Sanchez T, Cabassa LJ. Acculturation, Familism and Mother-Daughter Relations Among Suicidal and Non-Suicidal Adolescent Latinas. *Prim Prev*. 2009; 30(3-4):351–369.
- Zayas L, Gulbas LE, Fedoravicius N, et al. Patterns of distress, precipitating events, and reflections on suicide attempts by young Latinas. *Social Science and Medicine*. 2010; 70:1773–1779. [PubMed: 20347199]
- Zayas LH. *Latinas Attempting Suicide: When Cultures, Families and Daughters Collide*. New York: Oxford University Press; 2011.

**Table 1**  
**Study Population at Program Entry of Girls Ages 11-18 (N=107)**

Participant Characteristic	N	%
<b>Demographic</b>		
Latina	107	100%
Puerto Rican	30 <sup>a</sup>	29%
Dominican	25 <sup>a</sup>	24%
Mexican	25 <sup>a</sup>	24%
Ecuadorian	5 <sup>a</sup>	5%
Other <sup>f</sup> or Two or More	4 <sup>a</sup>	4%
Two or More	16 <sup>a</sup>	15%
Place of birth:		
US (including Puerto Rico)	88 <sup>b</sup>	85%
Outside US	16 <sup>b</sup>	15%
Fluent in English	97 <sup>b</sup>	93%
Fluent in Spanish	80 <sup>c</sup>	88%
Age	14.9 (mean)	2.3 (SD)
Enrolled in school	104 <sup>d</sup>	98%
Ever repeated a grade	36 <sup>b</sup>	35%
<b>Clinical</b>		
Tobacco use in 30 days before program entry	6 <sup>b</sup>	6%
Alcohol use in 30 days before program entry	9 <sup>a</sup>	9%
Marijuana use in 30 days before program entry	7 <sup>b</sup>	7%
Ever sexually abused	26 <sup>b</sup>	25%
Reported suicide attempt before program entry	18 <sup>e</sup>	17%
Primary mental health diagnosis		
Depression	48	45%
Bipolar disorder	6	6%
<b>Family characteristics</b>		
Mother fluent in English	40 <sup>f</sup>	43%
Mother fluent in Spanish	90 <sup>f</sup>	97%
Family structure		
Two-parent biological family	52	49%
Single-parent household	48	45%
Other	7	7%
Family member attempted suicide	28 <sup>a</sup>	27%

Total N=107. Missing data due to incomplete survey responses on items as indicated.

<sup>a</sup>N=105;

<sup>b</sup>N=104;

<sup>c</sup>N=91;

<sup>d</sup>N=106;

<sup>e</sup>N=103;

<sup>f</sup>N=93

<sup>l</sup> Other includes Honduran, Colombian, and Guatemalan

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**Table 2**  
**Trajectories of Suicidal Ideation over the Duration of Program Participation**

	All Participants	Among participants reporting		
		History of sexual abuse	Tobacco use at program entry	Alcohol use at program entry
Points per month of enrollment (Range 0-180) <sup>1</sup>	-0.19	-0.40	-1.44	-2.16
Standard error	0.10	0.08	0.51	0.51
P-value	0.05	<0.01	<0.01	<0.01
Points per 12 months	-2.3	-4.8	-17.3	-25.9

<sup>1</sup>Higher score indicates higher suicidal ideation

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**Table 3**  
**Trajectories of Depressive Symptoms and Family Functioning over the Duration of Program Participation**

	Depressive Symptoms		Family Functioning	
	RADS-2 (range 30-120) <sup>1</sup>	TSCC-Depression (range 0-27) <sup>1</sup>	Family Cohesion (range 7-35) <sup>2</sup>	Family Adaptability (range 7-35) <sup>2</sup>
Points per month of enrollment	-0.23	-0.10	-0.01	-0.02
Standard error	0.02	0.03	0.02	0.00
P-value	<0.01	<0.01	0.55	<0.01
Points per 12 months	-2.8	-1.2	-0.12	-0.24

<sup>1</sup>Higher score indicates higher depressive symptoms

<sup>2</sup>Higher score indicates better family functioning

**Table 4**  
**Trajectories of Associated Symptoms Over the Duration of Program Participation**

	TSCC-Anger (range 0-27) <sup>f</sup>	TSCC-Posttraumatic stress (range 0-27) <sup>f</sup>	TSCC-Anxiety (range 0-27) <sup>f</sup>	TSCC-Dissociation (range 0-27) <sup>f</sup>	TSCC-Sexual concerns (range 0-27) <sup>f</sup>
Points per month of enrollment	-0.07	-0.08	-0.05	-0.06	-0.01
Standard error	0.01	0.02	0.03	0.03	0.01
P-value	<0.01	<0.01	0.11	0.07	0.55
Points per 12 months	-0.84	-0.96	-0.60	-0.72	-0.12

<sup>f</sup> Higher score indicates higher symptoms