

Open Trial of a Brief, Web-Assisted **Behavioral** Intervention to Reduce Thwarted Belongingness and Suicidal ideation among Adolescents: The Supporting Grieving Teens Intervention

Ryan M. Hill, PhD<sup>1</sup>, Benjamin Oosterhoff, PhD<sup>2</sup>, Cheryl A. King, PhD, ABPP<sup>3</sup>, & Julie B. Kaplow, PhD, ABPP<sup>4</sup>

<sup>1</sup> Department of Psychology, The University of Texas at San Antonio, San Antonio, TX

<sup>2</sup> Department of Psychology, Montana State University, Bozeman, MT

<sup>3</sup> Departments of Psychiatry and Psychology, The University of Michigan, Ann Arbor, MI

<sup>4</sup> The Trauma and Grief Center at The Hackett Center for Mental Health, Houston, TX

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Please Direct Correspondence To: Ryan M. Hill, PhD, 1 UTSA Circle, DM 2.416, San Antonio, TX 78249; ryan.hill@utsa.edu

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### Abstract

**Background.** Bereavement during childhood is associated with elevated rates of suicide-related behaviors among youth. However, no interventions explicitly address suicidal ideation among bereaved youth. The Supporting Grieving Teens program was created as a preventive intervention to reduce suicide risk among bereaved youth. **Methods.** This preliminary open trial evaluated the feasibility, acceptability, and preliminary outcomes of the Supporting Grieving Teens intervention among a sample of bereaved adolescents. Participants were 32 adolescents, 12-17 years of age ( $M = 14.44$ ,  $SD = 1.56$ ; 87.5% female, 31.3% Hispanic, 31.3% African American/Black, 25.0% non-Hispanic White), seeking bereavement-related services at a trauma and grief specialty outpatient clinic. Participants completed a two-session web-assisted intervention prior to enrolling in standard outpatient therapy. **Results.** There was a high rate of completion of the intervention, with 93.8% of those who provided assent completing both intervention sessions. Youth reported high levels of satisfaction with the intervention. Preliminary evaluation of outcomes demonstrated that the intervention was associated with small but significant overall reductions in thwarted belongingness and suicide ideation over the course of treatment and follow-up. However, reliable change indices indicated reliable improvements for only a subset of participants. **Limitations.** This study utilized an open trial design without a control group and so causality cannot be inferred. Additional limitations include the small sample size and limited variability in suicidal ideation in the sample. **Conclusions.** The intervention shows promise as a brief, web-assisted psychosocial intervention for activating youths' existing social support networks. Further research is needed to more rigorously evaluate the intervention.

**Key Words:** suicidal ideation; adolescents; bereavement; prevention

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**Intervention**

**Introduction**

Suicide is the 2<sup>nd</sup> leading cause of death among adolescents and young adults ages 10-34 in the United States (Centers for Disease Control and Prevention, 2020a). Data from the 2019 Youth Risk Behavior Surveillance Survey indicate that 18.8% of adolescents report having seriously considered suicide within the previous 12 months (Centers for Disease Control and Prevention, 2020b). Moreover, research indicates that children, adolescents, and young adults experiencing bereavement and maladaptive grief reactions have higher than average rates of suicidal ideation (Melhem et al., 2007; Prigerson et al., 1999; Weller et al., 1991). Large nationally representative and epidemiological studies have identified links between the death of a parent during childhood and suicide attempts over the following year (Thompson & Light, 2011), as well as later in life (Wilcox et al., 2010), and rates of suicide at a 25-year follow-up (Guldin et al., 2015).

Bereavement (i.e., experiencing the death of someone you are close to) is the most *common* and most *distressing* form of trauma among clinic-referred and non-referred youth (Kaplow et al., 2010; Pynoos et al., 2014). Prolonged Grief Disorder was recently added to both the International Classification of Diseases – 11<sup>th</sup> Revision and Diagnostic and Statistical Manual of Mental Disorders, fifth edition, text revision (American Psychiatric Association, 2022; World Health Organization, 2019) and has received considerable empirical attention (e.g., Prigerson et

al., 2021; Zhang et al., 2006). The prevalence of childhood bereavement and the associated increased risk for suicide-related behavior is a serious public health issue. Despite the fact that research on childhood bereavement has increased over the past 20 years and a small number of interventions that address childhood grief reactions have been developed (e.g., Trauma-Focused Cognitive Behavioral Therapy for Childhood Traumatic Grief; Cohen et al., 2017; Trauma and Grief Component Therapy; Saltzman et al., 2017; Multidimensional Grief Therapy; Kaplow et al., in press), no interventions to date have explicitly addressed suicidal ideation among bereaved youth. In an effort to address this gap, the Supporting Grieving Teens program was created as a preventive intervention to reduce suicide risk among bereaved youth.

### **Bereavement as an Interpersonal Phenomenon**

The interpersonal-psychological theory of suicide (IPTS) provides an interpersonal framework for understanding suicide risk (Joiner, 2005; Van Orden et al., 2010). The IPTS proposes that suicidal ideation results from two factors: a sense of perceived burdensomeness and thwarted belongingness. Perceived burdensomeness is the subjective perception that one's life is a drain on the resources of others or that others would in some way benefit from one's death (e.g., "My parents/family would be better off without me"). Thwarted belongingness is the perception that one's need to belong has gone unfulfilled, despite attempts to connect to others (e.g., "There is nobody I can turn to" or "No one understands me"). Both perceived burdensomeness and thwarted belongingness are perceptions of current life states and may be amenable to change via intervention (Joiner, 2005; Van Orden et al., 2010). The interpersonal-psychological theory has accrued substantial support in recent years across a range of samples and settings, including adolescents, young adults, and adults in inpatient and outpatient settings and among both military personnel and community samples (e.g., Chu et al., 2017; Hill & Pettit,

2014; Ma et al., 2016; Stewart et al., 2017).

Initial evidence provides partial support for the validity of the IPTS among bereaved youth (Hill et al., 2019; Roley-Roberts et al., 2019). In an examination of the interpersonal theory among a sample of bereaved youth, maladaptive grief symptoms were significantly associated with suicidal ideation indirectly, via thwarted belongingness, but not via perceived burdensomeness (Hill et al., 2019). Specificity in these associations may be due to the multidimensional nature of grief. According to Multidimensional Grief Theory (Kaplow et al., 2013; Layne et al., 2017), youth who have lost a loved one frequently experience *separation distress*, which may manifest as intense longing for the person who died and feeling all alone without their loved one, *existential/identity distress*, which often manifests as an overwhelming sense that they now have to face life on their own, and *circumstance-related distress*, which manifests as preoccupying thoughts or concerns about the way the person died. The specific challenges and perceptions associated with both separation distress and existential distress are conceptually consistent with thwarted belongingness. Thus, reducing thwarted belongingness among bereaved youth may serve to reduce or prevent suicidal ideation among this population.

### **Development of the Supporting Grieving Teens Intervention**

The Supporting Grieving Teens (SGT) intervention was developed to reduce suicidal ideation among bereaved youth via targeted reductions in thwarted belongingness. SGT is a brief, web-based intervention for bereaved adolescents experiencing elevated thwarted belongingness. SGT was developed in a manner parallel to the LEAP intervention (Hill & Pettit, 2019) and takes a behavioral approach, incorporating social support building activities and scheduling pleasant interpersonal activities (with the intention of increasing connectedness with others). The brief, directed nature of SGT was intended to enable flexible implementation as

either an adjunct to outpatient psychotherapy or a stand-alone intervention in school-based or community grief support settings.

### **The Present Study**

This study evaluated the feasibility, acceptability, and preliminary outcomes of the SGT intervention with bereaved adolescents, as an adjunctive intervention provided within a hospital-based trauma and grief focused outpatient clinic. With regard to acceptability and feasibility, we hypothesized that adolescents would complete both treatment sessions (H1a), at least one of their scheduled activities (H1b), and rate the intervention as helpful/satisfactory (H2). With respect to outcomes, we hypothesized that participation in SGT would be associated with decreases in thwarted belongingness (H3a) and suicidal ideation (H3b) at post-treatment and follow-up assessments. We also explored potential impacts on adolescents' perceived burdensomeness and depressive symptoms.

### **Materials & Methods**

#### **Participants**

Participants were 32 adolescents, 12 to 17 years of age, and their parents/guardians seeking bereavement-related services at a trauma and grief specialty outpatient clinic, located within a large urban area in the United States, from February 2019 through July 2020. Inclusion criteria were (1) 12-17 years of age, (2) endorsement of bereavement (i.e., death of a loved one); and (3) a thwarted belongingness score  $\geq 21$  on the Interpersonal Needs Questionnaire (Van Orden et al., 2012). Figure 1 presents a CONSORT-style participant flow diagram. Participants' mean age was 14.44 years ( $SD = 1.56$ ). They self-identified as female (87.5%,  $n = 28$ ), male (9.4%,  $n = 3$ ), and transgender/do not identify as male or female (3.1%,  $n = 1$ ). When asked about their sexual orientation, participants identified as heterosexual/straight (56.3%,  $n = 18$ ),

bisexual (25.0%, n = 8), gay/lesbian (3.1%, n = 1), “not sure” (12.5%, n = 4), and one participant declined to provide their sexual orientation. The ethno-racial distribution of the sample approximated that of the clinic’s geographic catchment area and was as follows: Hispanic (31.3%, n = 10), non-Hispanic African American or Black (31.3%, n = 10), non-Hispanic White (25.0%, n = 8), and mixed/biracial/other (12.5%, n = 4).

Table 1 presents means and standard deviations of clinical variables at each time point. On average, youth presented 33.44 months (*SD* 31.88, range 1-144 months) after the focal death (i.e., the death that adolescents selected as most difficulty for them to manage at the time of the initial assessment). The majority identified the death of a grandparent as the focal death (n = 17, 53.1%), followed by the death of a parent (n = 5, 15.6%), aunt/uncle (n = 4, 12.5%), close friend (n = 4, 12.5%), sibling (n = 1, 3.1%) or cousin (n = 1, 3.1%). Of note, for several of the youth who identified a grandparent as the focal death, this person was also a primary caregiver. The most common cause of death was an illness, such as heart attack, stroke, or cancer (n=18, 56.3%); accident such as a car accident, drowning, or fire (n = 5, 15.6%); homicide (n = 4, 12.5%), suicide (n = 3, 9.4%); and other (n = 2, 6.2%).

### **Procedure**

Ethical approval was obtained prior to the start of the study. Participants were drawn from n = 229 consecutive assessments completed by the clinic. Parents/guardians seeking psychological services for their children first contacted the clinic. They were then provided with a brief description of the clinic and services available and, if deemed appropriate, were scheduled for an initial assessment (T1). Due to the onset of the COVID-19 pandemic and hospital infection control guidelines, all assessments and treatment sessions were completed either in private clinic rooms (n=26, pre-COVID-19) or via telehealth (n=6, after the onset of COVID-

19). The T1 assessment consisted of the primary study outcome measures (as described below), as well as a parent psychosocial interview.

Following the T1 assessment, the parent/guardian and youth participated together in a feedback session focused on assessment results and clinical recommendations. Youth who met inclusion criteria for SGT were approached for participation by their clinician. Parent/guardian written consent and adolescent written assent were obtained. The clinical team were trained in the delivery of SGT by one of the treatment developers (RH). The clinical team included clinical psychologists, social workers, and supervised advanced clinical psychology interns and postdoctoral fellows. Fidelity was monitored via the Qualtrics system, which was used to confirm that all session elements were displayed to participants, and via discussion with the clinical team. Per the intervention metadata, all participants viewed all treatment elements. One week after completing both SGT sessions, participants completed a post-treatment assessment (n=30, 93.8%). Follow-up assessments were completed two weeks (n=28, 87.5%) and four weeks (n=26, 81.3%) after the post-treatment assessment. Modest remuneration (\$15) was provided to youth for completing each assessment; no incentives were provided for attending treatment sessions. Due to the single-group open trial design, participants, clinical team members, and the research coordinator/follow-up assessor were not blind to study condition.

### **Supporting Grieving Teens Intervention**

SGT consists of two sessions, requiring approximately 30-40 minutes each. The intervention is administered via a web-based platform, in which a series of animated videos introduce the session content and text-based prompts allow youth to provide personalized responses. A clinical team member should remain present throughout the session to provide guidance and support as needed. Each session of SGT consists of two behavioral components.



First, adolescents identify a type of social support they want or need and develop a plan to seek support from an appropriate person. Second, adolescents identify ways to maintain and strengthen existing relationships.

**Identifying New Sources of Support.** The first intervention session begins with a brief introduction and overview, then shifts to a focus on identifying and addressing social support needs (e.g., someone to offer advice, someone to listen, someone to help me have fun). A video introduction introduces the concept of the many types of social support, and adolescents are asked to identify the supportive people in their lives and the types of support they provide. This activity is intended (a) to identify existing supports and (b) to select an area where the adolescent could benefit from additional support. Clinical team members can assist by helping adolescent identify supportive people in their lives and how those individuals support them. Adolescents next identify an area in which they would benefit from additional support. Again, counselors may assist adolescents with identifying a person who can provide that type of support. This target person may be an adult or a peer, but should be a ‘safe’ person, someone with whom the adolescent feels comfortable with and who does not pose a perceived or actual threat. A video guides the adolescents through planning how to ask for support and asks adolescents to script how they would solicit support when needed. Youth learn to start the conversation by asking the person if they have time to talk. Next, they learn to express their need for support using “I” language (e.g., “I feel like what I really need right now is someone to talk to”). Finally, they learn how to ask for what they need by being specific and direct (e.g., “Can we just talk? I just need someone to listen.”). Finally, youth are asked to identify a place and time to initiate their planned conversation and to select a method of reminding themselves of the plan (e.g., placing a reminder on a phone, writing in a planner, etc.).

**Strengthening Current Relationships.** The first session then moves to focusing on strengthening the adolescent's current relationships. Following a video that introduces the idea that relationships require time, energy, and effort to remain healthy and fulfilling, youth are asked to identify a person with whom they would like to strengthen their existing relationship. Next, they brainstorm activities that will provide positive experiences with this person and select an activity to complete. For example, youth might ask the person to do something together or do something nice for that person. Counselors can assist by helping adolescents identify suitable activities that can be easily completed within the coming week.

**Two Session Approach.** A second session of the intervention is administered 1 week after the first. The second session consists of the same elements in session one, with the primary goal to reinforce the skills adolescents learned and to foster the development of positive interpersonal habits. Youth may use the second session to continue building the same relationships identified in the first session or youth can select new target individuals to expand their available sources of support. For adolescents who did not follow through with their planned activities, the second session provides another opportunity to ask for the support and build stronger relationships. The counselor can assist by helping youth identify obstacles to completing activities and planning to address those obstacles.

## Measures

**Thwarted belongingness and perceived burdensomeness.** The Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012) is a 15-item self-report measure of perceived burdensomeness (6 items) and thwarted belongingness (9 items).

Participants rate the extent to which each item describes how they have felt recently, using a 7-point Likert scale from 1 (*not at all true*) to 7 (*very true*). Sum scores for each subscale were

calculated with higher values indicating greater perceived burdensomeness or thwarted belongingness. Prior research has supported the factor structure, internal consistency, and convergent validity of the subscales in adolescents (Hill et al., 2015; Van Orden et al., 2012). Internal consistency coefficients in the present sample were  $\alpha = .74-.93$  for thwarted belongingness and  $\alpha = .77-.91$  for perceived burdensomeness.

**Suicidal ideation.** The 15-item self-reported Suicidal Ideation Questionnaire – Junior (SIQ-JR; Reynolds, 1988) assesses a wide range of suicidal thoughts on a 7-point frequency scale ranging from 0 (*I never had this thought*) to 6 (*Almost every day*). The SIQ-JR has excellent test-retest reliability (Reynolds, 1988) and criterion-related validity (Reynolds & Mazza, 1999). Sum scores were calculated with higher values representing greater suicidal ideation. While total scores can range from 0-90, a score of  $\geq 31$  has been suggested as indicative of a significant level of suicidal ideation (Reynolds, 1988). Internal consistency coefficients in the present sample were  $\alpha = .93-.94$  for the SIQ-JR.

**Depressive symptoms.** The 13-item self-reported Short Mood and Feelings Questionnaire (SMFQ; Angold, Costello, Messer, & Pickles, 1995) was used to assess child depressive symptoms. Frequency of symptoms experienced during the last two weeks is rated on a 3-point scale (0 = *not true*, 1 = *sometimes true*, 2 = *true*). Responses are summed to create a total score (range = 0-26). A score of 8 or higher is an indicator of clinically significant symptoms (Thapar & McGuffin, 1998). Internal consistency coefficients in the present sample were  $\alpha = .73-.90$  for the SMFQ.

**Satisfaction with Services Scale.** Adolescents completed the Satisfaction with Services Scale (SSS; Bickman et al., 2010) to assess satisfaction with the intervention at both post-treatment and follow-up. The SSS is a four-item self-report scale evaluating adolescent

satisfaction with an intervention. Items are rated on a 4-point scale ranging from “no, definitely not” (1), to “yes, definitely” (4), with total scores ranging from 4 to 16. The SSS has demonstrated good internal consistency and convergent validity (Athay & Bickman, 2012).

### **Analytic Technique**

Repeated measures ANOVAs were estimated to examine mean differences in suicidal ideation, thwarted belongingness, perceived burdensomeness, and depressive symptoms at pre-treatment, post-treatment, 2-weeks after treatment, and 4-weeks after treatment. Post-hoc analyses for significant models were conducted using Holm-corrected student’s t-test. Models were estimated using the ‘ggstatsplot’ package in R (Patil, 2018). Multivariate statistical outliers were evaluated using the leverage index decision rule (if leverage index  $\geq 4x$  the mean leverage, then classify as a statistical outlier; Tabachnick & Fidell, 2013), which resulted in no multivariate outliers. As in other open trial studies (e.g., Hill, Oosterhoff et al., 2019), Reliable Change Index (RCI) values were calculated to complement these group-level analyses (Jacobson & Truax, 1991; Tingey et al. 1996). The RCI is an analytic tool that classifies individual cases into three mutually exclusive groups comprised of (a) reliable improvers, (b) reliable deteriorators, or (c) treatment non-responders. Reliable improvers and deteriorators are indicated by difference scores on the outcome measure  $> \pm 1.96\sqrt{2(SE)^2}$  and treatment non-responders are indicated by difference scores  $\leq |1.96\sqrt{2(SE)^2}|$ . RCIs compared pre-treatment to the 4-week follow-up and were estimated using the ‘ClinicalSig’ package in R. Cronbach’s alpha was used as the reliability estimate in the RCIs (Lambert & Ogles, 2009) taken from past research (Hill, Kaplow et al., 2019; Hill, Oosterhoff, et al., 2019; Reynolds & Mazza 1998). Missing data due to attrition was minimal ( $n = 4$  to  $5$  across outcomes) and was estimated using multiple imputation ( $k = 30$  datasets) and the ‘mice’ package (van Buuren & Groothuis-Oudshoorn, 2001).

## Results

### Acceptability & Feasibility

All participants completed both intervention sessions and 81.3% ( $n = 26$ ) reported completing at least one of their scheduled homework activities. Each session requested that participants schedule two homework activities (identifying a source of social support and strengthening an existing relationship through activity scheduling) for a total of four possible activities. Additionally, 6.3% ( $n = 2$ ) did not complete any activities and 9.4% ( $n = 3$ ) did not complete the feedback form, so activity completion data is not available. With regard to participant satisfaction, scores  $\geq 10$  (possible range 4-16) indicate overall satisfaction with the intervention. Mean satisfaction scores were 14.24 ( $SD$  1.86), 14.65 ( $SD$  2.08), and 14.19 ( $SD$  1.98), at post-treatment, 2-week follow-up, and 4-week follow-up, respectively.

### Participant Outcomes

**Group Mean Outcomes.** Four repeated-measures ANOVAs were used to examine group-mean differences in thwarted belongingness and suicidal ideation (primary outcomes), as well as perceived burdensomeness and depressive symptoms (secondary outcomes). Figure 2 presents box plots, distributions, and estimates for each model.

The model examining mean differences in thwarted belongingness was significant,  $F(2.75, 85.22) = 8.35, p < .001, \eta^2 = .21$ . Compared to pre-treatment ( $M = 32.75$ ), pairwise comparisons indicate that thwarted belongingness was lower at the 2-week ( $M = 25.47$ ) and 4-week ( $M = 25.44$ ) follow-up. There was a significant overall effect for suicidal ideation,  $F(2.70, 83.57) = 3.18, p = .03, \eta^2 = .09$ . However, there were no significant pairwise comparisons after applying the Holms correction.

For perceived burdensomeness, there was a significant overall effect,  $F(1.89, 58.62) =$

7.12,  $p = .002$ ,  $\eta^2 = .19$ . Pairwise comparisons indicated that perceived burdensomeness was lower at the 2-week follow-up ( $M = 10.78$ ) and 4-week follow-up ( $M = 10.06$ ) relative to pre-treatment ( $M = 14.34$ ) and post-treatment ( $M = 13.16$ ). The model examining mean differences in depressive symptoms was also significant,  $F(2.62, 81.09) = 12.84$ ,  $p < .001$ ,  $\eta^2 = .29$ .

Compared to pre-treatment ( $M = 13.19$ ), pairwise comparisons indicate that depressive symptoms were lower at the 2-week follow-up ( $M = 10.74$ ) and 4-week follow-up ( $M = 6.66$ ). Additionally, compared to post-treatment ( $M = 10.74$ ), depressive symptoms were lower at the 4-week follow-up.

**Individual Case Outcomes.** RCIs were estimated to examine individual-level reliable change in treatment outcomes from pre-treatment to 4-weeks post-treatment. Figure 3 displays the frequencies of reliable deteriorators, treatment non-responders, and reliable improvers by treatment outcome. Assuming an  $r_{\text{test-retest}} = .91$  and  $\sigma = 13.09$  based on past research (Reynolds & Mazza 1998), RCIs identified 1 reliable deteriorator, 17 treatment non-responders, and 8 reliable improvers for suicidal ideation. Regarding perceived burdensomeness and assuming an  $r_{\text{test-retest}} = .90$  and  $\sigma = 10.29$  based on past research (Hill, Oosterhoff et al., 2019), RCIs identified one reliable deteriorator, 21 treatment non-responders, and 4 reliable improvers. For thwarted belongingness and assuming an  $r_{\text{test-retest}} = .80$  and  $\sigma = 11.28$  based on past research (Hill, Oosterhoff et al., 2019), RCIs identified no reliable deteriorators, 18 treatment non-responders, and 8 reliable improvers. For depressive symptoms and assuming an  $r_{\text{test-retest}} = .91$  and  $\sigma = 6.29$  based on past research (Hill, Oosterhoff et al., 2019), RCIs identified one reliable deteriorator, 5 treatment non-responders, and 19 reliable improvers.

## Discussion

The SGT intervention was developed with the intent of reducing suicide risk among

bereaved youth by targeting reductions in thwarted belongingness as the primary intervention mechanism. SGT is a brief (2-session) web-assisted psychosocial intervention focused on activating and enhancing youths' social support networks. In this preliminary open trial, completion of SGT was high, the intervention was rated as acceptable, and preliminary outcomes were promising.

With regard to acceptability and feasibility, we hypothesized that adolescents would complete both treatment sessions (H1a), at least one of their scheduled activities (H1b), and rate the intervention as helpful/satisfactory (H2). All participants who began the intervention completed both treatment sessions and the majority completed at least one intervention activity. Youth were generally satisfied with the intervention. Providers reported, informally, that the sessions fit well within the confines of a 45-minute outpatient office visit. While only reported informally, having SGT sessions fit within standard 45-minute treatment sessions is critical for its use as an adjunctive treatment. Additionally, the short session length and use of only two sessions may make SGT suitable for use in additional contexts, such as school counseling sessions or by social workers and health care settings, though evaluation of SGT in these settings is needed. Fidelity checks indicated that sessions included all of the intervention elements. Taken together, this indicates that SGT was acceptable to youth and that SGT could be administered within a standard outpatient clinic setting. This is an important first step in developing the intervention.

With respect to preliminary evaluation of outcomes, we hypothesized that participation in SGT would be associated with decreases in thwarted belongingness (H3a) and suicidal ideation (H3b) at post-treatment and follow-up assessments. Results indicated that thwarted belongingness was reduced at 2-week and 4-week follow-ups, as compared with pre-treatment.

However, significant reductions were not reported at post-treatment. Results also indicated a significant overall reduction in suicidal ideation among participants. As displayed in Figure 2, suicidal ideation showed a small and gradual decline from pre-treatment to 4-week follow-up. One interpretation of this finding is that the active elements of the intervention are likely to be the completion of social support seeking activities and relationship building activities, rather than participation in the sessions, per se. If the intervention activities successfully activate existing social supports and/or build new supportive relationships, youths' sense of belonging would likely improve gradually over time.

Of note, however, RCI's indicated that only a minority of participants demonstrated reliable improvements on perceived burdensomeness, thwarted belongingness, and suicidal ideation. Future research will need to consider moderators of treatment efficacy to determine for whom SGT is most efficacious. As such, preliminary data on the efficacy of SGT, requires substantial further investigation. Taken together, the SGT intervention appears to be a promising brief intervention in need of additional empirical investigation. The intervention is acceptable to youth. SGT is also brief and highly scalable, making it appropriate for use as an adjunctive treatment within standard outpatient clinic settings. Additional research is needed to evaluate SGT more thoroughly, including the addition of a control group, use of a randomized design, and an extended follow-up assessment interval.

### **Clinical and Theoretical Implications**

Prior studies have identified links between the death of a parent during childhood and increased risk for suicide attempts and suicide (Guldin et al., 2015; Thompson & Light, 2011; Wilcox et al., 2010). As such, reducing suicide ideation among bereaved youth is an important avenue for suicide prevention. In the present study, a substantial portion of treatment-seeking



bereaved adolescents reported elevations in thwarted belongingness, highlighting the interpersonal nature of bereavement.

Given that grief support programs are often provided outside of a traditional mental health setting (e.g., in schools or community centers) and by volunteers with limited training in mental health, SGT was designed for possible administration by supportive adults or paraprofessionals, following brief training in the use of the program. The web-based platform was intended to support intervention fidelity by presenting the content in a standardized format, while also ensuring that a supportive adult is available to assist in addressing obstacles and to model a safe, supportive relationship. The use of only two sessions was similarly intended to support use across a range of settings, as an adjunctive intervention in outpatient mental and behavioral healthcare settings, as a brief intervention for use by school counselors, or in combination with grief support groups led by paraprofessionals or supportive adults. Future research should also evaluate whether SGT can be effectively administered by lay persons or paraprofessionals without licensed credentials. If effective when administered by trained lay persons outside of traditional healthcare settings, SGT may provide an additional opportunity to expand suicide prevention efforts in the community. Future studies should also consider implementing SGT as a single session intervention, which may further increase its utility in resource-limited environments, including schools, primary care clinics, and community-based bereavement groups.

### **Limitations and Future Directions**

The findings of this study should be considered within the context of certain limitations. First, this was an open trial without a control group and so causality cannot be inferred. Specifically, this study was unable to examine whether intervention effects may have resulted

from entering into outpatient therapy after competing SGT, non-specific effects of the therapeutic relationship, or may be a result of youth being particularly distressed when seeking services. Much of the reviewed literature focuses on parental death, though there was substantial variability in relationship to the deceased and time since the death in this study. This variability may have impacted findings in ways this study could not identify. Future work should consider either limiting enrollment to particular forms of bereavement (e.g., parental bereavement) or consider this as a moderator of treatment outcomes. Similarly, the cause of death varied widely and future research should consider cause of death (e.g., sudden vs. anticipated death, traumatic deaths) as a potential moderator of treatment efficacy. The sample size was limited, sessions were not recorded, limiting our ability to assess provider fidelity, and there was limited variability in suicidal ideation in the sample. While the findings of this study are promising, subsequent research should include an active placebo comparison group to control for these alternative sources of change.

In addition, the participants in this study were all treatment-seeking youth seen in a trauma and grief specialty outpatient clinic and are not representative of all bereaved youth. Future research should evaluate SGT in the context of grief support groups, schools, or other settings where grief-related services are provided. Additionally, prior research indicates gender differences in coping strategies, with girls scoring higher than boys on social support seeking (Eschenbeck et al., 2007). The sample for this study was too small to evaluate potential effects of gender, but future research should consider the possibility of differential effects for boys and girls. Of note, the intervention itself does not specifically address youth grief symptoms. The content is specifically focused on thwarted belongingness and, with minor modifications, could be used without reference to recent loss or bereavement. In that manner, SGT could be applied

outside the context of childhood bereavement, to assess whether this same approach improves thwarted belongingness and reduces suicidal ideation among non-bereaved youth.

### **Conclusions**

The SGT intervention was developed to reduce suicide risk among bereaved youth via reductions in thwarted belongingness. In this preliminary open trial, participation in SGT was rated as acceptable to youth and appears feasible within an outpatient mental health setting.

Further research is needed to more rigorously evaluate the intervention.

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Table 1. Means and Standard Deviations of Study Variables

	Pre-treatment	Post-treatment	2-week follow-up	4-week follow-up
	M (SD)	M (SD)	M (SD)	M (SD)
Thwarted belongingness	32.75 (9.24)	28.17 (10.43)	26.35 (10.93)	24.85 (10.58)
Suicidal ideation	20.85 (17.67)	16.78 (15.59)	13.93 (15.78)	11.12 (11.17)
Perceived burdensomeness	14.34 (8.24)	13.72 (7.32)	10.86 (6.60)	10.19 (5.36)
Depressive symptoms	13.19 (5.39)	11.13 (5.79)	9.69 (6.19)	6.48 (5.08)
Satisfaction with services	--	14.24 (1.86)	14.65 (2.08)	14.19 (1.98)

OPEN TRIAL OF SUPPORTING GRIEVING TEENS

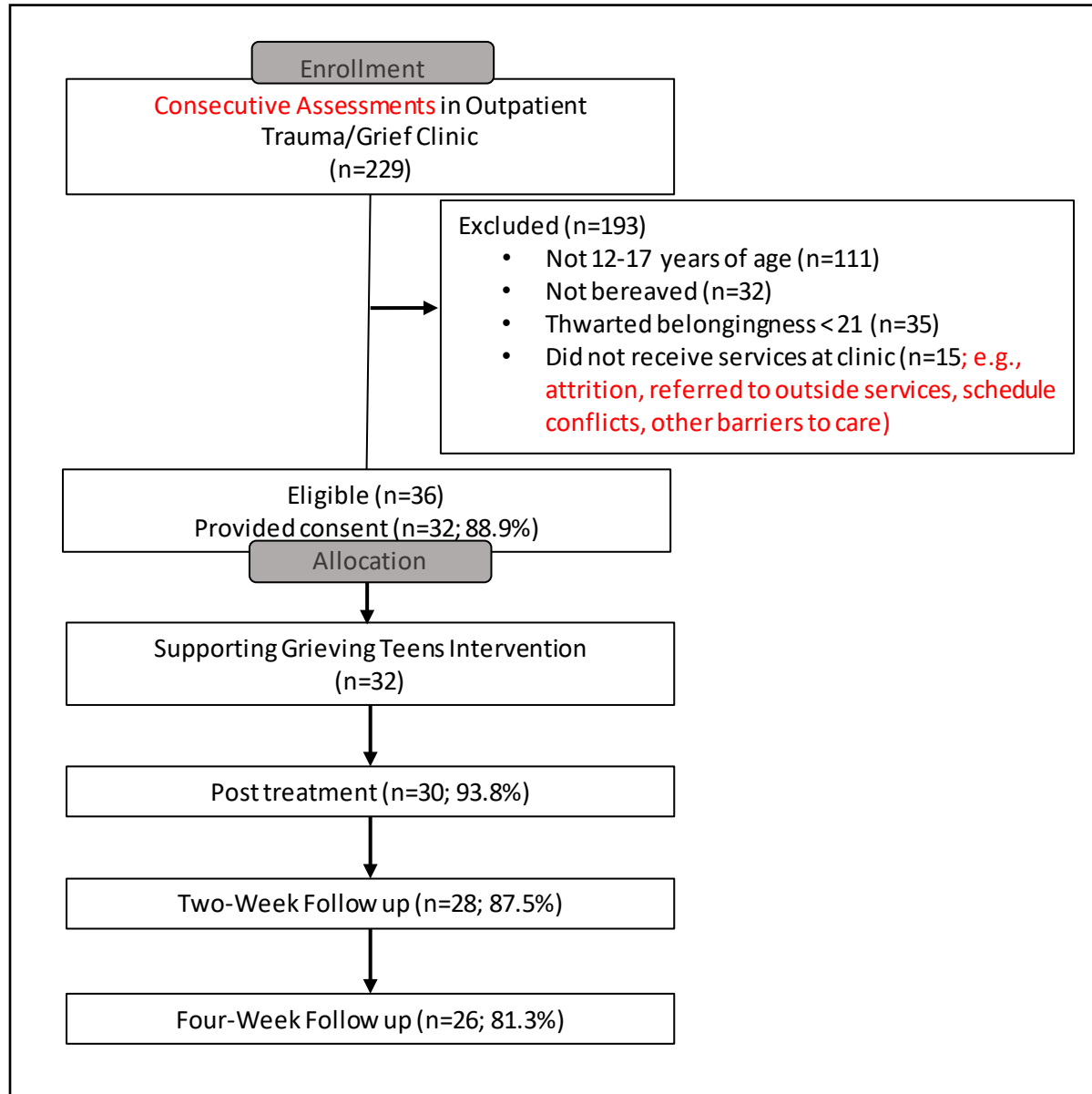


Figure 1. CONSORT-Style Participant Flow Diagram

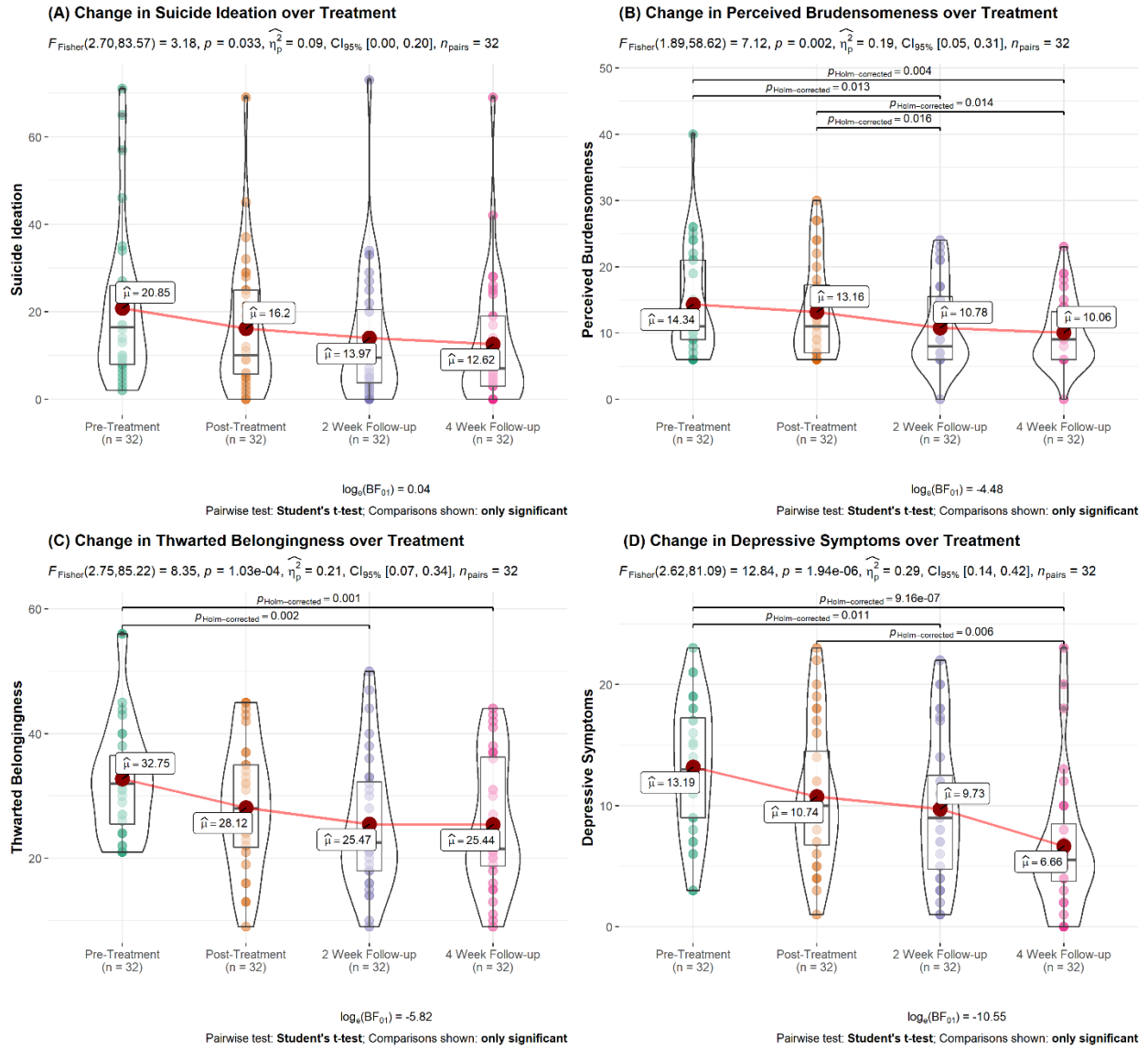


Figure 2. Figure 2a: Change in suicidal ideation over treatment. Figure 2b: Change in perceived burdensomeness over treatment. Figure 2c: Change in thwarted belongingness over treatment. Figure 2d: Change in depressive symptoms over treatment.

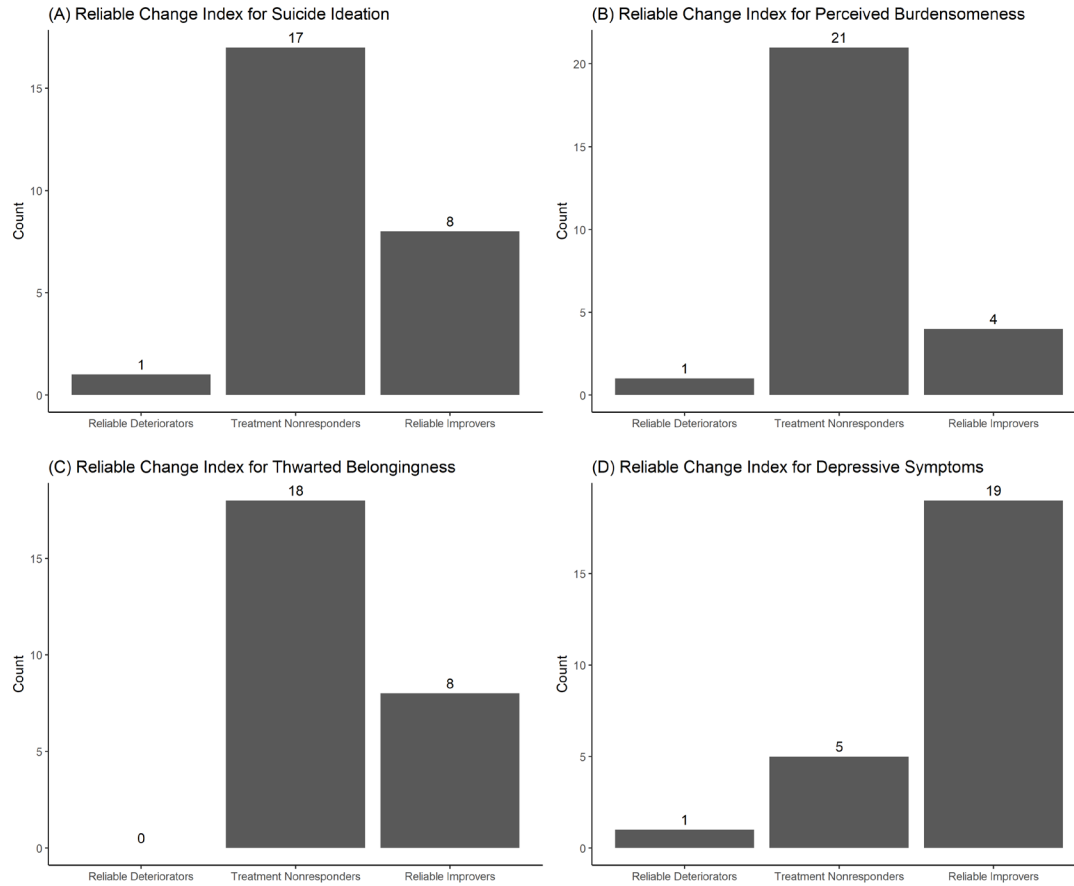


Figure 3. Figure 3a: Reliable change index for suicidal ideation. Figure 3b: Reliable change index for perceived burdensomeness. Figure 3c: Reliable change index for thwarted belongingness. Figure 3d: Reliable change index for depressive symptoms.

Notes: All RCIs were compared pre-treatment with the 4-week follow-up assessment. Count values are presented above bars. Test-retest correlations and population standard deviations were calculated based on past research (Hill, Kaplow et al., 2019; Hill, Oosterhoff et al., 2019; Reynolds & Mazza 1998).

## FIGURE LEGENDS

Figure 1. CONSORT-Style Participant Flow Diagram

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