NEW RESEARCH YOUTH SUICIDE

Suicidal Thoughts and Behaviors in Elementary School–Aged Youth: A Pilot Study in 5- to 10-Year-Olds

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Objective: Emerging evidence suggests that elementary aged children may experience suicidal thoughts and behaviors (STBs) at rates higher than previously expected. However, STBs, and developmentally appropriate STB measurement, in children are vastly understudied. We conducted a preliminary study to determine the feasibility, acceptability, and safety of asking about STBs and STB rates in a sample of children enhanced for potential adversity exposure.

Method: To assess lifetime STBs, the Suicidal Ideation Questionnaire–Junior and the Self-Injurious Thoughts and Behaviors Interview–2 were administered to 98 children 5 to 10 years of age (mean = 7.53, SD = 1.41; 50% female; 52% non-White) and their caregivers (reporting about their child) during an in-home visit. We completed a phone follow-up 1 week later to assess potential iatrogenic effects.

Results: One-week follow-up data showed no concerning iatrogenic effects. A total of 31 caregivers (31%) reported passive suicidal ideation in their children, and 34 children (34%) reported passive suicidal ideation ("wish never born"). Fourteen caregivers (14%) reported active suicidal ideation in their children, and 33 children (33%) reported active suicidal ideation ("want to kill self"). Two caregivers (2%) reported that their child made a suicide plan, and 5 children (5%) reported a suicide plan. One child reported that they had made a suicide attempt.

Conclusion: Findings demonstrate that asking about STBs in families with children 5 to 10 years of age is feasible, generally acceptable, and safe. However, some families may need researchers to help mitigate discomfort relating to STB assessment in young children. STB rates were higher than expected, and highlight the need for continued developmental research on the course of child STBs.

Plain language summary: Children as young as 5 years old may experience thoughts about suicide, but these behaviors are not well understood. This study involved 98 children 5 to 10 years of age, recruited for potential adversity exposure, and their caregivers, who answered questions about suicidal thoughts and behaviors (STBs) during an in-home visit, with follow-up a week later. Results showed that 33% of children reported thinking about wanting to kill themselves, and 5% reported having made a plan, with no harmful effects observed from asking these questions. These findings highlight the importance of more research to understand these behaviors early in development, particularly in children exposed to adversity.

Key words: suicidal thoughts; youth suicide; developmental psychopathology; child suicide risk; child adversity and suicide

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There has been a longstanding misconception that elementary school–aged children do not experience suicidal thoughts and behaviors (STBs). However, data across clinical, at-risk, and population-based samples of children 10 years of age and younger suggest that 11% to 19%[1–5] have experienced suicidal ideation (SI) and about 1.6% to 2.4%[1,3,5] have attempted suicide. Moreover, although still rare, data suggest that rates of suicide in children under 12 years are increasing. Recent data show that suicide was the seventh leading cause of death among children ages 5 to 11 years of age.[6] Given that developmental studies suggests that children's concept of death begins to crystallize around age 5 years,[7] the transition from early to middle childhood may be a vulnerable period for the early emergence of STBs. Children who develop STBs are at risk for experiencing recurrent, persistent, and escalating STBs as they grow older, and are at higher risk for future suicidal behavior and impaired functioning into adulthood.[8–11] Thus, consistent with a developmental psychopathology framework of STBs,[12] the identification of early emergence of STBs in childhood may be critical for the prevention of negative trajectories and worsening STBs, suicide attempts, and death. However, most extant research on youth STBs focuses on the adolescent developmental period, and thus the early emergence of STBs in young children is vastly understudied.

Recently, a meeting of national experts in suicide research convened at the NIMH Preteen Suicide Risk Roundtables, leading to a call to action for future research on STBs among children.[13] Specifically, suicide researchers emphasized the need for a better understanding of developmentally appropriate assessment of STBs in children. Importantly, there are only a few existing studies that have measured STBs in children as young as 5 or 6 years of age, and they have relied on caregiver-report of child STBs only.[3–5] To our knowledge, only 3 published studies (2 from the same group) have administered a standard measure of STBs (children 6 years or younger).[14–16] These studies provide preliminary support for the ability of young children to understand and report on their own STBs. However, given that existing measures of STBs have been developed and validated in samples of adults and adolescents, there is still little known about the feasibility and developmental appropriateness of assessing young child STBs.

Moreover, Ayer *et al.*, in their call to action, point out that although it is well established in older youth and adults that asking about suicide does not cause STBs, there is a lack of research on potential iatrogenic effects of asking about suicide in young children.[13] In addition, these authors emphasize the importance of child suicide researchers expressing sensitivity to caregiver concerns about the potential distress that their child may experience when asked about STBs, particularly as families may not yet have discussed this concept with their child.[13] However, little is known about the acceptability of assessing suicide in young children among families.

Finally, data on the prevalence of STBs in elementary school–aged children are scarce. Most existing studies of STBs in young children have relied on caregiver reports only. However, prior studies of parent–child agreements in reporting of STBs suggest that youth tend to endorse STBs more frequently than parents endorse about their child.[17–19] Thus, rates of STBs may generally be underreported in studies of young children that have included only caregiver report. In addition, the few studies that have administered standard measures of STBs to children relied on a single measure, highlighting the need to further investigate how multi-item measures may capture responses about STBs in young children. Finally, studies often combine dimensions of STBs, such as combining passive or active SI, or collapse across severity of SI (eg, with and without method/plan). In sum, there is a need for studies to carefully investigate, with multiple methods, the likelihood of both caregiver- and child-reporting on elementary school–aged children experiencing the full continuum of STBs, from passive ideation to suicide attempt.

Present Study

The present study was designed to obtain critical preliminary data to understand the feasibility and acceptability of using commonly used STB measures with caregivers and young children. We also assessed for possible iatrogenic effects of directly assessing STBs in this age range. Given the preliminary nature of research in this area, we explored rates of STBs within a sample of children 5 to 10 years of age, using multiple methods and both child- and caregiver-report. Because of a link between exposure to early adversity and STBs,[20] we conducted this study in a sample of children enriched for exposure to early adversity.

METHOD

Sample

Participants included 98 children 5 to 10 years of age (mean = 7.53, SD = 1.41; 50% assigned female sex at birth) and caregivers who were enrolled in a larger study examining exposure to childhood adversity and risk for psychopathology in children. The majority (52%) of the sample identified as non-White (Table 1). The larger sample includes 301 children (51% assigned female sex at birth) who were recruited between the ages of 4 and 8 years. Figure 1 depicts the enrollment flow. Families were recruited based on factors that increased likelihood of exposure to adversity.[21,22] During a phone screen, families who endorsed less than high school education, minoritized ethnic or racial identity, family violence, or Child Protective Services involvement were determined to be eligible for the study. Supplement 1, available online, provides additional sample details.

Procedures

As part of the larger study, participants were administered a large assessment battery over 3 prior research visits that included measures of demographic information, childhood adversity exposure, and parent-report of their own STBs. Families who had completed all prior visits were eligible for this substudy investigating the feasibility and safety of assessing STBs in young children. Additional informed consent and assent were obtained for this study visit. Caregivers were specifically informed verbally during recruitment, via e-mail, and in the written consent document that we would be asking about death and suicide-related topics. All procedures were approved by the local institutional review board.

Drawing from the handful of studies in this research area,[3,5,15] we assembled a battery of STB instruments using both caregiver and child report. Children and caregivers were interviewed in separate areas of their home in private

TABLE 1 Sociodemographics of the Sample

Child demographics	**n**	**%**
Sex		
Female	49	50.00
Male	49	50.00
Race		
American Indian/Alaska Native	1	1.02
Asian	4	4.08
Black	34	34.69
Multi	10	10.20
Native Pacific/Pacific Islander	1	1.02
Other	1	1.02
White	47	47.96
Ethnicity		
Non-Latino	86	87.76
Latino	12	12.24
Multi-ethnic	0	0.00
Age, y		
5	13	13.27
6	27	27.55
7	26	26.53
8	13	13.27
9	13	13.27
10	6	6.12
Caregiver Demographics	**n**	**%**
Sex		
Female	90	91.84
Male	8	8.16
Race		
American Indian/Alaska Native	1	1.02
Asian	4	4.08
Black	25	25.51
Multiracial	7	7.14
Other	2	2.04
White	54	55.10
Did not answer	5	5.10
Ethnicity		
Non-Latino	84	85.71
Latino	6	6.12
Multi-ethnic	1	1.02
Did not answer	7	7.14
Relationship to child		
Mother	82	83.67
Father	8	8.16
Parent	5	5.10
Grandmother	2	2.04
Great aunt	1	1.02

rooms or locations. All questionnaires were read to the child. The child portion of the interview was interspersed with numerous breaks, pleasant activities (eg, playing with toys, drawing), caregiver-approved snacks, and pleasant questions (eg, "What's the silliest thing that happened to you this week?"). Children were also provided with a study "passport" to check off each task completed to maintain engagement and attention. Research assistants were trained to assess distress in children and to modify study protocols with more breaks or pleasant activities as needed. No child found the protocol sufficiently distressing that significant modifications were needed (eg, stopping the questions). Consistent with current research with older youth and adults,[23] we completed a child-friendly safety plan based on the Stanley and Brown template.[24] Supplement 1, available online, provides additional child safety plan details.

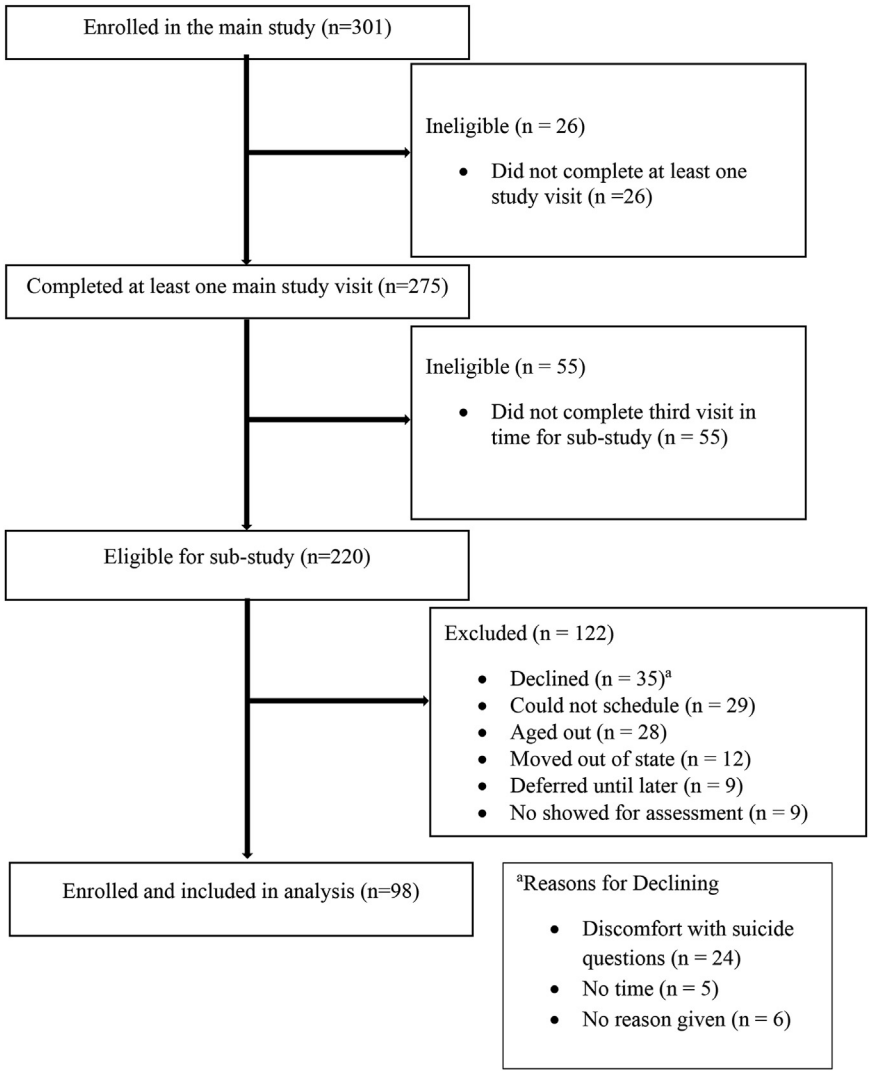
Caregivers completed a phone call follow-up approximately 1 week after the in-home visit. This call assessed for any evidence of iatrogenic effects of asking about STBs and the general acceptability of asking the questions, and obtained general feedback about the study visit from caregivers. We chose a 1-week, parent-report follow-up to avoid potential increases in STBs from asking young children directly and to quickly detect any escalations after baseline.

Measures

Self-Injurious Thoughts and Behaviors. Children and caregivers were asked about experiences of STBs for the child using a self-report questionnaire and a semi-structured clinical interview. The Suicidal Ideation Questionnaire–Junior (SIQ-JR)[25] includes 15 items that assess thoughts of death (eg, "I thought about death") and suicide (eg, "I thought about killing myself"). The SIQ-JR assesses how frequently someone has had those thoughts in the past 30 days (0 = I have never had this thought; 1 = I had this thought before but not in the past month; 2 = About once a month; 3 = A couple of times a month; 4 = About once a week; 5 = A couple of times a week; 6 = almost every day. Although the SIQ-Jr is designed for youth 12 years of age and older, we were interested in whether younger children were able to complete the questionnaire. We did not change the wording of the measure items, but defined "will" ("your plan for what you want to happen to your things when you die") and "suicide note" ("a note about killing yourself") for younger children.

The Self-injurious Thoughts and Behaviors Interview–Revised (SITBI-R)[26] assessed lifetime history of SI, suicide plans, suicide attempts, and non-suicidal self-injury (NSSI). The SITB-R was adapted for children by shortening and revising language to be at elementary school–aged reading level (no more than fifth-grade reading level, but note that all questions were read to children). Caregivers and children were administered the SITBI-R/adapted SITBI-R separately. For SI, caregivers and children are asked the initial stem question "Has your child/have you had thoughts of killing themselves/yourself?" (1 = yes, 0 = no). Similar to Gratch

FIGURE 1 Study Enrollment



et al.,[27] we asked all children and their caregivers whether the child had any of the specific passive or active thoughts listed on the SITBI-R (Table S1, available online) regardless of whether they answered "yes" to the initial stem question. Suicide plans were assessed by asking if the child had ever "thought of a method or way to kill themselves." Suicide attempts were assessed by asking if the child has ever "tried to kill themselves or injure themselves with at least some intent to die." Research staff facilitated child responses by asking about timing of STBs in relation to other events in the child's life. Finally, as part of the larger study, caregivers were asked at an earlier visit about lifetime history of SI and suicide attempts (yes/no) using questions from the SITBI-R.

As can be seen in Table 2, we examined child report and caregiver report separately. We additionally calculated each STB multiple ways, (a) scoring yes (1) if either the child or the caregiver endorsed the specific STB, and (b) scoring yes (1) if both the child and the caregiver endorsed the specific STB. Table S1, available online, shows which SI items we categorized as passive (eg, wish to be dead) and active (eg, thought of killing self) on the SIQ-JR and SITBI-R. We created summary scores across the SIQ-JR and SITBI-R items for any SI, passive ideation, and active ideation (1 = yes, 0 = no for each) regardless of reporter. Importantly, general thoughts about death and dying were not included in any these composite scores.

Age-Appropriate Adaptations. Research staff used age-appropriate strategies to facilitate child responding on the SIQ-Jr when needed. These strategies included first asking

TABLE 2 Frequency of Self-Injurious Thoughts and Behaviors

	Child report		Caregiver report		Either child or caregiver		Both child and caregiver	
	n	%	n	%	n	%	n	%
Any passive or active suicidal ideation	45	45.92	32	32.65	62	63.27	15	15.31
Passive suicidal ideation	34	34.69	31	31.63	52	53.06	13	13.27
Active suicidal ideation	33	33.67	14	14.29	41	41.84	6	6.12
Suicide plan	5	5.1	2	2.04	7	7.14	0	0
Suicide attempt	1	1.02	0	0	1	1.02	0	0

whether the child ever had each suicidal thought listed in the measure (yes/no), and then asking children to select the appropriate response options (0-5) corresponding to the frequency of thoughts in the past month. Research staff helped orient all children to time/frequency by asking about when thoughts occurred in relation to other events (eg, "You started the school year about a month ago, have you had this thought since you started school?"), consistent with standard clinical interviewing strategies used with children.

Depressive Symptoms

We assessed child depressive symptoms in the past week using caregiver report on the 13-item Short Moods and Feelings Questionnaire.[28]

Child Mood Ratings

We asked the child a single question about how they were feeling with the following choices and corresponding emotion faces: (1) horrible, (2) bad, (3) okay, (4) good, or (5) great. Caregivers rated their child's positive affect (joyful, cheerful, happy, lively, proud) and negative affect (miserable, mad, afraid, scared, sad) each on a scale ranging from (1) not much or not at all, to (5) a lot. We created sum scores for positive and negative affect. Caregivers and children completed these ratings at the beginning and end of the study visit.

One-Week Follow-Up Assessment

One week after participants had their study visit, we called caregivers to assess their child's behavior in the week following our visit. During this phone call, we assessed depressive symptoms using the 13-item Short Moods and Feelings Questionnaire. We assessed STBs using SITBI-R items assessing SI, plans, and attempts. In addition, we asked whether the child had talked about the topic of death or suicide more than usual or had shown any changes in eating, sleeping, worrying, or any other observed behavior in the week after our visit.

Acceptability and Feasibility

We assessed feasibility by examining how many children were able to successfully complete the study visit with minimal distress. Second, we assessed acceptability by asking how caregivers felt about the study visit at the 1-week follow-up. Specifically, we asked caregivers to indicate (with "yes" or "no") if any portion of the study visit made them uncomfortable, and, if "yes," to describe how it made them uncomfortable. We also asked caregivers for open-ended feedback about the study and research questions relating to death and suicide, including what they liked and what they thought could be improved. Two independent bachelor-level research assistants worked together to established consensus on categorizing open-ended feedback from caregivers. These coders rated feedback as positive only, negative only, mixed, and neutral. Then they identified general themes that emerged from the caregiver positive feedback (and positive components of the mixed feedback), negative feedback (and negative component of the mixed feedback), and the neutral feedback separately. A doctoral-level lead investigator provided input and helped resolve any disagreements in coding. Finally, we asked caregivers the extent to which they would participate with their child in a study that asked these kinds of questions again on a rating scale between 1 (not at all) to 7 (extremely likely).

Data Analysis

Analyses were conducted in R version 4.4.1. We computed frequency statistics for demographic data, individual item–level data, and composite STB variables. We conducted separate paired-samples t tests to examine child emotion ratings after compared to before baseline assessment for (1) child- and (2) parent-report and (3) parent-report of child's mood at the 1-week follow-up compared to baseline assessment. Finally, we conducted a χ^2 analysis to examine the association between the caregiver's own lifetime history of SI and their child's SI. Missing data were minimal. One family did not complete the follow-up assessment, and the parents' own report of STBs was missing for 3 parents. These instances were excluded from those specific analyses.

RESULTS

Table 1 presents demographic information about the sample. Notably, the sample was majority non-White and was evenly split between male and female.

Feasibility and Acceptability

All 98 children were able to complete all assessments successfully, suggesting the feasibility of asking children about STBs. The average caregiver rating for the likelihood of future participation in this type of study was a 6.28 on a scale from 1 (not at all likely) to 7 (extremely likely). In addition, 85 caregivers (87%) responded "no" to the question asking whether any portion of the study visit made them uncomfortable, and 13 caregivers (13%) responded "yes" to this question. Overall, most caregivers expressed positive feedback about their experience participating in the study visit with their child (n = 58, 59%). However, 7 caregivers (7%) expressed negative feedback about their participation experience, and 16 caregivers (16%) expressed mixed feedback consisting of both positive and negative comments. Fourteen caregivers (14%) expressed neutral feedback. Specific examples of the types of feedback provided by caregivers within the positive, negative, and neutral feedback categories feedback are detailed in Table 3.

Measurement of Behavior Changes/Latrogenic Effects

Children reported no changes in mood before and after the assessment (mean = 4.23, SD = 0.86 and mean = 4.28, SD = 0.93, respectively; $t[94] = -0.73$, $p = .47$, $d = 0.08$). Caregivers reported a slight increase in their child's positive affect from before to after the assessment (mean = 21.59, SD = 3.46, and mean = 22.37, SD = 3.92, respectively; $t[91] = 2.10$, $p = .04$, $d = 0.21$). Caregivers reported a slight decrease in negative affect from before to after the assessment (mean = 6.89, SD = 2.45, and mean = 5.36, SD = 1.12, respectively; $t[91] = 6.21$, $p < .001$, $d = 0.71$).

Table 4 presents data on STBs and behavior changes of concern in the week after the baseline assessment. No caregivers observed increases in child STBs in the week following the study visit. In addition, most caregivers did not report any other behavior changes. However, among the subset of caregivers who did notice some behavior change in their child following the visit, the most observed behavior was an increase in talking about the topic of death. Typical caregiver examples of this behavior included talking or asking questions about pets or people they know dying in the future, or reasons why people die (eg, a person dies if they don't have air). A few children talked or asked more questions about the topic of suicide but did not express STBs (eg child asking about how people die if they don't want to be alive anymore). A small number of other children exhibited changes in sleep, eating, or other behaviors. Generally, caregiver descriptions of these behaviors suggested that these child behaviors were transient (lasting a few hours or days) and/or may be attributed to other causes (eg, attributed to a caregiver going away at the same time or child illness). On average, caregivers reported a slight decrease in child depressive symptoms from baseline (mean = 2.23, SD = 2.95) to the 1-week follow-up (mean = 1.06, SD = 1.98) ($t[96] = 4.88$, $p < .001$, $d = 0.43$).

Rates of STBs

Table 2 presents rates of STBs, and Table S1, available online, reports rates of endorsement for each item on the SIQ-JR and SITBI-R. A total of 27 parents (28%) self-reported lifetime SI, and 8 parents (8%) self-reported a lifetime suicide attempt. Parents' own report of SI was not associated with their report of their child's SI ($\chi^2[1] = 0.00$, $p = 1.00$) or child-reported SI ($\chi^2[1] = 0.02$, $p = .90$).

DISCUSSION

Our primary goal was to assess the feasibility and acceptability of asking about STBs in young children. We assessed for iatrogenic effects of asking about death and suicide in young children. Overall, we found that it is possible to administer both child- and caregiver-report STB self-report and clinical interview instruments originally designed for older youth with children as young as 5 years of age, with some age-appropriate adaptations. Furthermore, results demonstrate that meaningful measurement of STBs in young children may require careful disaggregation of passive and active suicidal thoughts and consideration of both caregiver- and child-reports.

Most caregivers indicated that they were comfortable with the research questions, and, on average, would be highly likely to participate in a study that asked the same questions again. In addition, most caregivers shared open-ended positive feedback about the study, such as expressing appreciation for the importance and potential impact of the research. Caregivers praised components of the study visit itself, such as the child safety plan. However, some caregivers expressed negative feedback that included discomfort with questions about suicide directed to their child, and/or concerns about whether questions may cause STBs in a young child. Some caregivers felt that even more details about the types of suicide-related questions during the consent process and/or more informational resources

TABLE 3 Positive, Negative, and Neutral Feedback From Caregivers About Experience in Research Study at 1-Week Follow-up

Positive feedback categories	
Appreciated importance of research topics	• Liked that researchers were concerned about these topics: "It's important," "It's an important thing to be thinking about"
Research raised awareness in caregiver of the potential for their child to have thoughts of death and suicide	• Caregiver felt that the way in which researchers asked those questions they were not scary, felt that they are "quite educational to think about" • The questions made caregiver think about topics that they may not yet have talked about yet with their children, and made them aware of the importance. • Made the caregiver think more about how to talk with their child about death and suicidal thoughts. • Liked that the questions asked made caregiver think about how they have had conversations with their child about these topics in the past and about how they want to approach these conversations in the future
The study team contributed to a visit that was comfortable and/or enjoyable/Trust in the study team	• Caregiver was willing to tell funders and grant reviewers that she was very comfortable with this type of study and that families can learn so much from it • Caregiver enjoyed their and the child's participation in the entire study so far. "Child felt very comfortable and enjoyed the games" • "It would really depend on who's giving the study; I trust this research team and I've been working with you all a long time, it's not about the money, it's about helping, and the kids really like it" • Would do it again only if it is with this study team the caregiver • Caregiver trusts that this study team wouldn't harm their child
Appreciated developmentally appropriate research questions	• "They were geared toward the child so it was good, they were child-friendly" • "It was helpful that the RAs were trying to figure out how a kid would describe it and how to properly flag as suicidal thoughts; it could be easily overlooked if the child doesn't have language, but just because they can't describe it doesn't mean they don't think about it; some digging deeper"
Felt supported through the study resources and safety materials	• "Physical safety plan was really helpful" • Caregiver likes the safety materials the study team gave them
Negative feedback categories	
Discomfort with death- and suicide-related questions about their young child and/or administered to their young child	• Wasn't comfortable with it; husband and caregiver felt surprised by questions; asked teachers they know and they thought questions were inappropriate as well; husband studies child development and found them inappropriate for a 5-year-old • "I don't actually like those questions much. I understand they're necessary, but they are dark, they bring worry to mind, especially about kids" • "Don't know, not sure if I like it"; "The content is heavy" • "Only uncomfortable when considering that a child even as young as 6 may have those types of thoughts or know a lot about death or suicide." Caregiver thinks of it as something that only happens when a person is older • "A little bit nervous…because it's a tough subject." Suicide topics make caregiver scared. Caregiver didn't like the questions because the questions scared them • Caregiver felt nervous originally • Caregiver was slightly concerned because they didn't know... if it would trigger something • Caregiver was slightly concerned because she didn't know what her child was going to say...
Suicide-related questions about caregiver were painful.	• "My own past with suicidality is painful, and so talking about it with a stranger was painful"
More detail about death/suicide questions should be included before and during consent process	• In the recruitment phone call, the staff should explain more that suicide questions and the idea of self-harm would be talked about with the child even if they never heard of them

(continued)

TABLE 3 Continued

	• Caregiver said it's upsetting to her because she was hoping when she was first recruited into the study, we could lay out accurate information for her to get consented. She said she did remember that the e-mail included the words "death and suicide" in them, but it slipped her mind as she got busy and rolled with the process
Research questions were repetitive	• Caregiver recommends changing some of it "because a lot of it is the same question asked a different way" • "There's a lot of repetition, might be possible to reduce some repetitive questions"
More resources about death/suicide would be helpful	"But for the child piece, maybe have resources for caregiver to explain those concepts afterward if questions arise, or have a video for children to watch with caregivers to understand death and suicide (more child-centered compared to relying on caregivers to explain). Maybe find creative writing books that convey to children about death and suicide"
Neutral feedback categories	
The visit was fine/okay	• Caregiver "is okay with it," their child is "fine with it" • "It was fine"

(eg, videos) could have been provided by the study team. It is worth noting that approximately 9% of eligible families declined to participate in this substudy because of discomfort with the research topic. Overall findings suggest that research studies that include questions about death and suicide directed to caregivers and their young children may be generally acceptable to most caregivers, but that a portion of caregivers may experience discomfort with participation in this type of research study. Results also highlight the importance of the consent process when conducting research on STBs in young children. We recommend that investigators consider ways to emphasize that interviewers will ask children directly about STBs and will provide easy-to-understand and accurate information about the safety of these questions for young children.

TABLE 4 One-Week Follow-Up Items Assessing Changes in Child Behavior

	Caregiver report n (%)
Increases in suicidal thoughts or behavior	**Total unique individuals:** 0
Child had thoughts of killing self	0 (0)
Child thought of plan	0 (0)
Child made suicide attempt	0 (0)
Changes in any other child behavior	**Total unique individuals:** 17 (17.35)
Child thought or talked about the topic of death more	11 (11.34)
Child thought or talked about the topic of suicide more (not suicidal)	3 (3.09)
Child had changes in sleep	5 (5.15)
Child had changes in eating	1 (1.03)
Child was more worried than usual	0 (0)
Other changes in behavior	4 (4.08)

Although we found that it was feasible to administer the SITBI-R with some adaptations, the adapted SITBI-R interview still included many follow-up questions about time periods in which STBs occurred or the frequency of STBs (past year, past week, etc). We used strategies to help children remember, but this contributed to study burden on young children with short attention spans. Future researchers may want to use a more abbreviated version of the SITBI-R for young children that omits many follow-up questions about the frequency of STBs and specific time periods. Importantly, we found no evidence of notable iatrogenic effects of asking about STBs on children as young as 5 years of age. There was no indication that directly asking children about their STB history led to any new onset or increases in STBs in the week following the assessment. A few caregivers reported an increase in their children talking or asking about death-related topics, and a few children exhibited an increase in talking or asking questions about suicide more (but did not exhibit SI itself). Thus, it is possible that this type of multi-measurement interview asking questions about STBs (and, in the larger battery, death concepts) results in a brief increase in thinking about or curiosity about death-related topics. We view this behavior change as consistent with a developmentally typical response to exposure to death- and suicide-related topics, given that the concept of death is emerging in children in this age range.[7] A handful of caregivers endorsed other mild behavior changes after the assessment, such as

changes in sleep, eating, or acting "hyped up" after the assessment, but noted that these appeared to be generally transient and/or due to potential causes unrelated to the study. Children reported no changes in mood from before to immediately after the assessment. Interestingly, findings indicate that caregivers on average reported slight improvements in their child's mood from both before to immediately after the assessment, and a slight improvement in the child's depressive symptoms from the study visit to 1 week later. Findings are consistent with research from adolescent and adult research that asking about STBs is safe.

Our study addressed limitations of prior research by including child-report of STBs, separating responses across different informants, and disaggregating active from passive suicidal thoughts. Furthermore, we did not include general death-related thoughts in our SI variable, given these items are not consistent with definitions of passive and active SI (eg, wanting to be dead/to kill yourself). Our results show that rates of STBs in this sample of elementary school–aged children enriched for exposure to early adversity are higher than anticipated regardless of reporter.

For child report, we see similar rates of SI (aggregated across measures) regardless of whether active and passive are separated. This suggests that some children report either active or passive SI, but not necessarily both. For caregiver report, more caregivers endorsed passive SI for their children relative to active SI. When we combined caregiver and child report as done previously,[14,15,29] over half of the children are classified as having histories of passive SI, and rates of active SI are similarly high (~41%). If we count SI as present only when both the caregiver and the child report the STB, rates are much lower. Of note, few children reported a suicide plan regardless of how reports were combined, and only one child reported a suicide attempt. Given the paucity of data in this area of research, it is premature to conclude which specific approach to combining or disaggregating reports is the most accurate or appropriate to use in different circumstances. Regardless, findings demonstrate that albeit relatively rare, some elementary school–aged children have developed a suicide plan or acted on their suicidal thoughts.

Our sample comprised youth enrolled in a larger study enriched for adversity exposure. In the adolescent literature, there is a well-established link between exposure to childhood adversity and increased likelihood of STBs.[30,31] Thus, it is possible that rates are higher in this sample than in a general sample of youth. For youth exposed to adversity, a substantial portion in the elementary school–age range may experience some SI but not experience them in the future. However, this explanation runs contrary to evidence from clinically enriched samples that early-onset STBs often persist into adolescence,[32,33] raising important questions about when these early expressions of STBs confer risk for death by suicide later in development. Consistent with other STB literature, we counted SI as present for any endorsement to the questions that we asked (for passive, active, or combined). Given the use of 2 measures in the present study, STB endorsements may have been higher than anticipated because we asked a wide range of related items. Finally, caregiver SI history was not associated with caregiver report of their child's SI history, which is inconsistent with findings in an adolescent sample.[34] Together, our results point to the need for future research on STBs in young children.

To answer critical questions about the nature and course of child STBs, large-scale epidemiologic studies that include detailed questions about STBs in young children are needed to carefully track the full developmental course of STBs. Moreover, given that preliminary work suggests that an advanced developmental understanding of the concept of death is associated with a higher likelihood of experiencing STBs in young children, future studies should investigate how understanding of the concept of death and suicide may relate to the development and worsening of STBs over time.

Our results should be interpreted in the context of several limitations. First, our sample was relatively small and was drawn from a larger sample of children recruited for increased likelihood of adversity exposure. In addition, selection biases may have influenced findings, as some caregivers from the larger study declined to participate because of discomfort with the research questions. Thus, findings may not generalize to other samples of children. We obtained mostly caregiver-reported measures relating to the acceptability and feasibility of our study. It will be important for future work to integrate child-reports of their experiences completing assessments of STBs. We used a clinical interview measure and a self-report measure designed originally for adolescents and adults. We made some adjustments to language and added some additional follow-up probing to present multiple possible suicidal thoughts, similar to Gratch *et al.*[27] This may have contributed to our higher STB rates. Other methods, such as assessing suicide mental imagery,[35] may provide a more complete picture of STB expressions in children. Finally, children were not followed longitudinally aside from our brief 1-week follow-up.

Together, findings from our study suggest that assessing STBs in children as young as 5 years of age is feasible and safe. Findings further elucidated some typical, transient behavior changes that may follow assessments. Moreover, findings suggest that although assessments of STBs is acceptable to most caregivers, researchers should identify

key strategies to mitigate discomfort and distress experienced in a subset of families because of assessment of STBs in their young children. Such strategies may include providing the following: (1) psychoeducation about safety and risks associated with asking about STBs in children; (2) more details up front about the types of suicide-related study questions; and (3) in-depth resources on talking to children about death and suicide, in addition to completing and sharing a safety plan. Clinically, our results suggest that assessing STBs in children is warranted, particularly if they have histories of adversity exposure. Future research is needed to understand whether experiencing STBs is developmentally normative and when early expressions of STBs confer later risk for STBs and suicide death. This will work will help to identify key windows of opportunity for intervention early on in young children to prevent worsening trajectories of STBs.

CRediT authorship contribution statement

Adam Bryant Miller: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Margaret A. Sheridan:** Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization. **Andrea Pelletier-Baldelli:** Writing – review & editing, Writing – original draft, Software, Formal analysis. **Stephanie R. Sirhal:** Writing – review & editing, Writing – original draft, Project administration, Data curation. **Jialin Lu:** Writing – review & editing, Writing – original draft, Project administration, Data curation. **Sneha Sai Boda:** Writing – review & editing, Writing – original draft, Project administration, Data curation. **Zakia Ishaque:** Writing – review & editing, Project administration, Data curation. **Meredith Gruhn:** Writing – review & editing, Writing – original draft, Project administration, Methodology. **Amy E. Carolus:** Writing – original draft, Project administration, Data curation. **Antonio A. Morgan-López:** Writing – review & editing. **Laura Hennefield:** Writing – review & editing, Writing – original draft, Methodology. **Caroline W. Oppenheimer:** Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization.

This article is part of a special series devoted to the subject of suicide in children and adolescents, with a focus on the need for improvement to current approaches to prediction, prevention, and treatment. This special series is edited by Guest Editor Lynsay Ayer, PhD, Deputy Editor Daniel P. Dickstein, MD, and Editor Manpreet K. Singh, MD, MS.

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AI-assisted technology was used to draft template code for some logic coding and check for errors in analytic code. The first author hand rewrote and rechecked all AI-generated code with specific coding relevant to the study. Additionally, a second co-author with expertise in R hand checked all code. Finally, other co-authors manually calculated some coding to ensure accuracy.

Data Sharing: Data collected for the study are available upon request.

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