HHS Public Access

Author manuscript

J Community Psychol. Author manuscript; available in PMC 2019 September 01.

Published in final edited form as:

J Community Psychol. 2018 September ; 46(7): 885–902. doi:10.1002/jcop.21979.

LET's CONNECT community mentorship program for youths with peer social problems: Preliminary findings from a randomized effectiveness trial

Cheryl A. King[1], **Polly Y. Gipson**[1], **Alejandra Arango**[1], **Cynthia Ewell Foster**[1], **Michael Clark**[1], **Neera Ghaziuddin**[1], and **Deborah Stone**[2]

[1]University of Michigan

[2]Centers for Disease Control and Prevention

Abstract

This study examined the effectiveness of LET's CONNECT (LC), a community mentorship program for youths who report peer social problems, which is based on a positive youth development framework. Participants were 218 youths (66.5% girls), aged 12 to 15 years, who were recruited from an urban medical emergency department and screened positive for bullying victimization, bullying perpetration, and/or low social connectedness. Youths were randomized to LC (n = 106) or the control condition (n = 112). Six-month outcomes were assessed with self-report measures of youth social connectedness, community connectedness, thwarted belongingness, depression, self-esteem, and suicidal ideation. LC was associated with a significant increase in only one of these outcomes, social connectedness (effect size = 0.4). It was associated consistently with trend-level positive changes for thwarted belongingness (decreased), depression (decreased), community connectedness, and self-esteem (effect sizes = 0.2). There was no effect on suicidal ideation (effect size = 0.0), and although not a primary outcome, eight youths in the LC condition and seven youths in the control condition engaged in suicidal behavior between baseline and follow-up. Although LC effect sizes are consistent with those from previous studies of community mentorship, there were multiple challenges to LC implementation that affected dosage and intervention fidelity, and that may account for the lack of stronger positive effects.

1 INTRODUCTION

Peer relationships are critically important to adolescent development and well-being (Brown & Larson, 2009; Deater-Deckard, 2001). In fact, studies incorporating a variety of indices of the quality of peer relationships converge in demonstrating concurrent (Chu, Saucier, & Hafner, 2010; Demir & Urberg, 2004) and prospective associations between the quality of peer relationships and youth outcomes (Allen, Uchino, & Hafen, 2015; Rueger, Malecki, & Demaray, 2010). In the present study, we focus on three aspects of peer relationships: perceived social connectedness, bully victimization, and perpetration of peer bullying.These have been associated with a range of poor mental health outcomes (Arseneault, Bowes, &

Correspondence: kingca@umich.edu.

Shakoor, 2010; Bond et al., 2007; Rigby, 2000), in addition to elevated risk for suicidal ideation and behavior (Holt et al., 2015; Whitlock, Wyman, & Moore, 2014).

Because of growing evidence for the importance of interpersonal relationships and "connectedness" to risk for suicidal ideation and behavior, the Centers for Disease Control and Prevention (CDC) set forth a strategic direction for the prevention of suicidal behavior with an emphasis on individual, family, and community connectedness (CDC, 2009). Research suggests that enhanced connectedness to parents, teachers, and other adults is protective against suicidal behavior and therefore may be an important target of intervention (CDC, 2009; Czyz, Liu, & King, 2012; Foster et al., 2017; Stone, Luo, Lippy, & McIntosh, 2015; Whitlock et al., 2014). In a nationally representative sample, parent-child connectedness was associated with lower relative risk of suicidal thoughts in adolescence and adulthood (Kuramoto-Crawford, Ali, & Wilcox, 2016). Higher school connectedness has been linked to fewer suicidal thoughts among male and female high school students even after accounting for other suicide risk factors such as depression (Langille, Asbridge, Cragg, & Rasic, 2015).

Bullying victimization is defined as persistent, unwanted, and harmful aggressive behaviors perpetrated by a peer or group of peers (Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014). Bullying victimization can occur in a range of contexts such as school, neighborhood, and through electronic means. Youths who are victimized are described as bully victims, while youths who inflict victimization on others are described as bully perpetrators. Bullying victimization is associated with several adverse outcomes including poor physical health, psychosomatic problems, self-esteem, academic difficulties, loneliness, and psychopathology (Gini & Pozzoli, 2009; Hawker & Boulton, 2000; Kowalski & Limber, 2013). Bullying perpetration is also associated with a range of adverse outcomes including depression, aggression, delinquency, and adult antisocial behavior (Barker, Arseneault, Brendgen, Fontaine, & Maughan, 2008; Copeland, Wolke, Angold, & Costello, 2013; Ttofi, Farrington, Lösel, & Loeber, 2011).

Further, bullying involvement as a victim and/or perpetrator is consistently associated with increased suicide risk and bullying involvement in middle adolescence increases risk for subsequent suicidal thoughts and behavior (Holt et al., 2015; Kaltiala-Heino, Fröjd, & Marttunen, 2010). The prospective relationship between bullying perpetration and suicidal thoughts exists even after taking into account other risk factors, such as substance use (Klomek et al., 2013). Moreover, the chronicity of bullying victimization has been linked to increased risk of suicidal ideation and attempts when compared to victimization at one time point and while taking into account other suicide risk factors and psychopathology (Geoffroy et al., 2016).

There also appears to be a dose-response relationship between youth bullying victimization, bullying perpetration, and suicide risk, in that an increase in the severity of bullying involvement is associated with an increase in suicide risk (Arango, Opperman, Gipson, & King, 2016; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Given the high prevalence of bullying victimization and perpetration among school-aged youths (36% and 35%, respectively; Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014), and the

documented link between bullying involvement (victimization and perpetration) and youth suicide risk, interventions that target suicide risk among youth involved in bullying are warranted.

Despite increased national attention and growing numbers of suicide prevention advocates (National Action Alliance for Suicide Prevention and Suicide Prevention Resource Center, 2015), suicide ranks as the second leading cause of death among adolescents in the United States (CDC, 2015), and adolescents' self-reported rates of suicidal thoughts and suicide attempts are of substantial concern. In fact, recent data from the nationally representative Youth Risk Behavior Survey (N = 15,624) indicated that 17.7% (n = 2,765) of participating high school students had seriously considered attempting suicide and 8.6% (n = 1,344) had made a suicide attempt in the past year (Kann et al., 2016). Clearly, new suicide prevention strategies are needed and existing strategies warrant careful evaluation.

1.1 Suicide prevention strategies

The *National Strategy for Suicide Prevention* emphasizes the need to integrate suicide prevention across service and community sectors (U.S. Department of Health and Human Services, Office of the Surgeon General, & National Action Alliance for Suicide Prevention, 2012), yet most youth interventions exist within the confines of schools or healthcare settings. Few interventions target at-risk youths where they live and play (Calear et al., 2015), although some strategies have focused on tribal, First Nation, and aboriginal communities (e.g., LaFromboise & Lewis, 2008). Other groups appropriate for selective interventions include those with a history of trauma (Eisenberg, Ackard, & Resnick, 2007) or interpersonal violence (Exner-Cortens, 2013), bullying (Borowsky, Taliaferro, & McMorris, 2013), or those broadly lacking in connectedness (Kaminski et al., 2010).

1.2 Youth mentorship programs

Youth mentoring programs are burgeoning, in large part due to national programs like Big Brothers Big Sisters of America, which has been in existence for over a century; economic investment by federal funding agencies (e.g., Centers for Disease Control and Prevention, Office for Juvenile Justice and Delinquency Prevention); and emerging evidence for mentoring as a prevention science/health promotion approach (Grant et al., 2014). Youth mentoring approaches are most commonly community- or school-based (Coller & Kuo, 2013), with one-to-one adult mentoring of youth (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Adult-youth mentoring relationships may be informal or formal. Informal mentorships, also referred to as "natural" mentoring, typically involve extended family or fictive kin (like family), teachers, coaches, or other adults within youths' social contexts (DuBois & Silverthorn, 2005). Formal mentorships are usually structured community-based programs facilitated by adults who are new to the youth's ecological context (Miller, 2007).

Youth mentoring has been associated with a range of positive outcomes such as improved academics (Grant et al., 2014); alcohol, drug, and violence prevention (Grossman & Tierney, 1998); social skills development; and engagement in extracurricular activities (Larose, Savoie, DeWit, Lipman, & DuBois, 2015). Nevertheless, meta-analyses suggest that positive effects are relatively weak. Dubois and colleagues' (2011) meta-analysis of 73 youth

mentorship programs indicates an overall positive effect size of .21 across six categories: attitudinal/motivational, social/relational, psychological/emotional, conduct problems, academic/school, and physical health.

Moreover, this meta-analysis indicated that the effectiveness of programs is variable, and that there is an absence of information about the extent to which positive effects are sustained over time (DuBois et al., 2011). The overall effect size reported in this meta-analysis is comparable with the effect size of .18 reported in an earlier meta-analysis of 55 programs (DuBois, Holloway, Valentine, & Cooper, 2002). Moreover, a more specific meta-analysis of six school-based, mentorship programs for adolescents reported very small to nonsignificant effects, and the authors concluded that there was no reliable improvement on any measured outcome (Wood & Mayo-Wilson, 2012). Similarly, a relatively large randomized study of 1,139 students randomly assigned to either a Big Brothers Big Sisters school-based mentoring program or a control group reported few effects and these were not sustained overtime (Herrera, Grossman, Kauh, & McMaken, 2011).

Thus, although youth mentorship programs have shown promise in a number of studies and are widely implemented, suggesting feasibility, more research is indicated to evaluate program components, implementation strategies, and target populations of youth that are associated with meaningful positive benefits. Regarding target population, a public health approach argues for considering selective prevention strategies that target groups of youth at elevated risk for suicide and tailoring prevention strategies to specifically meet their needs. As an example of this, a preliminary test of a school-based mentorship program for children who were victims of bullying yielded promising findings (Elledge, Cavell, Ogle, & Newgent, 2010), suggesting that a selective prevention strategy involving youth mentorship warrants further exploration and research.

1.3 The present study

The present study was designed to determine the effectiveness of LET's CONNECT (LC), a mentorship program for youths, aged 12 to 15 years, who screened positive for bullying victimization, bullying perpetration and/or low social connectedness. It was designed to determine the extent to which a mentorship program would improve connectedness, improve mental health, and reduce risk for suicidal ideation and behavior among these at-risk youths. LC is based on prior research in support of mentorship strategies and the construct of "positive youth development," which is a strengths-based approach that makes use of "ecological resources (or 'assets')" (Lerner et al., 2015). Effective, positive youth development intervention programs focus on improving competencies, self-efficacy, connectedness, and opportunities (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004) in an atmosphere that is supportive and empowering (Roth & Brooks-Gunn, 2003). In LC, the ecological resources that promote healthy growth are conceptualized as supportive mentorship with the facilitation of opportunities for youths to take part in positive community activities of interest (Lerner et al., 2015).

LC matches at-risk youths with trained adult mentors from the community with the aim to facilitate the youth's interpersonal and community connectedness. This formal mentorship is paired with informal mentorship, involving adult family members or fictive kin, whose role

is to support and encourage the youth's participation in connectedness activities, including those involving the community mentor. The program's premise that improving youth connectedness will be associated with lower levels of emotional distress and suicide risk is based on research indicating the importance of connectedness to these outcomes (e.g., Czyz et al., 2012; Foster et al., 2017; Stone et al., 2015) and grounded in the interpersonal-psychological theory of suicide (Joiner, 2005). According to this theory, thwarted belongingness, perceived burdensomeness, and acquired capacity for lethal self-harm are central to understanding suicide. It follows that disrupting one of these conditions, thwarted belongingness, should reduce suicide risk. In LC, a primary goal of the community mentorship is to enhance youths' sense of belongingness. Study hypotheses were that LC would be associated with (a) reduced loneliness, thwarted belongingness, depression, and suicidal ideation and (b) improved community connectedness and self-esteem at 6 months.

2 METHOD

2.1 Participants

2.1.1 Youth—The randomized study sample included 218 youths (66.5% female), aged 12–15 (mean [*M*] = 13.5, standard deviation [*SD*] = 1.1), recruited between 2011 and 2014 from an urban pediatric general emergency department (N = 205) and associated urgent care clinic (N = 13). Study inclusion criteria were as follows: 12–15 years of age, legal guardian present, residence within defined geographic area, and English-speaking. Study eligibility also required a positive screen for one or more of the following: bully victimization, bully perpetration, and low social connectedness (loneliness). Exclusion criteria were severe cognitive impairment, presence of life threatening medical condition, in police custody, placement in a residential facility, participation in another study at the hospital, sibling in the current study, and history of suicide attempt. Participants self-identified their race and ethnicity on a multiresponse question: African American/Black (53.7%), White (31.7%), multiracial (9.2%), "other" (4.6%), and (7.8%) Hispanic. Approximately 54% of youths' mothers and 25% of their fathers completed an education beyond high school. The majority of parent/legal guardians reported receiving public assistance (83%).

Study analyses are based on the sample of 163 youths who completed baseline and follow-up assessments. As is evident in Figure 1, retention rates were 69.8% and 79.5% for the LC and control groups, respectively. These rates did not differ significantly from each other, $\chi^2(1) = 2.22$, p = 0.14. Moreover, there were no baseline differences in age, $t(216) = 0.10$, p = 0.92; gender, $\chi^2(1) = 0.94$, p = 0.33; White versus other races, $\chi^2(1) = 0.12$, p = 0.73; and African American/Black versus other races, $\chi^2(1) = 0.004$, p = 0.95) between youths who were and were not retained in the study. Six youths completed the baseline evaluation and were not randomized (four withdrew or were lost prior to randomization; two did not meet screening eligibility criteria). Nineteen youths in the LC group and 10 youths in the control group withdrew due to a wide range of stated reasons (often multiple) related to time, family psychosocial stressors, and program interest. Thirteen youths in each group were lost to follow-up (unable to contact or locate).

2.1.2 Community mentors—Participating community mentors (CMs) included 40 adults (mean age = 46.7 years, *SD* = 11.9), the majority of whom were women (72.5%). Mentors self-identified as African American/Black (75.0%), White (20.0%), and "other" (5.0%), and 1 self-identified as Hispanic. Most CMs reported engagement in postsecondary education, with college graduates (35%) or completion of some college/technical school (25%); 20% indicated completion of graduate or professional school; and approximately 7.5% were high school graduates. Five (12.5%) CMs did not report educational status. The majority of CMs reported current employment (37.5% full-time, 20% part-time, 2.5% self-employed); 15% reported being unemployed and actively searching; and 10% reported being unemployed and were not looking. Six (15%) did not provide their employment status.

CMs were recruited with the assistance of the study's Community Advisory Board. Adults aged 25 years and older, with a valid driver's license and proof of auto insurance, and who enjoyed working with teens were encouraged to apply. These flyers noted that the study required a 16-month time commitment and compensation would be provided at $18 per hour. The application requested information about education and employment history, in addition to references. CMs consented to a formal criminal background check that included social security number and driver's license verification; driver's record check including auto insurance verification with automatic notification of vehicle citations throughout the program; international/federal/state/local criminal records, warrants and warrant searches; sex offender registry; and a search of the fraud and abuse control information system. At the time of consent, potential CMs were aware that a history of a felony offense was an exclusion criterion.

2.1.3 Natural mentors—The majority of LC youths involved a natural mentor (NM; n = 51, 68.9%), who supported the youths' activities with the CM and related activities. The remaining LC families (n = 23) either elected not to involve a NM or did not identify one who was interested and who passed the criminal background check (required if not a parent/guardian). NMs were 92.2% female (n = 47) with a mean age of 38.6 years (*SD* = 7.6). They self-identified as African American/Black (51.9%), White (40.4%), and "other" (5.8%), and 4 reported their ethnicity as Hispanic. NMs were mothers/stepmothers (68.6%), extended family (19.6%), fathers (5.9%), and family friends (5.9%). Project staff facilitated the youths' selection of possible NMs, who could be family members or fictive kin. If the identified NM was not the youth's parent/guardian, parental permission was required.

2.2 Procedures

This study was approved by the institutional review boards of both the sponsoring academic institution and the community-based hospital where youths were recruited and screened for further study involvement.

2.2.1 Youth screening and assessments—Eligible youths who presented to the emergency department or urgent care clinic with their legal guardians were approached for written, informed parent/guardian consent, and youth assent. Youths then completed screening measures assessing bully victimization, bully perpetration, and/or low social

connectedness. Youths and guardians who completed the screening were each offered a dollar store gift item and a project labeled keychain.

Youths who screened positive for elevated suicide risk (bully victimization, bully perpetration, and/or low social connectedness) completed the baseline assessment in the emergency department or within one week of their emergency department or urgent care visit. Youths received a $25 incentive for completion. Following the baseline assessment, youths were randomized to either LC or the control condition (receipt of community resource information only) using a computerized dynamic allocation strategy stratified by gender and reason for positive screen (bully victimization, bully perpetration, low social connectedness, or a combination). There were no significant differences between groups in demographics (age, gender, race, parental education, and public assistance) or baseline levels of primary outcome variables.

Youths randomized to LC and control conditions were contacted 6–8 months after the baseline assessment to complete the follow-up assessments. The mean time between baseline and follow-up assessments was 207.1 days (*SD* = 51.7) and did not vary between LC and control conditions. Trained personnel, masked to study condition, met with the youth and his/her parent or guardian to complete the assessment. Each youth received $25, with an additional $25 incentive if the youth and parent/guardian returned to the hospital setting for the assessment.

2.2.2 LC intervention—A summary of LC components is presented in Table 1. All community and NMs provided informed consent. CM applicants who passed the initial screen (i.e., complete application, positive references, no concerns from felony and sex offender background checks) participated in a telephone interview, which enabled project staff to share project information and assess their “fit” for the position (e.g., experience engaging with youths, understanding of common youth behaviors). If determined to be a good fit, CM applicants were invited to participate in LC training (5 hours). Training modules included project overview, mentor’s role, adolescent development, communication strategies, bullying information, review of community activity guidebooks, adverse event reporting, and study policies. Case vignettes were used to illustrate and discuss diversity considerations and the development of action plans for youth engagement.

CMs considered youth matches collaboratively with study staff before these were finalized and shared with the youth and family. Youth-CM matches were determined based on the following factors: (a) gender (girls were only matched with female mentors, and boys were matched with male and female mentors); (b) shared interests via an interest inventory, which youths and CMs completed independently; (c) proximity (it was preferred for youths and CMs to reside within the same neighborhood for greater comfort and familiarity with community activities); and (d) other factors, if pertinent (e.g., youth and/or CM had scheduling restrictions [e.g., football practice, working 3rd shift]). Twenty-three CMs (57.5%) mentored one youth; 27.5% (n = 11) mentored two youths, and 15.0% (n = 6) mentored three or more youths.

After the CM-youth match was completed, the LC prevention specialist facilitated a meeting with the youth, CM, and NM to discuss LC and each of the mentor's roles. They also developed an action plan that specified the next steps (specific social engagement activities) toward improving the youth's social connectedness to the mentor as well as others in the community over time. In developing this action plan, the prevention specialist served as facilitator and made use of the community-specific activities guide, which was developed for this program and continually updated. The goal was for the youth and CM to engage in planned activities approximately twice monthly. It was shared with the youth and CM that these activities often progressed from building mentor-mentee relationships (e.g., recreational activities, going out for meals) to activities with increased community involvement (e.g., attending church events, volunteering at local charity) or activities directly related to the youth's individual goals (e.g., job fair, tour of trade school). The LC prevention specialist worked with the CM, NM, and youth to offer information about LC or activities and support (to maintain their engagement in the program), troubleshoot difficulties, including difficulties in scheduling between the CM and youth, and encourage follow-through with an action plan. The prevention specialist scheduled in-person meetings (6 weeks, 3 months, 6 months) with the CM and youth and was available for telephone consultation.

Among youths who received mentorship from a CM (n = 60), 100% of youths, 100% of CMs, and 70.6% (n = 36) of NMs attended the initial meeting with the prevention specialist. Four youths were assigned a second CM during this 6-month period due to psychosocial stressors or life transitions of the CM (n = 2) or the CM no longer being study eligible (n = 1).

The average duration of mentorship with the first (or only) CM was 120.32 days (*SD* = 69.69) during this 6-month period. On average, youths and their first CMs had 8.02 (*SD* = 7.63) in-person interactions. For those youths with a second CM assignment, the average duration of that mentorship was 87.50 days (*SD* = 67.24) during this period. On average, youths and their second CM had 4.75 (*SD* = 3.50) in-person interactions. Approximately 19% of youths (n = 14) did not have a CM meeting, due to the youths formally withdrawing from the study (n = 6), lost to follow-up (n = 5), failure to begin mentorship prior to 6-month assessment (n = 2), or having a NM only (n = 1). The primary role of the NM was to support the youth's involvement with the CM and engagement in healthy community activities. Because the majority of NMs were the youths' mothers who had daily contact with the youth, we did not track their time and activities with the youth.

2.3 Measures

All measures were administered at screening/baseline and 6-month follow-up. Timeframes for the 6-month assessment (except for the Suicidal Ideation Questionnaire-Junior) were set to capture time since baseline assessment. Internal consistency coefficients were calculated with baseline data.

2.3.1 Screening measures—

Screening measures assessed bullying victimization, bullying perpetration, and low social connectedness (loneliness). The Peer Experiences

Questionnaire (Prinstein, Boergers, & Vernberg, 2001; Vernberg, Jacobs, & Hershberger, 1999) is an 18-item self-report measure of relational and overt bullying victimization and perpetration in the past 4 months. Questions examining howfrequently youths engage in bullying behaviors were answered on a 5-point Likert scale ranging from 1 (*never*) to 5 (*several times a week*). Sample items for the bully victimization and perpetration scales are "teased in a mean way" and "spead rumors or putdowns," respectively.This measure contains two parallel subcales, nine items each, that assess bully victimization and perpetration. The scores for each range from 9 to 45, with a positive screen defined as scoring 19 or above for boys and 17 or above for girls (one standard deviation above mean score in a previous adolescent sample (Vernberg et al., 1999). The internal consistencies were .79 and .82 for bully victimization and perpetration subscales, respectively.

The UCLA Loneliness Scale-Revised (Russell, Peplau, & Cutrona, 1980; Russell, Peplau, & Ferguson, 1978) is a 20-item self-report measure that examines loneliness, social isolation, and social connectedness. Questions such as "I feel in tune with the people around me" were measured on a 4-point Likert-scale ranging from 1 (*I have felt this way often*) to 4 (*I have never felt this way*). Summed scores range from 20 to 80, with a positive screen defined as scores of 44 or higher (one standard deviation above the mean in a previously studied adolescent sample; Pretty, Andrews, & Collet, 1994). Internal consistency in this sample was .81.

2.3.2 Additional baseline and outcome measures—The Community Connectedness Scale (Fletcher & Shaw, 2000) is a three-item self-report measure. Items such as "I have meaningful relationships with some adults within my community" and "I feel there are adults in my community I can talk with if I needed help or advice" were answered on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The internal consistency of this measure was .70.

The Interpersonal Needs Questionnaire-Revised (Van Orden, Witte, Gordon, Bender, & Joiner, 2008) is a 15-item measure that includes the nine-item Thwarted Belongingness subscale used in this study. A sample item is "I am close to other people." Items were rated on a 7-point scale ranging from 1 (*not all true for me*) to 7 (*very true for me*). The internal consistency for the Thwarted Belongingness subscale was .79 in this sample.

The Reynolds Adolescent Depression Scale-2: Short Form (Reynolds, 2008) is a 10-item measure that assesses the frequency and duration of depressive symptoms in youths. A sample item is "I feel nothing I do helps anymore." Items were answered on a 4-point Likert scale ranging from 1 (*almost never*) to 4 (*most of the time*). The internal consistency in this sample was .88.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a widely used 10-item measure of self-esteem. Items such as "On the whole, I am satisfied with myself" were answered on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). This scale has been reported to have strong reliability and validity (Gray-Little, Williams, & Hancock, 1997). Internal consistency for the total scale was .86 in the study sample.

The Columbia Suicide-Severity Rating Scale (Posner et al., 2011) is an interview-style measure that assesses suicidal thoughts and a range of suicidal behaviors, including actual, interrupted, and aborted suicide attempts. Youths were asked about *lifetime* experiences at baseline. A sample item is "Have you made a suicide attempt?" They were asked about experiences since baseline at 6 months.

The Suicidal Ideation Questionnaire-Junior (Reynolds, 1987) is a 15-item self-report questionnaire that assesses a range of suicidal thoughts in the previous month at baseline and follow-up assessment, which was administered at baseline and 6-month follow-up. Questions such as "I wish I were dead" and "I thought about how I would kill myself" were answered on a 7-point scale ranging from 1 (*I never had this thought*) to 7 (*almost every day*). Internal consistency in the current sample was .93.

2.3.3 Secondary measures—The Youth Risk Behaviors Survey (CDC, 2014) is a population-based survey of health-risk behaviors. We compared intervention groups at baseline on frequency of fighting on school property in the past year and frequency of carrying a weapon in the past 30 days. A sample item is "How many times were you in a fight?" Because of low endorsement rates, each item was coded dichotomously in terms of whether or not it had occurred. Similarly, three items from the Alcohol Use Disorders Identification Test (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) were used to assess alcohol consumption and risky drinking. Internal consistency in the sample was .81. We used eight items from the Monitoring the Future study (Johnston, O'Malley, Bachman, & Schulenberg, 2004) to assess illicit drug use. The same stem was used to ask about eight classes of drugs: "On how many occasions (if any) have you used in the past 30 days?" Youths were asked about use of marijuana, hallucinogens, cocaine, heroin, narcotics, tranquilizers, inhalants, and ecstasy. In the present study, one variable was used to indicate whether or not (yes/no) the youth reported any illicit drug use in the past month.

2.4 Data analysis

We calculated descriptive statistics, including means, standard deviations, and percentages, for study variables and initial t tests on change scores for continuous outcomes. We used chi-square analyses for dichotomous variables. We conducted intent-to-treat analyses with all youths randomly assigned to LC or control groups. We then used a Bayesian approach to linear regression analysis to examine intervention effects at 6-month follow-up while controlling for baseline values of the outcome variable. The Bayesian approach enabled us to ascertain uncertainty in parameter estimates and guard against overfitting with the small sample (Gelman, 2013).

We estimated model parameters via Hamiltonian Monte Carlo methods using the Stan modeling language (2016) and related R software packages (Buerkner, 2016). Prior distributions for the regression coefficients β were diffuse normal with zero mean, while the standard deviation σ prior was half-Cauchy (with zero as a lower bound). A total of 1,000 samples across four chains were retained for final estimates after thinning and warm-up. Standard diagnostics were checked for convergence, mixing of chains, and sensitivity to prior specification. Effect sizes were estimated as the percentage of the model R^2 explained

by the intervention after adjusting for baseline values. The credible interval represents the boundaries within which we expected the random parameter to fall.

3 RESULTS

3.1 Distribution of positive screens

The distribution of positive screens was as follows: 12.4% screened positive for bully victimization only, 2.8% screened positive for bully perpetration only, and 28.9% screened positive for loneliness only. An additional 40.8% of youths screened positive for bully victimization and low social connectedness (loneliness). The remaining positive screens included other combinations (e.g., bully victimization and perpetration).

3.2 Descriptive statistics

The means and standard deviations for primary connectedness and psychological functioning variables for baseline and 6-month follow-up time periods are presented in Table 2. There were no differences between LC and control groups in baseline levels of any of the primary study variables (connectedness, depression, self-esteem, and suicidal ideation).

LC and control groups were also compared on baseline levels of alcohol use, drug use, and conduct problems because these could possibly affect CM–youth relationships and youth outcomes. There were no significant differences between groups for these variables at baseline. The percentages of youths who reported any alcohol use in control and LC groups were 6.3% and 8.5%, respectively, $\chi^2(1) = 0.14$, p = 0.71. The percentages who reported any drug use in control and LC groups were 6.3% and 10.5%, respectively, $\chi^2(1) = 0.74$, p = 0.39. Regarding weapon carrying, 7.9% of youths in the control group and 9.3% of youths in the LC group reported a history of weapon carrying on at least one occasion during the past 30 days, $\chi^2(1) = 0$, p = 0.96. Moreover, 47.2% of youths in the control group and 52.0% of youths in the LC group reported a history of at least one physical fight on school grounds during the past year, $\chi^2(1) = 0.21$, p = 0.65.

3.3 Intervention effects

In addition to means and standard deviations for variables by intervention group, Table 2 presents mean change scores over time. The *t* statistic was used to examine intervention and control group differences in mean change scores. Social connectedness improved significantly ($p < 0.01$) more (loneliness decreased more) for the LC group than the control group (expected direction) with a small/moderate effect size of .4, reported as the standardized mean change (Kline, 2004). The intervention effects for community connectedness ($p = 0.14$), thwarted belongingness ($p = 0.17$), selfesteem ($p = 0.16$), and depression ($p = 0.14$) were not significant. The pattern of results for these four outcomes was consistently in the expected direction of positive change (effect sizes = .2). There was no significant effect for suicidal ideation ($p = 0.95$), which declined similarly in both groups.

Table 3 presents the Bayesian regression model results for outcome variables. In these models, the pattern of intervention effects was in the expected direction for all connectedness outcomes. The magnitude of these effects is notable for low social

connectedness (loneliness). Similarly, the directional effects for the intervention are in line with expectations for depression and self-esteem, but these are also notably small. The proportion of R-squared accounted for by the intervention above and beyond that attributable to baseline scores was 3% for depression and 0% for self-esteem and suicidal ideation.

Seven youths (9.0%) in the control condition and eight youths (10.3%) in the LC condition engaged in some type of suicidal behavior (suicide attempt, interrupted or aborted attempt, suicidal preparatory behavior) between baseline and 6-month follow-up. This difference was not statistically significant, $\chi^2(1) = 0.14$, $p = 0.71$.

4 DISCUSSION

The LC program matched youths at elevated risk for suicidal behavior-due to social challenges, operationalized as self-reported peer bullying victimization, peer bullying perpetration, and/or low social connectedness (loneliness)-with adult NMs and CMs. Based on thestrengths-based approach, referred to as “positive youth development” (Lerneret al., 2015), LC aimed to promote youths’ healthy development through supportive mentorship that facilitated opportunities for participation in positive community activities. It was hypothesized that LC would be associated with improved connectedness (reduced loneliness), reduced depression and suicidal ideation, and a trajectory that would subsequently lead to lower risk for the onset of suicidal behavior. At 6 months, LC was associated with improved social connectedness (reduced loneliness) and promising yet nonsignificant effects for community connectedness and reduced depression. LC had no significant effect on suicidal ideation.

The small, positive LC effect sizes for connectedness and depression are consistent with effect sizes demonstrated previously for community mentorship programs (DuBois et al., 2002, 2011). Nevertheless, our hypothesis that these small positive effects would extend to suicidal ideation within the 6-month follow-up period was not supported by results. It is possible that a more extended follow-up period will yield such benefits because positive changes in youth connectedness could have ripple effects, favorably affecting other domains (e.g., more positive emotions, more positive engagement in healthy activities), including suicidal ideation.

One possible reason for the absence of short-term effects on suicidal ideation is that many study youths were just entering middle adolescence, a time when adolescents normatively report higher prevalence rates of suicidal ideation and behavior (Nock et al., 2013). Results from the National Comorbidity Survey Replication-Adolescent Supplement (Nock et al., 2013) indicate that the prevalence of suicidal ideation increases rapidly between 12 and 17 years of age. Furthermore, the lifetime prevalence of suicide attempts is low through age 12 and then increases until age 17. A second possibility is the participant exclusion criteria. Because a longer term aim of this intervention is to prevent the initial occurrence of suicidal behavior, and our CMs were not trained to work with higher risk youths, youths who had already made a suicide attempt were excluded. As such, we likely excluded many of the youths with higher levels of suicidal ideation at the time of their emergency department visit, reducing variability on this variable.

The null effects on suicidal ideation also may relate to the demographic composition of youths and their families. Many of these families were struggling economically (83% public assistance), and just over half of youth participants self-identified as African American/Black (53.7%). It is well established that African Americans, on average, have lower suicide rates compared to non-Hispanic Whites. Furthermore, African Americans (CDC, 2015) and those who experience chronic poverty (Jarjoura, Triplett, & Brinker, 2002) are at higher risk for violent victimization. Consistent with this, the youths in this study reported a high level of physical fights on school property, with a prevalence rate approximately seven times higher than that reported by high school students in the study state (CDC, 2014). These sample characteristics could have affected the possibility of a relatively low intensity mentorship intervention changing a youth's possibly troubled trajectory. It is also important to note that the "dose" of mentorship varied considerably for the LC group. For example, 19% of LC participants were not exposed to community mentorship prior to the 6-month follow-up.

Suicidal behavior was not a primary outcome at 6-month follow-up due to this relatively short period and the fact that many participants were still at ages when suicidal behaviors are relatively rare (Nock et al., 2013). Nevertheless, the rate of suicidal behavior documented during the 6-month follow-up period for youths in both groups (9%–10%) suggests that we did indeed identify a group of youths at elevated risk for suicidal behavior. These rates are the same as or slightly higher than the rates of suicide attempts reported by high school students in the study state for a 12-month period (8.9%; CDC, 2014). As we continue to follow participants over a longer time interval, we will learn more about their suicidal behavior.

Our data suggest the need for more research focusing on suicidal behavior among low-income and African American youths to enable us to develop effective prevention strategies that are culturally sensitive and responsive to the context in which these youths live. This is particularly important in the context of rising suicide rates among not only all youths but also African American youths aged 10–14 years, in which rates have nearly doubled (0.89/100,000 to 1.66/100,000) in recent years, from 1999 to 2014 (CDC, 2015).

4.1 Youth-CM challenges and engagement

The youths in this study all struggled interpersonally,with positive screens for bullying victimization, bullying perpetration, and/or low social connectedness (loneliness). LC emphasized mentors' roles in providing emotional support and facilitating their improved connectedness with others. In keeping with Rhodes' (2005) developmental model of youth mentoring, it is possible that the mentors also assisted youths in developing alternative views of themselves and others as well as considering the possibility of different relationships with others. It is also possible that the interpersonal difficulties of some youths (perhaps due to social anxiety or social skill deficits) as well as other practical challenges, such as caregiving transitions and family moves, may have interfered with mentors' ability to enhance the youths' connectedness and involvement with others.

Engagement strategies akin to best practices for underserved families in the mental health system (McKay et al., 2004) were applied to foster mentoring relationships and retention. To

offset logistical barriers, meeting site options (e.g., family's homes, library, Boys and Girls Club, fast food restaurant) were offered. To address possible attitudinal barriers, staff practiced a collaborative approach to mentorship, using a family-centered goals plan in which youths' strengths and growth areas related to community connectedness (e.g., social opportunities, skills, fears) were discussed. An additional strategy was to honor families' requests for a mentor rematch.

Despite these efforts, some youth-CM relationships were active for shorter periods of time than planned and some youths had to be assigned a second mentor. The optimal amount of time for mentors to spend with youths is unknown, but it may have been too limited in LC (prior to 6-month assessments). Research suggests that discontinuing mentoring relationships earlier than anticipated does not necessarily reduce the possibility of positive effects. In a meta-analysis of mentoring program outcome findings, DuBois et al. (2011) found positive effect sizes for mentorships that were maintained less than 6 months. Nevertheless, challenges with sustaining youth-mentor relationships in this study suggest the need for even more culturally tailored innovative approaches to engaging and retaining urban families and mentors in community-based research. It will also be important for future studies to address not only the amount or dose of mentorship but also the impact of quality of youth-CM relationships on intervention outcomes.

4.2 Limitations

Youths in our study were recruited from an emergency department or urgent care clinic in a low-income, urban area with a median household income of < $25,000, where over 40% of the population live under the poverty line (based on 2010 census data). Additionally, crime rates in this area are among the highest in the country, with an average of over 2,500 yearly violent crimes per 100,000 residents (City-Data, 2016). It is unknown to what extent our findings would generalize to a broader, nationally representative sample of youths. As highlighted by Bernat and Resnick (2009), more research is needed to understand how community culture might affect associations between connectedness and youth adjustment. For example, in lower income areas, youths may have fewer opportunities to interact with peers because family and community resources for extracurricular activities may be limited and there may be safety concerns. Moreover, knowledge about best practices for measuring community connectedness in neighborhoods challenged by poverty and crime is limited.

Second, given the small effect sizes anticipated for a mentorship program, the sample size in this study was smaller than ideal. Because of this, we examined program benefits in a preliminary manner and were unable to address possible moderators of LC effects. The LC intervention is ongoing and further analyses will be conducted when 16-month data become available. Additionally, most NMs were the youths' parents who had regular contact with the youth and did not organize their activities according to whether or not they were related to LC. Because we did not track these activities, it is not possible to know the extent to which NMs involved youths in incremental and/or different community-based or connectedness-oriented activities than they had done previously.

Finally, we acknowledge the possibility that LC will not have positive effects beyond the demonstrated increase in social connectedness. Although the goal of LC–designed as a

selective prevention strategy for youths with social problems who are known to be at elevated risk for suicidal behavior–is to reduce levels of suicide risk factors (e.g., low social connectedness/loneliness, depression, suicidal ideation) and, ultimately, the onset of suicidal behavior across adolescence, it is possible that there will not be further benefits over time. There were multiple implementation challenges with LC that may have resulted in insufficient dosage (limited CM–youth contact and activities), inadequate fidelity (a small number of CMs took youths to movies, a nonsocially engaging activity), and the fact that some youths were reassigned to a second mentor within the 6-month period. Although we have no evidence of iatrogenic relational processes, this is also a possibility that warrants further investigation.

4.3 Summary and implications

The LET's CONNECT mentorship program was associated with small positive effect sizes at 6 months, including a significant increase in connectedness. It was not, however, associated with reductions in suicidal ideation. Within a developmental psychopathology framework and transactional model of suicide risk (King, 1997), it is possible that the program's initial benefits will have positive ripple effects in youths' developmental trajectories and protect against development of a negative spiral from low social connectedness and self-esteem to suicidal ideation and possibly suicidal behavior. However, it is also possible that suicidal thoughts and related mental health concerns need to be directly targeted and that a more intensive, multicomponent program will be needed to prevent the onset of suicidal behavior among at-risk youths. Further research is warranted to understand this strengths-based program's longer term impact and its potential to improve the well-being of youths from differing communities, including communities challenged by poverty and elevated levels of violence.

4.4 Conclusion

Acknowledgments

This study was funded by a Cooperative Agreement, U01CE001942, from the Centers for Disease Control and Prevention (CDC), awarded to the primary author. The findings and conclusions in this reportare those of the authors and do not necessarily represent the official position ofthe CDC. We do not have a potential conflict of interest (financial or nonfinancial) with the contents of this manuscript.

We gratefully acknowledge our participants, community mentors, and members of the community advisory board. We thank Kiel Opperman, Tasha Kelley-Stiles, Bianca Burch, Rachel Moore, Sandra Evans, Rebecca Lindsay, and Deanna Lernihan for their assistance with subject recruitment and study implementation. We also acknowledge the contributions of Amrisha Prakash, Tara Thomas, Daley Dicorcia and our undergraduate research assistants; Cleo Caldwell, PhD, for her intervention insights; and Wendy LiKamWa McIntosh, MPH. for her administrative support.

REFERENCES

Allen JP, Uchino BN, & Hafen CA (2015). Running with the pack: Teen peer-relationship qualities as predictors of adult physical health. Psychological Science, 26(10), 1574–1583. 10.1177/095679761559418 [PubMed: 26290522]

Arango A, Opperman KJ, Gipson PY, & King CA (2016). Suicidal ideation and suicide attempts among youth who report bully victimization, bully perpetration and/or low social connectedness. Journal of Adolescence, 51(1), 19–29. 10.1016/j.adolescence.2016.05.003 [PubMed: 27262934]

Arseneault L, Bowes L, &Shakoor S (2010). Bullying victimization in youths and mental health problems: 'Much ado about nothing?'. Psychological Medicine, 40(5), 717–729. 10.1017/S0033291709991383 [PubMed: 19785920]

Barker ED, Arseneault L, Brendgen M, Fontaine N, &Maughan B (2008). Joint development of bullying and victimization in adolescence: Relations to delinquency and self-harm. Journal of the American Academy of Child & Adolescent Psychiatry, 47(9), 1030–1038. [PubMed: 18665001]

Bernat DH, & Resnick MD (2009). Connectedness in the lives of adolescents In DiClemente RJ, Santelli JS, &Crosby RA (Eds.), Adolescent health: Understanding and preventing risk behaviors (pp. 375–389). San Francisco, CA: Jossey-Bass.

Bond L, Butler H, Thomas L, Carlin J, Glover S, Bowes G, & Patton G (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. Journal of Adolescent Health, 40(4). 357, e359–357.e318. 10.1016/j.jadohealth.2006.10.013

Borowsky IW, Taliaferro LA, & McMorris BJ (2013). Suicidal thinking and behavior among youth involved in verbal and social bullying: Risk and protective factors. Journal of Adolescent Health, 53(1 Suppl), S4–12. 10.1016/j.jadohealth.2012.10.280

Brown BB, & Larson J (2009). Peer relationships in adolescence In Lerner RM &Steinberg L (Eds.), Handbook of adolescent psychology: Contextual influences on adolescent development 3rd ed, Vol. 2, pp. 74–103). Hoboken, NJ: John Wiley & Sons Inc.

Buerkner PC (2016). Bayesian regression models using Stan (Version 0.8.0). Retrieved from https://cran.r-project.org/web/packages/brms/brms.pdf

Calear AL, Christensen H, Freeman A, Fenton K, Busby Grant J, van Spijker B, & Donker T (2015). A systematic review of psychosocial suicide prevention interventions for youth. European Child and Adolescent Psychiatry, 25(5), 467–482. 10.1007/s00787-015-0783-4 [PubMed: 26472117]

Catalano RF, Berglund ML, Ryan JAM, Lonczak HS, & Hawkins JD (2004). Positive youth development in the United States: Research findngs on evaluations of positive youth development programs. Annals of the American Academy of Political and Social Science, 591,98–124.

Centers for Disease Control and Prevention. (2009). Strategic direction for the prevention of suicidal behavior: Promoting individual, family, and community connectedness to prevent suicidal behavior. Retrieved from https://www.cdc.gov/ViolencePrevention/pdf/Suicide_Strategic_Direction_Full_Version-a.pdf

Centers for Disease Control and Prevention. (2014). Youth Risk Behavior Surveillance-United States, 2013. Morbidity and Mortality Weekly Report, 63(4)

Centers for Disease Control and Prevention. (2015). Web-based Injury Statistics Query and Reporting System (WISQARS). Retrieved from www.cdc.gov/ncipc/wisqars

Chu PS, Saucier DA, & Hafner E (2010). Meta-analysis of the relationships between social support and well-being in children and adolescents. Journal of Social and Clinical Psychology, 29(6), 624–645. 10.1521/JSCP.2010.29.6.624

City-Data. (2016). Uniform crime reporting statistics: Crime data (2009–2012). Retrieved from https://www.city-data.com/crime/

Coller RJ, & Kuo AA (2013). Youth development through mentorship: A Los Angeles school-based mentorship program among Latino children. Journal of Community Health, 39(2), 316–321. 10.1007/s10900-013-9762-1

Copeland WE, Wolke D, Angold A, & Costello EJ (2013). Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. JAMA Psychiatry, 70(4), 419–426. [PubMed: 23426798]

Czyz EK, Liu Z, & King CA (2012). Social connectedness and one-year trajectories among suicidal adolescents following psychiatric hospitalization. Journal of Clinical Child and Adolescent Psychology, 41(2), 214–226. 10.1080/15374416.2012.651998 [PubMed: 22417194]

Deater-Deckard K (2001). Annotation: Recent research examining the role of peer relationships in the development of psychopathology. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(5), 565–579. 10.1111/1469-7610.00753

Demir M, &Urberg KA (2004). Friendship and adjustment among adolescents. Journal of Experimental Child Psychology, 88(1), 68–82. 10.1016/j.jecp.2004.02.006 [PubMed: 15093726]

DuBois DL, Holloway BE, Valentine JC, & Cooper H (2002). Effectiveness of mentoring programs for youth: A meta-analytic review. American Journal of Community Psychology, 30(2), 157–197. 10.1023/a:1014628810714 [PubMed: 12002242]

DuBois DL, Portillo N, Rhodes JE, Silverthorn N, & Valentine JC (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. Psychological Science in the Public Interest, 12(2), 57–91. 10.1177/1529100611414806 [PubMed: 26167708]

DuBois DL, & Silverthorn N (2005). Natural mentoring relationships and adolescent health: Evidence from a national study. American Journal of Public Health, 95(3), 518–524. [PubMed: 15727987]

Eisenberg ME, Ackard DM, & Resnick MD (2007). Protective factors and suicide risk in adolescents with a history of sexual abuse. The Journal of Pediatrics, 151(5), 482–487. 10.1016/j.jpeds.2007.04.033 [PubMed: 17961690]

Elledge LC, Cavell TA, Ogle NT, & Newgent RA (2010). School-based mentoring as selective prevention for bullied children: A preliminary test. The Journal of Primary Prevention, 31(3), 171–187. [PubMed: 20443060]

Exner-Cortens DD (2013). Longitudinal associations between teen dating violence victimization and adverse health outcomes. Pediatrics (Evanston), 131(1), 71–78. 10.1542/peds.2012-1029

Fletcher AC, & Shaw RA (2000). Sex differences in associations between parental behaviors and characteristics and adolescent social integration. Social Development, 9(2), 133–148. 10.1111/1467-9507.00116

Foster CE, Horwitz A, Thomas A, Opperman K, Gipson P, Burnside A, … King CA (2017). Connectedness to family, school, peers, and community in socially vulnerable adolescents. Children and Youth Services Review, 81(Suppl. C), 321–331. doi: hTtps://doi.org/10.1016/j.childyouth.2017.08.011 [PubMed: 30202142]

Gelman A, Carlin JB, Stern HS, Dunson DB, Vehtari A, & Rubin DB (2013). Bayesian data analysis (3rd ed). Boca Raton, FL: CRC Press.

Geoffroy MC, Boivin M, Arseneault L, Turecki G, Vitaro F, Brendgen M, … Cote SM (2016). Associations between peer victimization and suicidal ideation and suicide attempt during adolescence: Results from a prospective population-based birth cohort. Journal of the American Academy of Child and Adolescent Psychiatry, 55(2), 99–105. 10.1016/j.jaac.2015.11.010 [PubMed: 26802776]

Gini G, & Pozzoli T (2009). Association between bullying and psychosomatic problems: A meta-analysis. Pediatrics, 123(3), 1059–1065. 10.1542/peds.2008-1215 [PubMed: 19255040]

Gladden RM, Vivolo-Kantor AM, Hamburger ME, & Lumpkin CD (2014). Bullying surveillance among youths: Uniform definitions for public health and recommended data elements (pp. 1–104). Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, U.S. Department of Education.

Grant KE, Farahmand F, Meyerson DA, Dubois DL,Tolan PH,Gaylord-Harden NK,… Duffy S (2014). Development of cities mentor project: An intervention to improve academic outcomes for low-income urban youth through instruction in effective coping supported by mentoring relationships and protective settings. Journal of Prevention and Intervention in the Community, 42(3), 221–242. 10.1080/10852352.2014.916586 [PubMed: 25050606]

Gray-Little B, Williams VS, & Hancock TD (1997). An item response theory analysis of the Rosenberg Self-Esteem Scale. Personality and Social Psychology Bulletin, 23(5), 443–451. 10.1177/0146167297235001

Grossman JB, & Tierney JP (1998). Does mentoring work? An impact study of the Big Brothers Big Sisters program. Evaluation Review, 22(3), 403–426. 10.1177/0193841X9802200304

Hawker DSJ, & Boulton MJ (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. Journal of Child Psychology and Psychiatry, 41(4), 441–455. 10.1111/1469-7610.00629 [PubMed: 10836674]

Herrera C, Grossman JB, Kauh TJ, &McMaken J (2011). Mentoring in schools: An impact study of Big Brothers Big Sisters school-based mentoring. Child Development, 82(1), 346–361. 10.1111/j.1467-8624.2010.01559.x [PubMed: 21291446]

Holt MK, Vivolo-Kantor AM, Polanin JR, Holland KM, DeGue S, Matjasko JL,… Reid G (2015). Bullying and suicidal ideation and behaviors: A meta-analysis. Pediatrics, 135(2), e496–e509. 10.1542/peds.2014-1864 [PubMed: 25560447]

Jarjoura GR, Triplett RA, &Brinker GP (2002). Growing up poor: Examining the link between persistent childhood poverty and delinquency. Journal of Quantitative Criminology, 18(2), 159–187. 10.1023/a:1015206715838

Johnston L, O'Malley PM, Bachman JG,&Schulenberg JE (2004). Monitoring the Future: National survey results on drug use, 1975–2003. Volume I: Secondary school students (NIH Publication No. 04–5507). Bethesda, MD: National Institute on Drug Abuse.

Joiner TE (2005). Why people die by suicide. Cambridge, MA: Harvard University Press.

Kaltiala-Heino R, Fröjd S, & Marttunen M (2010). Involvement in bullying and depression in a 2-year follow-up in middle adolescence. European Child and Adolescent Psychiatry, 19(1), 45–55. 10.1007/s00787-009-0039-2 [PubMed: 19588185]

Kaminski JW, Puddy RW, Hall DM,Cashman SY, Crosby AE,& Ortega LAG (2010). The relative influence of different domains of social connectedness on self-directed violence in adolescence. Journal of Youth and Adolescence, 39(5), 460–473. 10.1007/s10964-009-9472-2 [PubMed: 19898780]

Kann L, McManus T, Harris WA, Shanklin SL, Flint KH, Hawkins J,… Zaza S (2016). Youth Risk Behavior Surveillance-United States, 2015. Morbidity and Mortality Weekly Report, 65(6), 1–174. 10.15585/mmwr.ss6506a1 [PubMed: 26766396]

King CA (1997). Suicidal behavior in adolescence In Maris R, Silverman M, & Canetto S (Eds.), Review of suicidology (pp. 61–95). New York: Guilford Press.

Kline RB (2004). Beyond significance testing: Reforming data analysis methods in behavioral research. Washington, DC: American Public Health Association.

Klomek AB, Kleinman M, Altschuler E, Marrocco F, Amakawa L, & Gould MS (2013). Suicidal adolescents' experiences with bullying perpetration and victimization during high school as risk factors for later depression and suicidality. Journal of Adolescent Health, 53 (Suppl. 1). S37–S42. 10.1016/j.jadohealth.2012.12.008 [PubMed: 23790199]

Klomek AB, Marrocco F, Kleinman M, Schonfeld IS, & Gould M (2007). Bullying, depression, and suicidality in adolescents. Journal of the American Academy of Child & Adolescent Psychiatry, 46,40–49. [PubMed: 17195728]

Kowalski RM,& Limber SP (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. Journal of Adolescent Health, 53 (Suppl. 1). S13–S20. 10.1016/j.jadohealth.2012.09.018 [PubMed: 23790195]

Kuramoto-Crawford SJ, Ali MM, & Wilcox HC (2016). Parent-child connectedness and long-term risk for suicidal ideation in a nationally representative sample of US adolescents. Crisis, 38(5), 309–318. 10.1027/0227-5910/a000439 [PubMed: 27869507]

LaFromboise TD, & Lewis HA (2008). The Zuni Life Skills Development Program: A school/community-based suicide prevention intervention. Suicide and Life-Threatening Behavior, 38(3), 343–353. 10.1521/suli.2008.38.3.343 [PubMed: 18611133]

Langille DB, Asbridge M, Cragg A, & Rasic D (2015). Associations of school connectedness with adolescent suicidality: Gender differences and the role of risk of depression. The Canadian Journal of Psychiatry, 60(6), 258–267. 10.1177/070674371506000604 [PubMed: 26175323]

Larose S, Savoie J, DeWit DJ, Lipman EL, &DuBois DL (2015). The role of relational, recreational, and tutoring activities in the perception of received support and quality of mentoring relationship during a community-based mentoring relationship. Journal of Community Psychology, 43(5), 527–544. 10.1002/jcop.21700

Lerner RM, Buckingham MH, Champine RB, Greenman KN, Warren DJA, & Weiner MB (2015). Positive development among diverse youth In Scott RA & Kosslyn SM (Eds.), Emerging trends in the social and behavioral sciences: An interdisciplinary, searchable, and linkable resource. Hoboken, NJ: John Wiley & Sons, Inc.

McKay MM, Hibbert R, Hoagwood K, Rodriguez J, Murray L, Legerski J, & Fernandez D (2004). Integrating evidence-based engagement interventions into 'real world' child mental health settings. Brief Treatment and Crisis Intervention, 4(2), 177–186. 10.1093/brief-treatment/mhh014

Miller A (2007). Best practices for formal youth mentoring In Allen T (Ed.), The Blackwell handbook of mentoring: A multiple perspective approach. Malden, MA: Blackwell Publishing.

Modecki KL, Minchin J, Harbaugh AG, Guerra NG, & Runions KC (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. Journal of Adolescent Health, 55(5), 602–611. 10.1016/j.jadohealth.2014.06.007 [PubMed: 25168105]

National Action Alliance for Suicide Prevention and Suicide Prevention Resource Center. (2015). Zero suicide in health and behavioral healthcare. Waltham, MA: Education Development Center, Inc Retrieved from https://actionallianceforsuicideprevention.org/sites/actionallianceforsuicideprevention.org/files/zero_suicide_final6.pdf

Nock MK, Green JG, Hwang I, McLaughlin KA, Sampson NA, Zaslavsky AM, & Kessler RC (2013). Prevalence, correlates and treatment of lifetime suicidal behavior among adolescents: Results from the National Comorbidity Survey Replication - Adolescent Supplement (NCS-A). Journal of the American Medical Association Psychiatry, 70(3), 300–310. 10.1001/2013.jamapsychiatry.55 [PubMed: 23303463]

Posner K, Brown GK, Stanley B, Brent DA, Yershova KV, Oquendo MA, … Shen S (2011). The Columbia-Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. American Journal of Psychiatry, 168(12), 1266–1277. [PubMed: 22193671]

Pretty GMH, Andrews L, & Collet C (1994). Exploring adolescent's sense of community and its relationship to loneliness. Journal of Community Psychology, 22,346–357.

Prinstein MJ, Boergers J, & Vernberg EM (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. Journal of Clinical Child Psychology, 30(4), 479–491. 10.1207/S15374424JCCP3004_05 [PubMed: 11708236]

Reynolds WM (1987). Suicidal Ideation Questionnaire-Junior. Odessa, FL: Psychological Assessment Resources, Inc.

Reynolds WM (2008). Reynolds Adolescent Depression Scale-2nd Edition: Short Form (RADS-2:SF). Lutz, FL: Psychological Assessment Resources, Inc.

Rhodes J (2005). A model of youth mentoring In DuBois DL & Karcher MJ (Eds.), Handbook of youth mentoring (pp. 30–43). Thousand Oaks, CA: Sage Publications.

Rigby K (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. Journal of Adolescence, 23(1), 57–68. 10.1006/jado.1999.0289 [PubMed: 10700372]

Rosenberg M (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Roth JL, & Brooks-Gunn J (2003). Youth development programs: Risk, prevention and policy. Journal of Adolescent Health, 32(3), 170–182. [PubMed: 12606110]

Rueger SY, Malecki CK, & Demaray MK (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. Journal of Youth and Adolescence, 39(1), 47–51. 10.1007/s10964-008-9368-6 [PubMed: 20091216]

Russell D, Peplau LA, & Cutrona CE (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. Journal of Personality and Social Psychology, 39(3), 472–480. 10.1037/0022-3514.39.3.472 [PubMed: 7431205]

Russell D, Peplau LA, & Ferguson ML (1978). Developing a measure of loneliness. Journal of Personality Assessment, 42(3), 290–294. 10.1207/s15327752jpa4203_11 [PubMed: 660402]

Saunders JB, Aasland OG, Babor TF, De la Fuente JR, & Grant M (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. Addiction, 88(6), 791–804. 10.1111/j.1360-0443.1993.tb02093.x [PubMed: 8329970]

Stan Development Team. (2016). Stan modeling language user's guide and reference manual. Retrieved from https://mc-stan.org/

Stone DM, Luo F, Lippy C, & McIntosh WL (2015). The role of social connectedness and sexual orientation in the prevention of youth suicide ideation and attempts among sexually active adolescents. Suicide and Life-Threatening Behavior, 45(4), 415–430. 10.1111/sltb.12139 [PubMed: 25388375]

Ttofi MM, Farrington DP, Lösel F, & Loeber R (2011). The predictive efficiency of school bullying versus later offending: A systematic/meta-analytic review of longitudinal studies. Criminal Behaviour and Mental Health, 21(2), 80–89. 10.1002/cbm.808 [PubMed: 21370293]

U.S. Department of Health and Human Services, Office of the Surgeon General, & National Action Alliance for Suicide Prevention. (2012). 2012 National Strategy for Suicide Prevention: Goals and objectives for action. Washington DC: Author.

Van Orden KA, Witte TK, Gordon KH, Bender TW, & Joiner TE, Jr. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. Journal of Consulting and Clinical Psychology, 76(1), 72–83. [PubMed: 18229985]

Vernberg EM, Jacobs AK, & Hershberger SL (1999). Peer victimization and attitudes about violence during early adolescence. Journal of Clinical Child Psychology, 28(3), 386–395. [PubMed: 10446688]

Whitlock JL, Wyman PA, & Moore SR (2014). Connectedness and suicide prevention in adolescents: Pathways and implications. Suicideand Life-Threatening Behavior, 44(3), 246–272. 10.1111/sltb.12071

Wood S, & Mayo-Wilson E (2012).School-based mentoring for adolescents: A systematic review and meta-analysis. Research on Social Work Practice, 22(3), 257–269.

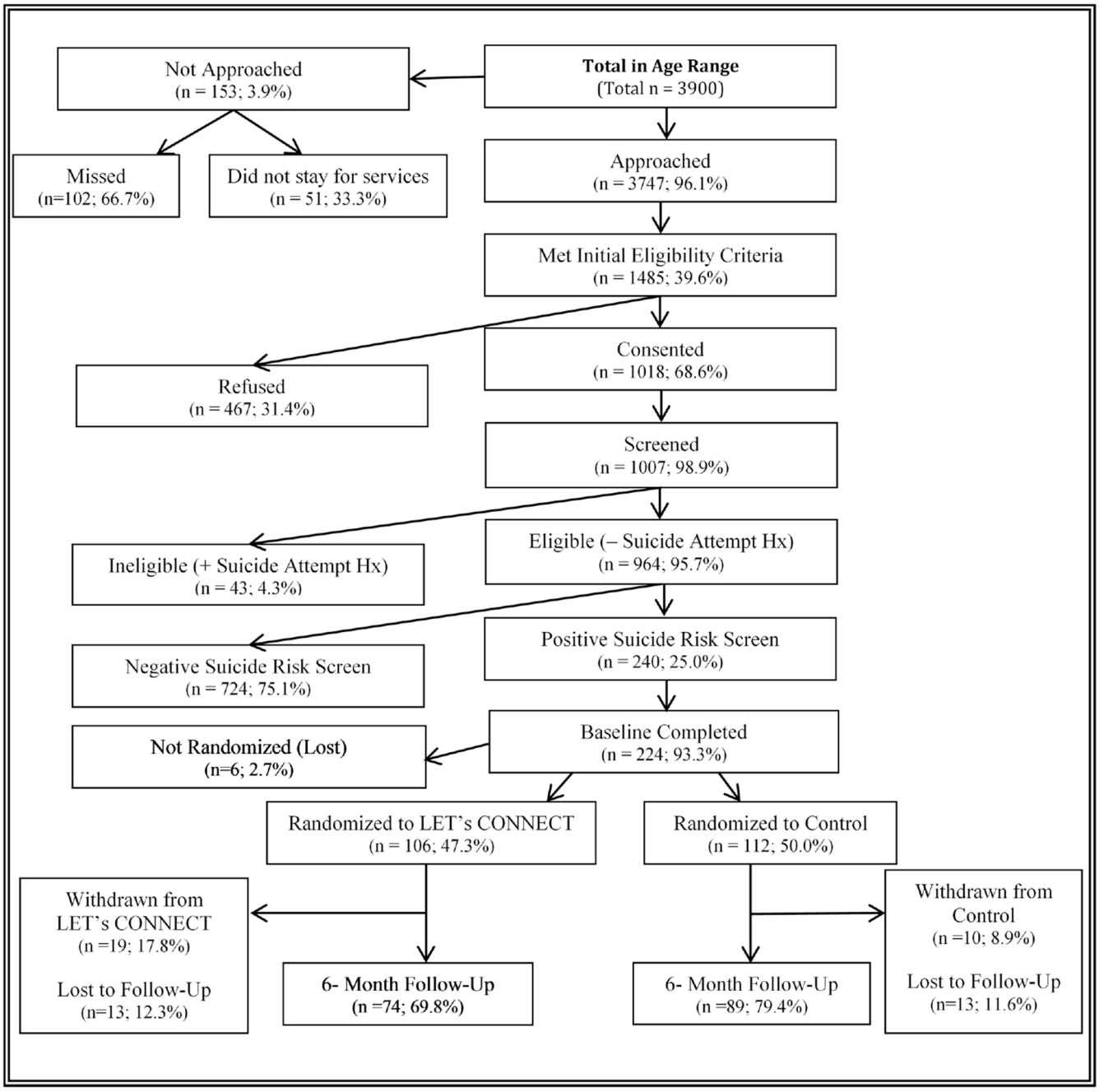

FIGURE 1.
Subject flow diagram

Table 1

Components of LET's CONNECT (LC) intervention program

Preintervention home visit	• Prevention specialist and youth with parent/guardian discuss LC aims and LC goals for youth. • Prevention specialist attains information on youth's social strengths, challenges, and areas for growth. • Youth nominates a natural mentor (parent/guardian approves), with goal of meeting regularly.
Mentor match process	• Project staff matches youth to trained community mentor (CM) based on (a) gender (matched for females only), (b) similar interests/hobbies, and (c) neighborhood proximity.
Initial youth-mentor meeting	• Youth formally meets CM in session with natural mentor, facilitated by the prevention specialist. • Prevention specialist, youth, and CM generate an action plan (specific activities aligning with goals and meeting plan), making use of the project-developed, community-specific activities guide.
Ongoing LC activities	• Youth and CM engage in activities (approximately 4–6 hours/month). • Activities progress from building mentor–mentee relationships (e.g., recreational activities, going out for meals) to participating in activities, with increased community involvement (e.g., attending church events, volunteering at local charity). • Youth and CM participate in activities to help youth reach individual goals (e.g., tour of college/trade school, job fair, tutoring).
Check-ins and meetings	• Prevention specialist works with CM, natural mentor, and youth to maintain engagement, troubleshoot difficulties, and encourage follow-through with action plan. This occurs at scheduled in-person (6 weeks, 3 months, 6 months) and telephone meetings. Prevention specialist is also available for mentor-initiated contacts. • Action plan goals reassessed at in-person meetings.

Table 2

Connectedness and psychological functioning by intervention group[a]

	Baseline		6-month follow-up		Mean change			
	***LET's CONNECT* (*n* = 106)**	***Control* (*n* = 112)**	***LET's CONNECT* (*n* = 74)**	***Control* (*n* = 89)**	***LET's CONNECT* (*n* = 74)**	***Control* (*n* = 89)**		
	M (SD)	**M (SD)**	**M (SD)**	**M (SD)**	**M (SD)**	**M (SD)**	**t**	**SMC**
Connectedness								
Social connectedness[b]	53.7 (9.3)	53.8 (8.8)	46.5 (9.7)	49.7 (11.7)	−8.7 (10.9)	−4.2 (10.8)	2.7*	0.4
Community connectedness	8.1 (2.6)	8.0 (2.5)	8.1 (2.8)	7.8 (2.7)	0.4 (2.6)	−0.2 (2.5)	1.5	0.2
Thwarted belongingness	22.6 (9.5)	23.3 (10.8)	21.1 (10.0)	23.3 (11.4)	−2.4 (9.8)	−0.3 (9.6)	−1.4	0.2
Psychological functioning								
Depression	21.6 (6.7)	22.8 (6.9)	20.3 (6.6)	22.3 (6.7)	−2.2 (6.2)	−0.8 (5.8)	−1.5	0.2
Self-esteem	18.1 (6.2)	19.6 (6.2)	19.3 (5.8)	20.1 (6.6)	1.8 (6.5)	0.6 (5.6)	1.3	0.2
Suicidal ideation	10.6 (13.4)	11.1 (14.5)	9.8 (12.9)	10.1 (13.9)	−1.3 (14.4)	−1.5 (14.5)	0.1	0.0

Note. M = mean; SD = standard deviation; SMC = standardized mean change (effect size; see Kline, 2004).

[a]Social connectedness measured by UCLA Loneliness Scale; community connectedness measured by Community Connectedness Scale; thwarted belongingness measured by Interpersonal Needs Questionnaire subscale; depression measured by Reynolds Adolescent Depression Scale; self-esteem measured by Rosenberg Self-Esteem Scale; and suicidal ideation measured by the Suicidal Ideation Questionnaire-Junior.

[b]With the exception of social connectedness (loneliness), which is reverse coded, higher scores indicate higher levels of variable.

*$p < 0.05$.

Table 3

Intervention effects on connectedness and psychological functioning

	Estimate	SE	95% CI	p(|β| > 0)
Connectedness				
Social connectedness				
Intercept	49.6	1.0	[47.5, 51.6]	>0.99
Baseline	4.5	0.8	[3.1, 6.1]	>0.99
Intervention	−3.7	1.5	[−6.5, −0.7]	0.99
R^2	18.3		[16.3, 18.8]	
Communityconnectedness				
Intercept	7.8	0.3	[7.3, 8.3]	>0.99
Baseline	1.5	0.2	[1.1, 1.8]	>0.99
Intervention	0.5	0.4	[−0.3, 1.2]	0.92
R^2	27.2	–	[25.2, 27.6]	
Thwarted belongingness				
Intercept	22.9	0.9	[21.1, 24.8]	>0.99
Baseline	6.2	0.7	[4.8, 7.5]	>0.99
Intervention	−2.1	1.4	[−4.7, 0.5]	0.93
R^2	34.1		[32.5, 34.5]	–
Psychological functioning				
Depression				
Intercept	21.7	0.5	[20.7, 22.8]	>0.99
Baseline	4.0	0.4	[3.2, 4.8]	>0.99
Intervention	−1.6	0.8	[−3.3, −0.1]	0.98
R^2	36.9		[35.4, 37.3]	
Self-esteem				
Intercept	24.7	0.6	[23.6, 25.8]	>0.99
Baseline	3.3	0.5	[2.4, 4.2]	>0.99
Intervention	0.3	0.9	[−1.3, 2.1]	0.66
R^2	27.0		[25.2, 27.4]	
Suicidal ideation				
Intercept	9.8	1.3	[7.2, 12.4]	>0.99
Baseline	6.0	0.9	[4.1, 7.6]	>0.99
Intervention	−0.1	1.9	[−3.8, 3.5]	0.53
R^2	20.7		[18.8, 21.2]	

Note. SE = standard error; CI = credible interval; $p(|\beta| > 0)$ the directional hypothesis that the positive (negative) coefficient is greater (less) than 0.

[a] Social connectedness measured by UCLA Loneliness Scale; community connectedness by Community Connectedness Scale; thwarted belongingness by Interpersonal Needs Questionnaire subscale; depression by Reynolds Adolescent Depression Scale; self-esteem by Rosenberg Self-Esteem Scale; and suicidal ideation by Suicidal Ideation Questionnaire-Junior.

[b] With the exception of social connectedness (loneliness), which is reverse coded, higher scores indicate higher levels of variable.