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# LET's CONNECT Community Mentorship Program for Adolescents with Peer Social Problems: A Randomized Intervention Trial

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## Abstract

This study examined the effectiveness of LET's CONNECT (LC), a community mentorship program based on the positive youth development model. Participants were 218 youth (66.5% girls), ages 12 to 15, who reported peer victimization, bullying perpetration, and/or low social connectedness. These youth were randomized to LC or the control group (community resource information). The LC program linked youth to community mentors who connected with youth and facilitated their involvement in social growth activities across a 16-month period. Outcomes were assessed at 6 and 16 months with self-report measures of social and community connectedness, thwarted belongingness, depression, self-esteem, and suicidal ideation and behavior. In intent-

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Author Contributions

CK conceptualized and designed the study; provided leadership for study implementation, intervention implementation, and data interpretation; and drafted the manuscript. PG participated in study conceptualization, served as the study coordinator, supervised intervention specialists and served as liaison to the community advisory committee, and helped to draft the manuscript. AA participated in the interpretation of data and helped to draft the manuscript. DL contributed to data management and the interpretation of data. MC conducted study data analyses, participated in the interpretation of data, and helped to draft the manuscript. CEF, CC, NG, and DS contributed to study conceptualization and research design. All authors provided critical feedback and read and approved the final manuscript.

Conflict of Interest

Authors have no conflict of interest to disclose.

Ethical Approval

The project was approved by the appropriate institutional and/or national research ethics committee. This study has been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments.

Informed Consent

Informed consent was obtained for all individual participants in the study.

Data Availability Statement

The manuscript's data will not be deposited.

Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

to-treat analyses, LC was associated with modest positive effects for social connectedness, self-esteem, and depression. It had no effects on suicidal ideation or behavior. Results suggest that LC has the potential to positively impact the developmental trajectories of youth dealing with the interpersonal challenges of victimization, bullying perpetration, or low social connectedness. LC implementation challenges and directions for further research are also discussed.

### Keywords

Adolescence; Community mentorship; Intervention trial; Peer victimization; Self-esteem; Social connectedness

## Introduction

Social connections to family, school, and community are key to healthy adolescent development (Chu et al., 2010; Rueger et al., 2010); moreover, increasing social and community support for youth—and specifically support from an adult that youth feel able to talk to—is a featured goal in the Healthy People 2030 Plan (USDHHS, 2020). Despite this, many youths in the United States report challenges with social relationships, which may include feeling disconnected from others or being the victim or perpetrator of bullying. Recent national surveys indicate that 21% of adolescents do not have a trusted adult in their life (USDHHS, 2020) and nearly 15% of youth report being bullied via electronic media (19% report being bullied at school; Kann et al., 2018).

A positive relation between adolescents' perceived social support and mental health has been well-established (Chu et al., 2010; Rueger et al., 2010). Low peer social support has been associated with internalizing and externalizing behavior problems (Bond et al., 2007); peer victimization has been associated with psychopathology, loneliness, and lower self-esteem (Gini & Pozzoli, 2009; Kowalski & Limber, 2013); and bullying perpetration has been associated with depression and conduct problems (Barker et al., 2008; Copeland et al., 2013; Ttofi et al., 2011). In addition, social connectedness has been associated with less suicidal ideation and behavior over time (Czyz et al., 2012; Stone et al., 2015; Whitlock et al., 2014).

Given the prevalence and potential negative impact of social difficulties among youth, theoretically driven intervention research designed to enhance connectedness is urgently needed. In this study, we examined the effectiveness of a community-based mentorship intervention, LET's CONNECT (LC), for adolescents who reported one or more peer relationship problems (low social connectedness or loneliness, peer victimization, bullying perpetration). Youth in this study also resided in an underserved community facing substantial social and economic challenges, including high levels of poverty and violence. Given the link between such community-level stressors and psychopathology (Bernburg et al., 2009; Fowler et al., 2009), it is critical to evaluate how preventive strategies, such as community mentorship, may alleviate or alter the impact of such stressors. Previous research examining mentorship-based programs among youth facing environmental difficulties (e.g., economic stressors) suggests their promise for improving youth outcomes (Herrera et al., 2013). We theorized that three aspects of LC implementation would be important to its effectiveness: the stability of youth–mentor relationships, the importance of which has

been documented (e.g., Grossman & Rhodes, 2002; Higley et al., 2016); the regularity of youth–mentor contacts across the 16-month LC program; and youth–mentor engagement in activities with the potential to build the youth's connectedness with the community.

LC is conceptualized within a "positive youth development" framework, which is consistent with a strength-based approach (Lerner et al., 2015). Effective programs based on this construct have emphasized the importance of using community resources to support and empower youth while also working to improve some combination of youth social connectedness, perceived self-efficacy, competencies, and opportunity (Catalano et al., 2004). LC makes use of community mentors (CMs) to support and empower youth through the facilitation of opportunities to take part in community activities, including activities that have the potential to promote social connectedness.

Youth mentorship programs have been widely implemented (e.g., Big Brothers Big Sisters of America, 2016) and have shown promise in a number of studies (e.g., Grant et al., 2014; Herrera et al., 2013). A meta-analysis indicated that the effectiveness of mentorship programs varies, positive effects are sometimes nonexistent, and, when present, effects are generally small (DuBois et al., 2011). Nevertheless, across a wide range of outcomes, DuBois et al. (2011) reported an overall modest, positive effect size of 0.21. Similarly, a randomized study of a Big Brothers Big Sisters school-based mentoring program reported only modest positive effects (Herrera et al., 2011).

Despite these modest effects, as a relatively low-cost, health promotion approach, community mentorship has the potential to benefit youth early in the development and course of a mental health concern. Conceptualized within a developmental psychopathology framework, even modest positive changes at this critical time may be associated with healthier trajectories or cascading positive effects over time (Wyman, 2014). In addition, in an effort to strengthen the impact of community mentorship, we developed LC as a more focused, selective prevention strategy for youth with peer social problems. By targeting a specific at-risk group of youth—those with peer social problems—it is possible to focus mentorship activities on social growth activities. In LC, the roles of CMs were to "connect" with the youth, providing emotional support in a healthy youth–adult relationship and to encourage youth participation in social activities (taking into account youth readiness and activity interests). A similar approach, piloted for youth experiencing peer victimization and bullying perpetration, showed evidence of positive acceptability (youth, mentors, parents, teachers) and pre- to post-changes (no control group) in reducing peer victimization (Gregus et al., 2015).

The ED was chosen for this selective prevention strategy because approximately 19% of adolescents visit an ED each year in the United States (National Center for Health Statistics, 2017) and some of the reasons for their ED visits, such as trauma, alcohol poisoning, and physical injury due to violence, represent known suicide risk factors. Moreover, both adolescent males, who have a significantly higher suicide rate than females, and adolescent females are well represented in the ED setting (Santillanes et al., 2019), whereas males are less likely than females to seek care in primary care settings (Marcell et al., 2002). Finally,

long wait times in the ED provide opportunities for the consideration of personal change or engagement in a new program or initiative (Monti et al., 2001).

The primary aim of this randomized intervention trial was to determine the effectiveness of LC for adolescents with peer social problems (peer victimization, bullying perpetration, low social connectedness) across a 16-month period. Effectiveness was defined as: (a) increased social connectedness and decreased perceived burdensomeness; (b) increased self-esteem and decreased severity of depressive symptoms and suicidal ideation; and (c) a lower likelihood of engagement in suicidal behavior. Outcomes were assessed at 6 months and 16 months. Suicide-related outcomes were guided by the strategic direction of the Centers for Disease Control and Prevention, which recommended a focus on the enhancement of connectedness in efforts to reduce suicidal behavior among at-risk individuals (CDC, 2006). To our knowledge, previously published studies of community mentorship have not examined suicidal ideation or behavior outcomes.

We hypothesized that adolescents randomized to LC, compared to adolescents randomized to the control condition, would have more positive outcomes. In exploratory analyses, we also examined gender and race as possible moderators of intervention effects. We examined gender because adolescent females, relative to adolescent males, report higher rates or levels of suicidal ideation and behavior (Kann et al., 2018), depression (Substance Abuse and Mental Health Services Administration, 2019), and social connectedness, (Logan et al., 2011). We were also interested in the extent to which intervention effectiveness and outcomes would vary by race given the increasing rates of suicide attempts and deaths among African American adolescents (Kann et al., 2018; Price & Khubchandani, 2019).

## Method

### Participants

**Youth—**Randomized participants were 218 youth, ages 12 to 15 years, who were recruited between 2011 and 2014 from an urban pediatric emergency department (ED; $n = 205$) and adjacent urgent care clinic ($n = 13$) in a medium-sized city in the Midwestern region of the United States. This city was characterized by substantial unemployment (15.8%, Bureau of Labor Statistics, 2010), poverty (median household income less than $25,000), and violent crime (#3 in nation in 2010 and #11 in the nation in 2015, Federal Bureau of Investigation, 2010, 2015) at the time of study initiation.

Recruitment took place three to five days weekly, during afternoon and evening hours. Parents/guardians reported that youth were mostly female (66.5%) and between the ages of 12 and 15 ($M = 13.5$, $SD = 1.1$). The youth participants identified as 53.7% African American, 31.7% Caucasian, 9.2% Multiracial, 4.6% “Other,” and 0.8% Missing. Approximately 8% of youth identified as Hispanic or Latino. A majority (83%) of families in the study were receiving public assistance.

Youth in the target age range who did not have a life-threatening condition and were not in police custody were approached for continued determination of study eligibility. Additional exclusion criteria were severe cognitive impairment, placement in a residential facility,

participation in another study, sibling enrolled in study, and residence outside defined geographic area. Youth with parent/guardian consent and youth assent who met eligibility criteria participated in the study's screening for suicide risk, defined by a positive screen for peer victimization, bullying perpetration, and/or low social connectedness (see measures). Those who screened positive were randomized to intervention and comparison groups. For more details on randomization procedures, see (King et al., 2018). The percentages of youth with different combinations of positive screens have been published previously (King et al., 2018). As one study aim was to prevent the onset of suicidal behavior, youth with a history of suicide attempts were excluded. Youth who reported suicidal ideation only were included.

Figure 1 presents the subject flow diagram. Seventy-nine (74.5%) youth in the LC group met with a CM. Twenty-seven youth did not meet with a CM due to either study withdrawal ($n$ = 12), loss to follow-up ($n$ = 13), or not matching to a CM ($n$ = 2).

**Community Mentors (CM)—**Participating CMs included 49 adults (mean age = 46.6; *SD* = 11.4). CMs were 67.3% female ($n$ = 33) and self-identified as African American (75.5%, $n$ = 37), Caucasian (18.4% $n$ = 9), and "Other" (6.1% $n$ = 3). One CM (2.0%) reported a Latino/Hispanic ethnicity. A majority of CMs reported postsecondary education, with an educational distribution as follows: college graduate (35%), some college/technical school (25%), and college or professional school graduate (20%). Regarding current employment status, 37.5% of CMs were employed full-time, 20.0% were employed part-time, and 2.5% were self-employed.

CMs were recruited with the assistance of a Community Advisory Board (CAB) that included representatives from community churches; the study area's Big Brothers Big Sisters program, Boys and Girls Club, school district, and hospital system; and community faith leaders. Eligibility criteria for CMs included age 25 or older, a high school diploma or equivalent, a valid driver's license and proof of auto insurance, two positive references, and completion of a screening process that included checks related to driving record, criminal background, sex offender, and child abuse/neglect registries. Adults who were interested in working with teens and could commit to participating for 16 months were encouraged to apply. The CAB, which also provided input on study policies and operations (e.g., established minimum age for CMs), shared information about the study and CM application process with adults in their constituencies. We held regular community-based meetings with the CAB for information sharing among members, study updates, and opportunities for input into study policies and procedures.

CMs attended five hours of training, which was highly interactive and included information and discussion about the study and LC program guidelines, the mentor's role, communicating with youth, adolescent development, and peer victimization. In addition, the community-based youth activity guidebooks (developed for this study) were reviewed with case vignettes to illustrate and discuss their use with individual youth. CMs were also trained in effective communication strategies and provided emergency resources and a set of action steps (e.g., contacting the study's community outreach coordinator) in case any adverse events occurred (e.g., safety concern, unintentional injury). Additional details about the recruitment process and LC training are reported elsewhere (King et al., 2018).

CMs were compensated at a rate of $18 per hour for in-person (face-to-face) contact with the youth (up to 8 hours monthly). They were expected to have "regular" in-person contact, which was operationalized as six hours per month for the first 12 months and 4 hours per month during the final four months of the 16-month intervention. CMs submitted monthly logs that denoted contact details, including type of contact (e.g., face-to-face), activity, and duration. Approximately 49.0% ($n$ = 24) of CMs mentored one youth, 18.4% ($n$ = 9) mentored two youth, and 32.7% ($n$ = 16) mentored 3 or more youth. CMs received ongoing supervision and support throughout their service to the program. They were assigned to a LC intervention specialist, a master's level trained social worker, who facilitated the initial meet/greet with the youth and engaged in telephone check-ins with each CM, which afforded opportunities for support, education, and problem-solving.

## Procedures

Following parent/guardian consent and youth assent, youth completed measures to screen for peer victimization, bullying perpetration and/or low social connectedness and suicide attempt history. For participation in the screen, youth and parent/guardians were offered a gift item from a dollar store. Youth who screened positive (see screening measures) completed a baseline assessment, typically during their ED visit, for which they received a $25 incentive. Following the baseline assessment, youth were randomized to either the LC ($n$ = 106) or the control condition ($n$ = 112), which included receipt of community resource information only. There were no significant differences between groups in demographics (age, gender, race, parental education, public assistance) or baseline levels of primary outcome variables.

Youth randomized to LC and control conditions were contacted 6 months and 16 months after the baseline assessment for additional assessments. The mean time between baseline and 6-month assessments was 207.1 days ($SD$ = 51.7); the mean time between 6- and 16-month assessments was 313.2 days ($SD$ = 81.1). Youth who missed the 6-month assessment were still eligible to complete the 16-month assessment. Trained personnel, blind to study condition, met with the youth and 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.

A risk management protocol was followed if youth responses were indicative of elevated suicide risk (e.g., suicide attempt, active suicidal ideation, clear suicidal intent/plan). This protocol included contacting the on-call senior clinician to consult on the development of a safety action plan (e.g., emergency services, contacting youth's parent).

Retention rates for the 6-month assessment were 69.8% and 79.5%, for LC and control groups, respectively. Retention rates for the 16-month assessment were 71.7% and 79.5% for the LC and Control groups, respectively. These rates did not differ by group. There were no demographic differences (age, gender, race/ethnicity) between the youth who were and were not retained.

## LET's CONNECT (LC) Intervention

CMs were matched to youth by gender (for girls only), shared interests/hobbies, and neighborhood proximity. For CM/mentee pairs with self-reported race ($n$ = 71), the majority of matches were Black CMs matched with Black mentees (43; 60.56%), which is reflective of the region that is composed of 57% Black residents. The remaining matches were as follows: 11 (15.49%) Black CM/White mentee; 6 (8.45%) White CM/White mentee; 5 (7.04%) mixed race CM/Black, White or mixed race mentee; 3 (4.23%) Black CM/Hispanic (White) mentee; 2 (2.82%) White CM/Hispanic (White) mentee; and 1 (1.41%) White CM/Black mentee.

The average mentorship length with the first (or only) CM for youth who met at least once with their CM ($n$ = 79) was 211.4 days ($SD$ = 171.0). Youth and their first (or only) CM averaged approximately nine ($SD$ = 7.7) face-to-face contacts. Twelve youth were assigned a second CM for one of the following reasons: CM personal stressors ($n$ = 5), CM health issues ($n$ = 3), communication difficulties between CM and youth ($n$ = 2), and changes in the eligibility of CM ($n$ = 2). A third CM was assigned to three youth as a result of CM personal stressors. The average mentorship length for youth and their second CM was 188.6 days ($SD$ = 172.9). Youth and their second CM had an average of 9.1 ($SD$ = 9.6) in-person contacts. The small number of third matches was short-lived and yielded no useable data.

The youth randomized to LC averaged a total of 41.3 hours of in-person contacts with a CM during the 16-month program. This was wide ranging, with a minimum of 0.5 hours and a maximum of 175 hours. Only 18% of youth met with a CM for the intended intervention dose of 88 contact hours (6 hours/month for 12 months followed by 4 hours/month for 4 months).

CM-Youth dyads engaged in the following activities 4–6 hours per month: social/relational (45.5%; e.g., eating together at cafe), recreational (18.7%), athletic (16.9%), educational/cultural and spiritual (16.2%), and a small number (2.6%) engaged in unstructured activities (e.g., errands).

## Measures

**Screening measures.—**A screening survey, comprised of the three measures described in this section, was used to screen youth for study inclusion. A positive screen was defined as a positive score for peer victimization, bully perpetration, and/or low social connectedness (loneliness). Youth who screened positive were also screened for history of suicide attempt, measured by one item from the Columbia Suicide-Severity Rating Scale (C-SSRS; "Have you ever, in your life, made a suicide attempt, or have you done anything as a way to end your life?"). Those reporting a previous suicide attempt were excluded in keeping with study exclusion criteria.

The *Peer Experiences Questionnaire* (Prinstein et al., 2001; Vernberg et al., 1999) is a self-report instrument with two 9-item scales measuring peer victimization and bullying perpetration in the previous four months. Youth report bullying behaviors on a 5-point Likert scale ranging from 1 (*never*) to 5 (*several times a week*). Total scores range from 9 to 45, with positive screens defined by scores of 19 or higher for boys and 17 or higher for

girls. Positive screen criteria were one standard deviation above scale means in a previously studied sample of adolescents (Vernberg et al., 1999). Internal consistencies were 0.79 and 0.82, respectively, for victimization and perpetration scales.

The *UCLA Loneliness Scale-Revised* (Russell et al., 1980; Russell et al., 1978) is a 20-item self-report scale that assesses loneliness, social isolation, and interpersonal connectedness. Higher scores on this scale are referred to as low social connectedness herein. Response options, scaled on a 4-point Likert scale, range 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 score of 44 or higher indicating a positive screen. The positive screen criterion was set to be one standard deviation above the mean of a previously studied sample of adolescents (Pretty et al., 1994). Internal consistency in this sample was 0.81.

### Additional Measures.

Parents provided information at baseline regarding youth and family demographics, including youth gender, race, ethnicity, age, and family status regarding public assistance. The remaining baseline and outcome measures were based on youth self-report scales.

The *Community Connectedness Scale* (Fletcher & Shaw, 2000) is a 3-item self-report scale that assesses the degree to which adolescents feel connected to their communities. Youth respond using a 4-point Likert scale, with options ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Internal consistency in this sample was 0.70. The *Interpersonal Needs Questionnaire-Revised* (Van Orden et al., 2008) is a 15-item self-report measure based on Joiner's interpersonal–psychological theory of suicidal behavior (Joiner, 2005). In this study, we used the 9-item thwarted belongingness subscale, which uses a 7-point Likert scale ranging from 0 (*not all true for me*) to 6 (*very true for me*).

The *Reynolds Adolescent Depression Scale: Short Form* 2nd edition (RADS-2:SF; W. Reynolds, 2008) is a 10-item self-report scale that assesses the frequency and duration of depressive symptoms in youth. Youth respond to questions using a 4-point Likert scale ranging from 1 (*almost never*) to 4 (*most of the time*). Internal consistency in this sample was 0.88. The *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) is a 10-item self-report scale that assesses self-esteem, self-competence, and self-liking. Youth respond to questions using a 4-point Likert scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). Internal consistency for this measure was 0.86 in this sample. The *Suicidal Ideation Questionnaire-Junior* (SIQ-JR; Reynolds, 1987) is a 15-item self-report scale that assesses a range of suicidal thoughts in the previous month. Response options on the 7-point scale range from 0 (*I never had this thought*) to 6 (*I had this thought almost every day*). Internal consistency in this sample was 0.93. The *Columbia Suicide-Severity Rating Scale* (C-SSRS; Posner et al., 2011), an interview-style measure, was used to assess suicidal behaviors. This measure assesses a range of suicidal behaviors including actual, interrupted, and aborted suicide attempts. At baseline, youth were asked about *lifetime* experiences with suicidal behaviors, while at the 6-month and 16-month assessments, youth were asked about these experiences since the previous assessment.

### Description of Data Analyses

Descriptive statistics including means, standard deviations, and percentages were calculated for study variables. We then conducted intent-to-treat analyses that included all youth who were randomized to the LC and control groups and "per protocol" analyses. We defined the LC "per protocol group" *a priori* as youth who were randomly assigned to LC, attended the LC launch meeting with the intervention specialist and assigned CM, and spent time with the CM on at least three occasions. A standard mixed model was used to examine intervention effects for these outcomes at month 6 and month 16 while controlling for their respective baseline scores. The model included random effects for individuals. We examined intervention by time interactions for all primary outcome variables to explore any change in the intervention effect at six months vs. sixteen months. We examined gender and race/ethnicity as possible moderators of the effect of LC. In each model, we included terms for the moderator and the moderator by intervention group interaction. If the interaction model was not improved, we only showed the results from the main effects model.

Models were estimated using Hamiltonian Monte Carlo via the Stan modeling language (Bürkner, 2018; Carpenter et al., 2016). A Bayesian approach was used as it allowed for more reliable variance estimation (Chung et al., 2013) and guards for overfitting (Gelman, 2018). Diffuse normal priors were placed on the regression coefficients, except in the case of models with all interactions, where a diffuse Laplace (double exponential) prior was used for additional regularization. For variance estimates, a half-student-t prior was implemented.

Given the longitudinal nature of this data, with repeated measures over time, observations within the data are not independent, but rather observations are nested within individuals. As such, we used linear mixed models to account for the clustered nature of the data. For the outcomes and similarly scaled variables, 16% were missing at either time point, split almost exactly evenly in terms of missingness at each time point. As we conducted preliminary analyses using imputation methods and found no differences in results, we present the standard models, which assume missingness at random. In general, we define a significant effect as one whose 95% uncertainty interval (used with Bayesian models) does not contain zero. Additionally, the one-sided probability that a positive (negative) coefficient is greater (less) than zero is provided.

## Results

### Descriptive Statistics

Table 1 presents descriptive statistics for LC and Control groups at baseline and 16 months for the primary study variables assessing connectedness (social connectedness, community connectedness, perceived burdensomeness) and psychological functioning (depression, self-esteem, suicidal ideation) by gender.

At the baseline assessment, males reported lower mean levels of peer victimization, loneliness, depression, and suicidal ideation and higher self-esteem ($p < .05$). Table 2 depicts correlations between baseline and 16-month study variables (see Table S1 for baseline correlations). Baseline victimization was positively associated with 16-month victimization, bully perpetration, and suicidal ideation. Baseline bully perpetration was

positively associated with 16-month bully perpetration. Baseline social connectedness was positively associated with 16-month social connectedness and self-esteem and negatively associated with 16-month thwarted belongingness and depression.

## Intent-to-Treat Analyses: Prediction of Youth Connectedness and Psychological Functioning

The results for Bayesian mixed model regressions regarding connectedness and psychological functioning outcomes are summarized in Tables 3 and 4, respectively. Intervention was allowed to interact with time point for all models (to explore if effect differs at month six versus sixteen), but the intervention by time interaction was retained only if notable (self-esteem only). There were no significant interactions between gender and intervention group or between race and intervention group for any outcomes; the interaction terms were not retained in the models.

**Connectedness—**The pattern of LC intervention effects was in the expected, positive direction for all connectedness outcomes (Table 3). The magnitude of these effects was statistically significant for improved social connectedness (reduced loneliness). These effects did not differ from month 6 to month 16 for any connectedness outcome. There were no significant moderation effects for sex and race.

**Psychological Functioning—**The LC effect also was significant for depression and self-esteem (Table 4). LC was associated with a decrease in depression and an increase in self-esteem. Furthermore, the LC intervention showed an interaction with time point for self-esteem. There was no notable effect at month 6, with the positive effect evident by month 16 (Figure S1). There was no LC intervention effect for suicidal ideation. The overall level of suicidal ideation was low in this sample at baseline and 16 months. Notably, mean suicidal ideation at baseline and 16-month time points ranged from 9.7 to 11.1 (mean *SD* range = 13.4–16.6), whereas the clinical cutoff score for this assessment tool is 31 (Reynolds, 1987). Similarly, there was no intervention effect for suicidal behavior. Between the baseline and 16-month assessment, 12 youth in the control and 13 youth in the LC condition engaged in some type of suicidal behavior (preparatory behavior, interrupted or aborted attempt, and/or suicide attempt). There were no significant moderation effects for sex and race.

## Per Protocol Analyses: Prediction of Youth Connectedness and Psychological Functioning

The overall pattern of LC intervention effects paralleled those identified in ITT analyses. These results are summarized in Tables S2 and S3, respectively. The LC effect was significant for reduced loneliness (increased social connectedness), reduced thwarted belongingness, and improved self-esteem (interaction with time–effect evident by month 16). There was no LC intervention effect for suicidal ideation. There were no significant moderation effects for sex and race.

## Discussion

LC is a selective prevention strategy, designed for youth with peer social problems, that provides one-to-one mentorship for up to 16 months from adults within the youth's community. In this randomized trial, we hypothesized that LC, relative to a comparison group (community resource information only) would be associated with decreases in depression, suicidal ideation, suicidal behavior, and perceptions of thwarted belongingness, as well as increases in social connectedness, community connectedness, and self-esteem. Results indicate that LC was associated with modest decreases in depression and modest increases in social connectedness and self-esteem and that gender and race were not moderators of these effects.

The small positive effects associated with LC in this study are consistent with the small positive effect size of 0.21, across multiple outcomes, reported from meta-analyses of the effectiveness of youth mentorship interventions (DuBois et al., 2011; Raposa et al., 2019), and with findings indicating that mentorship can improve well-being among at-risk youth (Herrera et al., 2013; Weiler et al., 2015). Almost all of the youth in our study were characterized by two or more of the risk characteristics examined by Herrera et al (2013), such as peer difficulties, economic adversity, and family risk or stress. Although we are unaware of effectiveness trials for community mentorship programs enrolling youth due to peer relationship problems, our findings warrant consideration within the context of programs that have addressed related concerns. In a systematic review of mentorship programs for youth with disabilities, who have higher rates of social isolation and peer victimization, e-mentoring (e.g., email, video conferencing, mobile apps) was associated with benefits such as decreased loneliness (Lindsay et al., 2018). This study also suggests the potential for e-mentoring, which is more possible during the COVID-19 pandemic and has the potential to reduce some of the barriers to face-to-face meetings that were experienced by our youth-mentor dyads. Similarly, school-based mentorship programs with a younger population of elementary school children have reported effectiveness in terms of reductions in peer victimization (Gregus et al., 2015). Taken together, our findings suggest that community mentorship can have a small, positive benefit for youth at risk for negative outcomes due to peer social problems, as a selective prevention strategy, with the potential to favorably alter their developmental trajectories.

Contrary to our hypotheses, LC had no effects on suicidal ideation or the likelihood of suicidal behavior. Similar to the interim 6-month evaluation (King et al., 2018), LC was not found to impact suicidal ideation or behavior. However, this prior assessment took place early in the mentorship program, and it seemed likely that an extended period of mentorship may be needed to alter these outcomes. On a positive note, however, the youth in this sample reported relatively low levels of suicidal ideation at baseline and these levels were relatively unchanging across the 16-month study period. This may partially relate to the fact that youth who reported a history of suicidal behavior were excluded from the study. Further research is warranted in this area as major theories argue that connectedness is important to our understanding of suicide risk. Specifically, the interpersonal–psychological theory of suicide (Joiner, 2005) purports that thwarted belongingness and perceived burdensomeness

are key drivers of suicidal thoughts and desire, and Durkheim's social theory of suicide (1897) purports that social disconnectedness is a key risk factor for suicide.

Study results indicated a significant time interaction in the relationship between LC and self-esteem such that LC was associated with improvements in self-esteem at the 16-month but not the 6-month assessment. This finding highlights the importance of longitudinal data when evaluating mentorship-based interventions. Given that the relationship cultivated between youth and CMs takes time, effort, and the development of trust, greater time may be key to this beneficial outcome. Generally, research indicates that the duration of the mentorship relationship is positively related to desired outcomes (DuBois et al., 2011; Grossman et al., 2012). Interventions which have the potential of improving self-esteem among youth may be particularly important as self-esteem typically declines during adolescence (Robins et al., 2002), paralleling increases in depression (Rushton et al., 2002), and suicidal ideation during this time (Nock et al., 2008).

More than half of our study sample identified as African American; however, our statistical power may have been too limited to fully examine race as a moderator of LC effects. Despite prior research suggesting lower prevalence rates of suicidal thoughts and behaviors among African Americans adolescents (Nock et al., 2013), recent data suggest an exponential increase in suicide attempts and deaths from 2001 to 2017 among this population (Kann et al., 2018; Price & Khubchandani, 2019). Additional research is needed to examine connectedness, theoretically driven constructs such as thwarted belongingness and perceived burdensomeness, and prevention strategies aimed at increasing connectedness in this population.

We encountered numerous challenges to full implementation of LC and retention of participants in our study sample, who were recruited from an urban area with elevated rates of crime, poverty (median household income < $25,000 per year), and relatively frequent changes to cell phone numbers and contact information. Despite many strategies to engage and maintain engagement with youth and families (e.g., offering flexible meeting times and locations, sending birthday cards and other study greetings, working closely with community advisors) and community mentors (telephone support, mentor newsletters, optional mentor "mixers" for peer support), a number of youth assigned to the LC intervention did not receive mentorship. Approximately 40% of youth assigned to LC either had no contact with a community mentor (~25%) or did not have stable mentorship with one mentor during the 16-month project period (15%). Notably, in a previous study, youth with intact mentor matches for the duration of the mentorship period showed better outcomes as compared to youth who terminated mentorship early or were re-matched to a new mentor (Grossman et al., 2012). Had youth in our LC group received a full "dose" of the intervention, it is possible that additional benefits would have been noted. Although CM-youth dyads did engage in many social and community-based activities, which we considered to be one important aspect of LC implementation, we also theorized that the stability of CM-youth dyads and the regularity of CM-youth contacts would be important. Nevertheless, many of the CM-youth dyads in this study were not characterized by stability and many did not meet the intended amount of regular contact.

Further research into the resolution of implementation challenges, particularly concerning mentor retention and the stability of mentor-youth relationships, is recommended. This could involve an empirical examination of the key components to mentorship recruitment, culturally informed mentorship training, and retention strategies, as well as the importance of strategies to retain youth, especially those facing economic and related challenges. It could also entail an examination of the quality of mentor-youth relationships in relation to relationship stability and youth outcomes. One strategy that may warrant consideration for practice and further research is to engage mentors who have current relationships with youth, that is, adults selected from school, sports, work, or faith communities. This is consistent with youth-initiated mentoring (van Dam et al., 2020), a version of which was recently associated with a reduction in long-term self-injury mortality for youth at elevated risk for suicide (King et al., 2019). Regarding effectiveness, it is possible that the dosing of the intervention may have been insufficient to counteract the extent of adversity that youth in the sample were facing. A multi-component intervention that combines community mentorship with strategies that could mitigate the impact of some of the community-level barriers to stable mentorship relationships (e.g., poverty) may be necessary to achieve stronger positive effects.

There are several important limitations to the study. Our enrollment of youth from one city and region characterized by substantial social and economic disadvantage limits the generalizability of our findings. Although adequately powered to detect modest effect sizes for primary study outcomes, given the level of attrition, our study may have been underpowered to detect additional effects, including moderator effects. Similarly, although we had enough data with our sample size to detect even some-what “small” effect sizes (e.g., a minimum $d = 0.2$), we also acknowledge that the “practical effect” for specific outcomes may be even smaller yet meaningful. In addition, parents/guardians reported youths’ gender and they may have had limited insight into their children’s gender identity. It is also notable that study participants reported low and relatively unchanging levels of suicidal ideation at baseline and 16 months, precluding the possibility of a significant intervention effect. Finally, it is possible that the 16-month period was not sufficient to capture the longitudinal impact of this type of intervention.

In summary, the Let’s CONNECT community mentorship program was found to have small, positive effects for youth participants. It was associated with a decrease in self-reported depression and increases in social connectedness and self-esteem. Considered within the context of a transactional, developmental psychopathology model, the modest positive changes associated with LC may have the potential to meaningfully alter youth trajectories. Perhaps most importantly, LC demonstrated a potential preventative mechanism to reducing social isolation and improving self-esteem among youth facing social challenges with peers. Further research is recommended on the effectiveness of prevention strategies that focus on building community relationships to expand the safety net for troubled youth. Research on the possible moderating effects of mentor characteristics, such as age and gender, is also recommended.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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## Highlights

- LET's CONNECT (LC) is a community mentorship program for youth with peer social problems.
- We examined the effectiveness of LC in a randomized intervention trial.
- LC was associated with modest benefits, including improved social connectedness and self-esteem.
- LC may positively impact the developmental trajectories of youth with peer social problems.

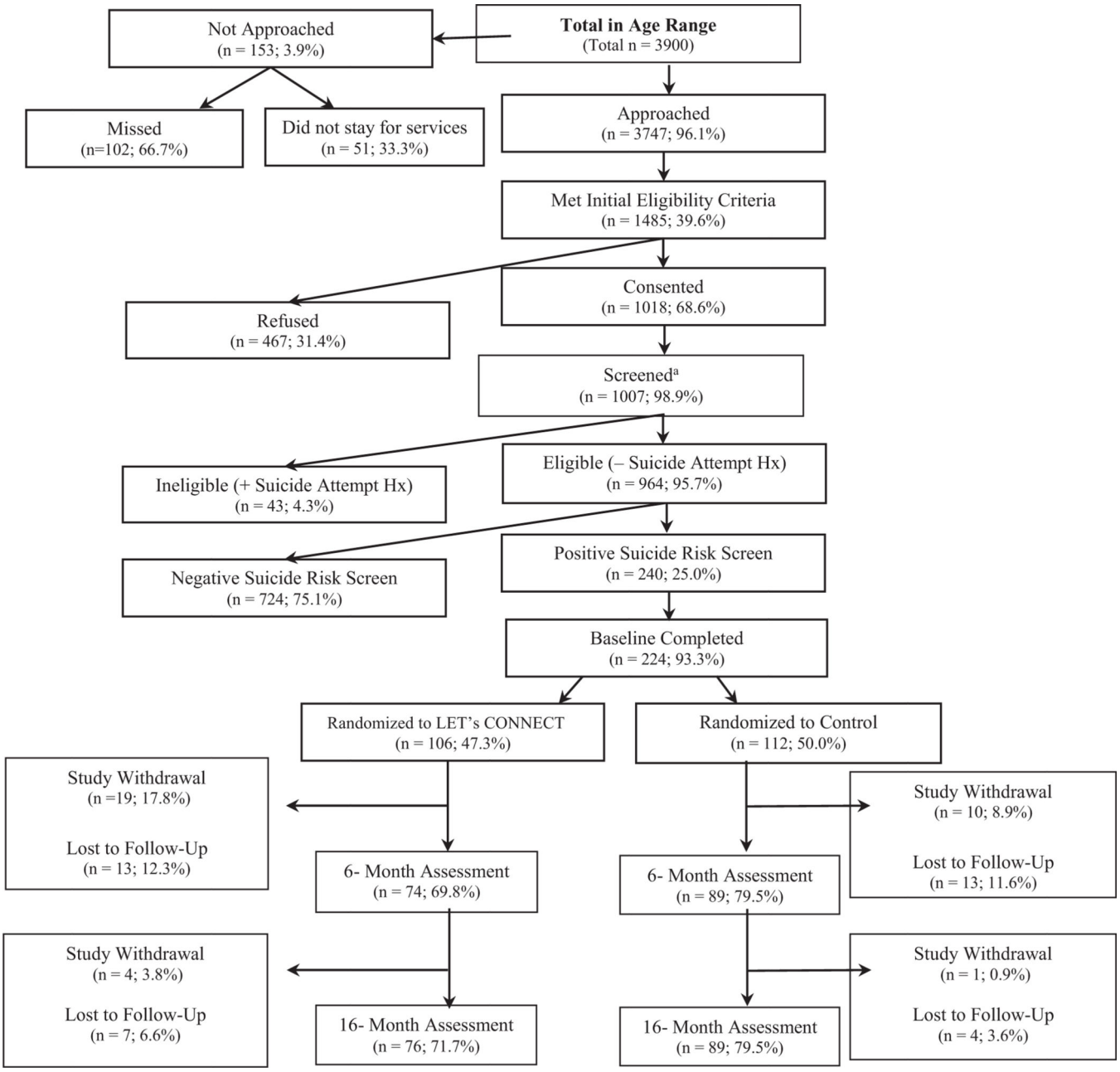


**Figure 1.**

LET's CONNECT randomized control trial participant enrollment flow diagram. *Note*. [a] Screened for peer victimization and perpetration, low connectedness.

**Table 1**

Connectedness and psychological functioning by intervention group across 16 months

| | LET's CONNECT | | | | Control | | | |
|---|---|---|---|---|---|---|---|---|
| | Baseline *M* (*SD*) | | 16-month *M* (*SD*) | | Baseline *M* (*SD*) | | 16-month *M* (*SD*) | |
| | Females (*n* = 69) | Males (*n* = 37) | Females (*n* = 53) | Males (*n* = 23) | Females (*n* = 76) | Males (*n* = 36) | Females (*n* = 64) | Males (*n* = 25) |
| Connectedness | | | | | | | | |
| Social connectedness | 54.88 (9.06) | 51.40 (9.54) | 39.03 (9.54) | 37.48 (10.15) | 54.69 (8.36) | 52.00 (9.41) | 43.76 (12.17) | 33.67 (10.62) |
| Community connectedness | 8.06 (2.61) | 8.08 (2.61) | 7.84 (2.93) | 9.13 (2.56) | 7.76 (2.58) | 8.61 (2.12) | 8.00 (2.95) | 8.68 (2.51) |
| Thwarted belongingness | 23.52 (9.70) | 20.95 (9.13) | 15.18 (9.58) | 15.04 (9.11) | 23.95 (11.33) | 21.97 (9.55) | 19.73 (12.19) | 10.84 (8.32) |
| Psychological functioning | | | | | | | | |
| Depression | 23.21 (6.50) | 18.68 (6.21) | 20.68 (6.41) | 17.95 (6.89) | 24.26 (6.72) | 19.72 (6.24) | 23.12 (7.80) | 16.64 (4.86) |
| Self-esteem | 16.66 (6.31) | 20.83 (5.09) | 21.00 (5.63) | 20.95 (5.24) | 18.59 (6.08) | 21.72 (6.00) | 18.93 (7.91) | 24.16 (4.90) |
| Suicidal ideation | 13.52 (15.11) | 5.00 (6.43) | 9.64 (11.60) | 9.85 (17.87) | 13.07 (16.12) | 6.77 (8.94) | 12.61 (18.73) | 4.56 (6.55) |

*Note*: *M* = mean, *SD* = standard deviation. Social Connectedness measured by UCLA Loneliness Scale, Community Connectedness by Community Connectedness Scale, Thwarted Belongingness by a subscale of Interpersonal Needs Questionnaire, Depression by Reynolds Adolescent Depression Scale, Self-Esteem by Rosenberg Self-Esteem Scale and Suicidal Ideation by Suicidal Ideation Questionnaire-Junior. Higher scores indicate higher levels of each variable, except for the Social Connectedness variable where higher scores indicate lower social connectedness.

**Table 2**

Correlations between baseline and 16-month levels of connectedness, peer victimization, self-esteem, depression, and suicidal ideation for the total sample

| | 16-month | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| Baseline | | | | | | | | |
| 1. Peer victimization | 0.31* | 0.19* | 0.12 | −0.03 | 0.13 | −0.14 | 0.14 | 0.20* |
| 2. Bully perpetration | 0.06 | 0.28* | 0.03 | 0.02 | −0.06 | −0.01 | 0.05 | 0.10 |
| 3. Social connectedness | 0.02 | 0.08 | 0.37* | −0.13 | 0.35* | −0.24* | 0.28* | 0.18* |
| 4. Community connectedness | 0.01 | 0.04 | −0.22* | 0.32* | −0.26* | 0.17* | −0.12 | −0.02 |
| 5. Thwarted belongingness | 0.09 | 0.06 | 0.37* | −0.29* | 0.39* | −0.30* | 0.24* | 0.21* |
| 6. Self-esteem | −0.10 | −0.06 | −0.25* | 0.18* | −0.36* | 0.40* | −0.30* | −0.25* |
| 7. Depression | 0.25* | 0.26* | 0.33* | −0.13 | 0.33* | −0.39* | 0.50* | 0.34* |
| 8. Suicidal ideation | 0.07 | 0.20* | 0.17* | −0.07 | 0.21* | −0.20* | 0.22* | 0.36* |

Note:

* $p < .05$.

## Table 3

Regression model results regarding Let's CONNECT intervention effects on connectedness

| | Estimate | SE | 95% CI | p(\|β\| > 0) |
|---|---|---|---|---|
| Social connectedness | | | | |
| Intercept | 50.39 | 1.25 | 47.99, 52.89 | 1.00* |
| Baseline | 7.39 | 1.30 | 4.96, 10.00 | 1.00* |
| Intervention | −2.82 | 1.27 | −5.40, −0.40 | 0.99* |
| Male | −3.55 | 1.35 | −6.10, −0.82 | 0.99* |
| Race-White | 0.02 | 1.45 | −2.79, 2.82 | 0.50 |
| Race-other | −2.88 | 1.94 | −6.68, 0.89 | 0.92 |
| Time point | −7.33 | 0.82 | −8.82, −5.71 | 1.00* |
| Peer victimization | 5.57 | 1.12 | 3.43, 7.74 | 1.00* |
| Bullying perpetration | 0.07 | 1.11 | −2.13, 2.23 | 0.53 |
| Community connectedness | | | | |
| Intercept | 7.60 | 0.30 | 7.00, 8.17 | 1.00* |
| Baseline | 2.22 | 0.32 | 1.57, 2.81 | 1.00* |
| Intervention | 0.21 | 0.31 | −0.39, 0.83 | 0.75 |
| Male | 0.56 | 0.34 | −0.12, 1.23 | 0.95* |
| Race-White | 0.39 | 0.35 | −0.28, 1.10 | 0.87 |
| Race-other | 0.24 | 0.49 | −0.71, 1.20 | 0.69 |
| Time point | 0.12 | 0.26 | −0.40, 0.61 | 0.70 |
| Peer victimization | −0.18 | 0.33 | −0.84, 0.49 | 0.71 |
| Bullying perpetration | −0.41 | 0.33 | −0.99, 0.23 | 0.88 |
| Thwarted belongingness | | | | |
| Intercept | 23.81 | 1.12 | 21.53, 25.90 | 1.00* |
| Baseline | 9.60 | 1.20 | 7.04, 11.88 | 1.00* |
| Intervention | −1.80 | 1.17 | −4.10, 0.52 | 0.93 |
| Male | −2.82 | 1.25 | −5.43, −0.29 | 0.99* |
| Race-White | −0.79 | 1.34 | −3.42, 1.74 | 0.72 |
| Race-other | −1.11 | 1.78 | −4.51, 2.35 | 0.71 |
| Time point | −5.16 | 0.84 | −6.72, −3.58 | 1.00* |
| Peer victimization | 4.28 | 1.20 | 1.88, 6.69 | 1.00* |
| Bullying perpetration | 0.21 | 1.14 | −2.04, 2.36 | 0.59 |

*Note*: SE = standard error, CI = credible interval, $p$ = the one-sided probability that the positive (negative) coefficient is greater (less) than 0. Asterisks denote when this is greater than or equal to 0.95. Race-Black (53.7%), Race-White (31.7%), Race-Other (13.8%). Race-Black was used as the reference category. Social Connectedness measured by UCLA Loneliness Scale, Community Connectedness by Community Connectedness Scale, Thwarted Belongingness by a subscale of the Interpersonal Needs Questionnaire. Higher scores indicate higher levels of each variable, except for the Social Connectedness variable where higher scores indicate lower social connectedness.

## Table 4

Regression model results regarding Let's CONNECT intervention effects on psychological functioning

| | Estimate | SE | 95% CI | p(\|β\| > 0) |
|---|---|---|---|---|
| Depression | | | | |
| Intercept | 22.26 | 0.68 | 20.93, 23.56 | 1.00* |
| Baseline | 5.70 | 0.80 | 4.23, 7.29 | 1.00* |
| Intervention | −1.23 | 0.72 | −2.60, 0.15 | 0.96* |
| Male | −2.21 | 0.84 | −3.98, −0.57 | 1.00* |
| Race-White | 0.21 | 0.81 | −1.34, 1.78 | 0.60 |
| Race-other | −1.04 | 1.07 | −3.13, 1.15 | 0.85 |
| Time point | −0.10 | 0.46 | −0.97, 0.84 | 0.58 |
| Peer victimization | 2.96 | 0.67 | 1.63, 4.25 | 1.00* |
| Bullying perpetration | 1.06 | 0.65 | −0.16, 2.35 | 0.96* |
| Self-Esteem | | | | |
| Intercept | 19.78 | 0.70 | 18.49, 21.13 | 1.00* |
| Baseline | 5.13 | 0.81 | 3.50, 6.74 | 1.00* |
| Intervention | 0.01 | 0.88 | −1.70, 1.73 | 0.48 |
| Male | 1.11 | 0.84 | −0.53, 2.74 | 0.90 |
| Race-White | −0.53 | 0.86 | −2.21, 1.09 | 0.73 |
| Race-other | 0.68 | 1.14 | −1.49, 2.97 | 0.72 |
| Time point | −0.15 | 0.55 | −1.28, 0.98 | 0.61 |
| Peer victimization | −2.72 | 0.67 | −4.10, −1.39 | 1.00* |
| Bullying perpetration | −0.16 | 0.65 | −1.50, 1.03 | 0.57 |
| Intervention* Time Point | 1.41 | 0.83 | −0.13, 3.06 | 0.96* |
| Suicidal ideation | | | | |
| Intercept | 9.97 | 1.51 | 6.96, 12.76 | 1.00* |
| Baseline | 8.89 | 1.54 | 5.69, 11.62 | 1.00* |
| Intervention | 0.08 | 1.57 | −2.74, 3.32 | 0.52 |
| Male | −3.05 | 1.74 | −6.34, 0.25 | 0.96* |
| Race-White | 1.80 | 1.77 | −1.67, 5.08 | 0.84 |
| Race-other | −4.15 | 2.25 | −8.49, 0.35 | 0.96* |
| Time point | 1.81 | 1.01 | −0.10, 3.84 | 0.97* |
| Peer victimization | 6.66 | 1.38 | 3.98, 9.22 | 1.00* |
| Bullying perpetration | 6.45 | 1.40 | 3.79, 9.21 | 1.00* |

*Note*: SE = standard error, CI = credible interval, $p$ = the one-sided probability that the positive (negative) coefficient is greater (less) than 0. Asterisks denote when this is greater than or equal to 0.95. Race-Black (53.7%), Race-White (31.7%), Race-Other (13.8%). Race-Black was used as the reference category. Depression measured by Reynolds Adolescent Depression Scale, Self-Esteem by Rosenberg Self-Esteem Scale and Suicidal Ideation by Suicidal Ideation Questionnaire-Junior. Higher scores on all measures indicate higher levels of each variable.