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Understanding the Impact of Exposure to Different Types of Suicidal Thoughts and Behaviors

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Introduction: This study examines the self-reported life impact of exposure to someone else's suicidal thoughts and behaviors on the participants, including what type of suicidal thought and behavior exposure (nonsuicidal self-injury, ideation, suicide death, or attempt), incident details, and personal characteristics influence the impact.

Methods: Data were collected from 4,981 adolescents and young adults, aged 13–22 years, between June 13, 2022 and October 30, 2023. Of these, 94.7% (n=4,701) knew someone with a suicidal thought or behavior; youth reported up to 2 unique exposures, which resulted in data about 8,133 unique incidents.

Results: There were significantly higher odds of feeling a greater life impact (i.e., level of disruption it had on their life) in incidents where the person with the suicidal thought or behavior was a romantic or dating partner (AOR=1.62, p=0.01) or a family member (AOR=1.62, p=0.01). The closer the participant said they were to the person, the higher the odds of more life impact (AOR=1.75, p<0.001). The more additional concerns the participants knew that the person was struggling with, the higher the odds of more life impact (AOR=1.11, p<0.001). Deficits in social determinants of health, specifically economic instability (AOR=1.18, p<0.001) and barriers to mental health care (AOR=1.03, p=0.002), were also related to more life impact.

Conclusions: The findings indicated a wide variety of exposures in their social network, and these variables affect the adversity burden associated with knowing someone who is struggling with suicidal thoughts and behaviors. Designing prevention and intervention strategies that address the impact of exposure is an important direction for public health innovations.

INTRODUCTION

Research documents high rates of awareness of thoughts of suicide among members of one's social networks.[1–5] This is considered *exposure* and carries its own adversity burden for youth.[4] Indeed, peers are the most frequent people that a young person tells about suicidal thoughts and behaviors (STBs),[6] and nonsuicidal self-injury (NSSI).[7] Exposure to STBs can negatively impact youth who are bystanders, including an increased risk for substance use,[8,9] personal suicidal ideation and attempts,[4,8–15] self-harm,[15,16] aggressive behavior,[8,9] and emotional distress[4,8,17,18] for those with exposure. This may be explained by constructs such as compassion fatigue, in which stress is generated from having empathy for and

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trying to help someone who is struggling, although this construct has mainly been studied in relation to helping professionals.[19] Youth who take action when peers are in distress have been called bystanders or gatekeepers and are increasingly being trained to identify when members of their social networks are distressed and to have skills to respond.[20] Youth with exposure to STBs have the potential to be active bystanders and indicate that in many circumstances their helping makes a difference.[21] Although prevention studies highlight bystander action as a protective factor, little is known about the potential negative impacts of being in this bystander role.

Not all communities experience equal exposure to STBs Young people who identify along the continuum of different gender and sexual identities, for example, report higher rates of exposure to STBs than cis-heterosexual peers.[5,22] White youth and emerging adults also report more exposures.[22] Demographics are person-level variables, but they tell little about why this exposure may differ by groups. Research on social determinants of health (SDOH) describes a variety of risky social context variables that may affect health outcomes, and these should be accounted for as contextual factors in analyses of whether STB exposure affects mental health. Furthermore, studies of bystander intervention in the interpersonal violence field find aspects of incidents (e.g., relationship to the person, access to resources in the community) as well as aspects of the person (e.g., age, personal mental health concerns) that affect experiences with and responses to exposures.[23] This is understudied in relation to STBs and NSSI.

This paper utilizes both individual, SDOH, and incident-level data to describe an array of features of the experience of exposure to 4 different forms of STBs: (1) suicide death, (2) suicide attempt without death, (3) suicidal ideation, and (4) NSSI. Then, the authors examined the perceived life impact of the incident, including what types of STB exposure, incident details, and individual characteristics influence the impact.

METHODS

Study Population

Project Lift Up is a national, longitudinal study of youth using convenience sampling and designed to understand bystander behaviors for STBs and NSSI with oversampling of young people who identify across the gender and sexual identity spectrums. A sample of 4,981 adolescents and young adults (aged 13−22 years) was recruited between June 2022 and October 2023 into the study and completed the baseline survey. The authors focused on this age range because STBs and NSSI increase dramatically and peak during this upper age range,[24] and awareness of other people's STBs and NSSI appears to heighten at age 13 years.[4] Eligibility included being aged 13−22 years, living in the U.S., and proficiency in English. The American Association for Public Opinion Research (AAPOR) cautions against reporting traditional response rates for online nonprobability samples.[25] The participation rate of this study, defined by AAPOR as the number of usable responses (i.e., complete main survey responses) divided by the number of initial invitations requesting participation (i.e., eligible screener responses), was 21.0%, resulting in a sample of 4,981.

Within the sample, 94.7% (n=4,701) knew someone who struggled with STBs or NSSI. These youth from the baseline survey comprise the current analytic sample. Demographic data included lifetime STB exposure, social identity (e.g., age, community, sex, gender, ethnicity, and more as provided in Table 1). In total, across the 4,701 participants, the youth answered questions about 8,133 unique incidents of STBs they knew about, which make up the sample for incident-level analyses.

Participants were recruited through study advertisements on social media, including Instagram. To ensure diversity in the sample, recruitment quotas were utilized on the basis of sex assigned at birth (biological sex), sexual (emotional, romantic or sexual attration to other people) or gender (concept of self as male, female, both or neither) minority identity, race or ethnic minority identity, and age (13−17 and 18−22 years). A waiver of caregiver permission was granted for minors because the study focused on oversampling young people with a range of gender and sexual identities, and requiring caregiver consent could potentially place youth in situations where their sexual experiences and/or sexual attraction could be unintentionally disclosed to their parents. Previous studies on this topic have used similar methods, and studies of the impact of participating in research such as this confirm minimal risk to participants.[26] Appropriate mechanisms were in place to protect participants (including resources provided to all participants and referral to a team clinician for additional outreach if the participant endorsed significant mental health concerns and were not currently in treatment) and to avoid fraudulent activity (e.g., youth had to enter their age in the screener and their date of birth at the beginning of the main survey—if these did not match, youth had to confirm their information with a research team member before being allowed back into the survey; those who entered an email or phone number that was already in the system were not allowed into the study). Participants were given a $15 incentive as an Amazon gift code for completing the survey. The protocol was reviewed and approved by the University of New Hampshire IRB. All

Table 1. STB-Exposed Participant Demographic Characteristics (*n*=4,701)

Characteristic	Full sample		By age, years		
	Unweighted n	Weighted %	13–17 years *n* (%)	18–22 years *n* (%)	*p*-value
Lifetime STB exposure (screener level)[a]					
Any NSSI exposure in lifetime	3,990	80.7	2,234 (78.9)	1,756 (82.4)	0.07
Any suicidal ideation exposure in lifetime	4,173	86.2	2,368 (86.9)	1,805 (85.5)	0.39
Any suicide attempt exposure in lifetime	4,062	82.3	2,282 (80.5)	1,780 (83.9)	0.07
Number of types of STB exposure					
1	447	12.5	273 (14.0)	174 (11.2)	0.21
2	984	25.7	580 (25.7)	404 (25.7)	
3	3,270	61.8	1,817 (60.3)	1,453 (63.1)	
Individual characteristics					
Age, year					
3–17	2,670	48.1	—	—	—
18–22	2,032	51.9	—	—	—
Mean age (SD)	17.9	2.6	15.8 (1.1)	19.6 (1.4)	—
Type of community					
Small town or rural area	1,397	27.9	807 (28.1)	590 (27.8)	<0.001
Suburban area next to a city	2,320	49.2	1,371 (52.0)	949 (46.6)	
Urban or city area	902	20.6	436 (16.8)	466 (24.2)	
Not reported	82	2.2	56 (3.1)	26 (1.4)	
Sex assigned at birth					
Male	1,717	49.4	875 (45.1)	842 (53.4)	0.002
Female	2,809	48.8	1,704 (53.0)	1,105 (45.0)	
Intersex	45	0.5	24 (0.5)	21 (0.5)	
Not reported	130	1.3	67 (1.4)	63 (1.1)	
Gender identity[b]					
Exclusively cisgender	2,845	84.9	1,599 (82.8)	1,246 (86.7)	0.005
Transgender	732	3.1	429 (3.8)	303 (2.5)	<0.001
Nonbinary, genderqueer, genderfluid, pangender, indigenous	1,185	10.2	660 (10.6)	525 (9.8)	0.50
Agender	200	1.1	115 (1.2)	85 (1.0)	0.34
Gender variant, questioning	338	2.8	202 (3.6)	136 (2.1)	0.001
Not reported	75	1.9	48 (2.4)	27 (1.3)	0.11
Any gender minority	1,774	13.2	1,019 (14.7)	755 (11.9)	0.02
Sexual identity[b]					
Exclusively heterosexual	1,822	64.2	1,046 (62.9)	776 (65.3)	0.26
Gay, lesbian	657	6.2	396 (6.8)	261 (5.6)	0.17
Bisexual, queer, polysexual, demisexual	1,877	19.8	1,004 (19.4)	873 (20.3)	0.55
Asexual, no sexuality	389	9.2	231 (9.4)	158 (9.1)	0.80
Questioning, mostly heterosexual, no labels	238	3.8	163 (5.3)	75 (2.5)	<0.001
Not reported	55	2.3	32 (2.2)	23 (2.4)	0.85
Any sexual minority	2,821	33.5	1,591 (34.7)	1,230 (32.3)	0.23
Race[b]					
White	3,540	71.4	2,007 (69.8)	1,533 (72.8)	0.17
Black or African American	508	14.7	292 (14.8)	216 (14.6)	0.91
Asian	517	9.4	299 (10.7)	218 (8.2)	0.04
Hawaiian or Pacific Islander	50	1.1	28 (1.3)	22 (1.0)	0.53
American Indian or Alaska Native	207	2.6	128 (2.8)	79 (2.5)	0.60
Not reported	380	8.7	213 (9.0)	167 (8.3)	0.61

(*continued on next page*)

Table 1. STB-Exposed Participant Demographic Characteristics (*n*=4,701) (*continued*)

Characteristic	Full sample		By age, years		
	Unweighted n	Weighted %	13–17 years *n* (%)	18–22 years *n* (%)	*p*-value
Any racial minority	1,187	26.5	680 (27.9)	507 (25.1)	0.17
Hispanic ethnicity					
No	3,634	74.1	2,067 (72.6)	1,567 (75.5)	0.21
Yes	1,021	25.2	568 (26.4)	453 (24.0)	
Not reported	46	0.8	35 (1.0)	11 (0.5)	
Household income					
Lower than the average family	1,291	24.9	609 (19.0)	682 (30.4)	<0.001
About the same as the average family	2,150	47.1	1,293 (49.3)	857 (45.0)	
Higher than the average family	1,100	24.3	674 (27.6)	426 (21.3)	
Not reported	160	3.7	94 (4.1)	66 (3.3)	
SDOH	Weighted mean	SD			
Economic	0.5	0.8	0.5 (0.9)	0.7 (0.9)	<0.001
Structural	1.1	0.7	1.2 (0.7)	1.2 (0.7)	0.68
Adversity	2.9	2.2	3.2 (2.3)	3.4 (2.2)	0.002
Discrimination	12.9	9.2	15.5 (10.1)	14.0 (9.5)	<0.001
Barriers to mental health care	11.3	4.3	11.9 (4.5)	12.2 (4.2)	0.01
Depression/anxiety symptomatology	25.2	14.0	29.9 (14.8)	28.8 (14.2)	0.009

[a]These include data from the screener for STB and NSSI exposure, which only covered these 3 types. The breakdown of suicide exposure into those who did and did not die by suicide was only captured at the incident level.
[b]Multiple options possible.
NSSI, nonsuicidal self-injury; SDOH, social determinant of health; STB, suicidal thought and behavior.

participants provided assent (for those aged 13–17 years) or consent (for those aged 18–22 yers) to participate in this study.

Measures

In terms of main constructs of interest, exposure to STB was measured at 2 levels: screener and incident follow-up. First, participants were asked about 3 different types of exposure to STB in their lifetime: how many people they knew who had ever (1) tried to kill themselves on purpose (attempt); (2) thought about, considered, or planned to kill themselves but did not move forward with it (ideation); and (3) hurt themselves on purpose without wanting to die (NSSI).[22,27] In the current paper, the phrase *suicidal thoughts and behaviors* is used broadly to also include NSSI for ease of reporting. Response options for each were none, 1, 2, 3, 4, 5 or more, and prefer not to answer. For the purpose of the current analyses, new variables were created to reflect the endorsement of at least 1 for each type of exposure (versus none).

Second, a positive response to each of these questions was followed with a series of follow-up questions about a specific individual. An algorithm was used during data collection to choose which type of exposure to follow up on: NSSI was chosen first, suicide attempts were chosen second, and suicidal ideation was chosen third on the basis of pilot data that helped to try and maximize the number of follow-ups for each type. Participants were asked more detailed follow-up questions about up to 2 incidents, following this algorithm. In this study, for suicide attempts, the authors also asked whether the person died by suicide (no [0], yes [1], not sure), and this was used to further break down the suicide attempt group and resulted in the 4 exposure groups.

Regarding follow-up incident characteristics, several questions drawn from the STB prevention literature and previous studies[21,22,28] were used to understand aspects of the exposure. Participants were asked questions about their relationship (e.g., who the person was [e.g., an in-person friend], closeness to this person, how long ago the exposure happened, how and when they learned about it, and whether they did something to try and help (yes/no); the survey made clear that it is not always possible to help) (a full list of each response option is provided in Table 2). Participants were also asked to choose all that apply from a list of 16 other problems that they knew this person was struggling with (e.g., caregiver substance problems, dating violence, child abuse or neglect, discrimination) (Table 3 provides the full list of options, each with a yes/no response option).

Life impact was assessed with the question, *Which statement best describes the effect this experience had on your life?*[28–30] Response options were (1) *it had little effect on my life*; (2) *it had somewhat of an effect on me*

Table 2. Incident Details by STB Type

Characteristic	All STB types (*n*=8,113) *n* (%)	NSSI exposure (*n*=3,990) *n* (%)	Suicidal ideation exposure (*n*=980) *n* (%)	Suicide attempt exposure (*n*=2,807) *n* (%)	Suicide death exposure (*n*=336) *n* (%)	*p*-value
Relationship with person						
Friend known in person	4,080 (52.8)	2,109 (55.7)	493 (54.1)[a]	1,373 (50.4)[a]	105 (34.1)[a,b,c]	<0.001
Friend only known online	1,017 (11.7)	450 (10.5)	132 (14.6)	400 (12.9)	35 (7.6)	
Romantic or dating partner (or ex)	906 (9.9)	527 (11.0)	82 (6.9)	280 (10.0)	17 (4.8)	
Brother or sister	448 (6.1)	209 (6.0)	78 (8.1)	154 (5.9)	7 (3.0)	
Other family member aged <18 years	124 (2.1)	58 (1.8)	8 (0.7)	50 (3.1)	8 (2.9)	
Parent or other caregiver	120 (1.6)	25 (0.7)	22 (2.7)	68 (2.5)	5 (0.7)	
Other adult family member	118 (1.9)	25 (0.9)	13 (1.7)	44 (2.0)	36 (11.6)	
Student in my school	686 (10.9)	322 (10.4)	64 (8.0)	223 (10.0)	77 (31.5)	
Coworker	50 (0.7)	25 (0.9)	6 (0.3)	15 (0.5)	4 (1.3)	
Missing	564 (7.5)	240 (6.5)	82 (8.6)	200 (7.7)	42 (14.4)	
How close to person						
Not at all	1,357 (19.6)	472 (15.3)	139 (13.7)	620 (24.6)[a,b]	126 (44.3)[a,b,c]	<0.001
Somewhat	2,541 (31.6)	1,258 (32.4)	295 (32.3)	876 (30.5)	112 (30.2)	
Very	1,976 (23.2)	1,092 (26.1)	248 (24.1)	597 (20.7)	39 (8.4)	
Extremely	2,123 (24.3)	1,114 (24.8)	281 (27.9)	672 (23.1)	56 (16.4)	
Missing	116 (1.4)	54 (1.4)	17 (1.9)	42 (1.1)	3 (0.7)	
How long ago person started feeling this way						
0–6 months	942 (11.1)	229 (5.4)	119 (15.1)[a]	531 (17.5)[a,b]	63 (11.5)[a,b,c]	<0.001
7–12 months	992 (11.5)	276 (8.1)	128 (10.8)	522 (16.0)	66 (15.9)	
>1 to 2 years	1,689 (21.4)	708 (18.1)	214 (19.9)	689 (26.1)	79 (26.2)	
>2 to 5 years	1,904 (24.3)	905 (22.5)	265 (28.3)	662 (25.1)	72 (26.2)	
>5 to 10 years	720 (10.3)	367 (10.5)	90 (10.2)	221 (9.2)	42 (16.8)	
>10 years	160 (2.0)	79 (1.9)	19 (1.8)	52 (1.9)	10 (3.1)	
Not sure[d]	1,372 (15.6)	1,372 (32.2)				
Missing	334 (3.8)	54 (1.2)	145 (13.9)	131 (4.1)	4 (0.4)	
When learned about this						
As it was starting	1,086 (13.1)	401 (9.9)	221 (24.7)[a]	420 (13.8)[a,b]	44 (6.9)[a,b,c]	<0.001
After it started but was still happening	4,308 (50.0)	2,644 (62.8)	479 (44.5)	1,120 (37.5)	65 (23.1)	
After it was over	2,467 (34.1)	826 (24.5)	233 (26.2)	1,187 (46.2)	221 (68.5)	
Not reported	252 (2.9)	119 (2.8)	47 (4.6)	80 (2.4)	6 (1.4)	
How learned about it						
Person told me directly	5,592 (66.9)	2,899 (70.5)	726 (71.6)	1,941 (68.2)	26 (5.8)[a,b,c]	<0.001
I saw it happen	478 (5.9)	313 (8.5)	0[a]	149 (4.9)[a,b]	16 (3.4)[a,b]	<0.001
Saw cuts or scars on their body	2,322 (25.6)	1,801 (42.5)	115 (7.7)[a]	394 (11.6)[a,b]	12 (2.1)[a,b,c]	<0.001
Overheard a conversation	836 (10.7)	344 (9.8)	95 (9.4)	356 (12.3)[a]	41 (12.8)	0.14
Someone else told me	1,545 (20.3)	464 (13.1)	150 (17.0)[a]	703 (25.4)[a,b]	228 (69.4)[a,b,c]	<0.001
Just were not acting as themselves	1,168 (12.0)	484 (9.9)	197 (17.4)[a]	454 (13.8)[a]	33 (6.2)[b,c]	<0.001
Saw comments/posts on social media	705 (7.7)	276 (6.0)	79 (5.8)	270 (8.6)[a]	80 (25.5)[a,b,c]	<0.001
Any additional concern beyond STB	6,380 (74.6)	3,470 (84.1)	757 (72.3)[a]	2,005 (67.2)[a]	148 (35.3)[a,b,c]	<0.001
Mean number of other concerns (SD)	2.61 (2.5)	3.08 (2.5)	2.05 (2.1)[a]	2.37 (2.6)[a,b]	1.13 (2.2)[a,b,c]	<0.001

[a]Significantly different from NSSI exposure.
[b]Was significantly different from suicide ideation exposure.
[c]Was significantly different from suicide attempt exposure.
[d]Not sure was accidentally ommitted as a response option for the other 3 types of exposure.
NSSI, nonsuicidal self-injury; STB, suicidal thought and behavior.

Table 3. Incident Level Co-Occurring Concerns by STB Type

Type of other concern person had	All STB types (*n*=8,113) *n* (%)	NSSI exposure (*n*=3,990) *n* (%)	Suicidal ideation exposure (*n*=980) *n* (%)	Suicide attempt exposure (*n*=2,807)	Suicide death exposure (*n*=336) *n* (%)	*p*-value
Sexual or gender minority identity/coming out	2,376 (20.0)	1,356 (24.0)	235 (15.5)[a]	733 (17.5)[a]	52 (9.2)[a,b,c]	<.001
Caregiver drug or alcohol problems	824 (8.3)	440 (9.5)	81 (7.2)	285 (7.9)	18 (2.2)[a,b,c]	0.005
Caregivers always arguing / divorce	1,853 (19.5)	1,049 (22.0)	190 (17.7)	573 (18.1)[a]	41 (8.6)[a,b,c]	<0.001
Bullying	1,396 (14.9)	721 (15.1)	165 (16.4)	463 (14.6)	47 (10.5)	0.37
Dating violence	530 (5.8)	286 (6.5)	39 (2.4)[a]	192 (6.1)[b]	13 (5.2)	0.01
Failing a class	1,718 (19.2)	997 (22.3)	188 (19.2)	499 (16.6)[a]	34 (6.3)[a,b,c]	<0.001
Drug or alcohol problems	1,339 (14.1)	755 (16.4)	92 (8.7)[a]	448 (13.3)[a,b]	44 (11.5)	<0.001
Eating disorder, like anorexia or bulimia	2,107 (21.9)	1,315 (28.4)	177 (15.1)[a]	585 (17.5)[a]	30 (4.1)[a,b,c]	<0.001
Thoughts of suicide	2,329 (25.6)	2,329 (52.8)	—	—	—	—
Self-injury, like cutting or burning	1,255 (12.6)	—	221 (18.8)	973 (28.4)[b]	61 (11.9)[c]	<0.001
A serious illness they have or think they have	1,168 (11.6)	644 (12.7)	124 (9.8)	380 (11.9)	20 (3.9)[a,b,c]	0.004
Serious illness of family member	550 (6.7)	294 (7.8)	65 (7.1)	179 (5.5)[a]	12 (3.7)	0.10
Experiencing child abuse or neglect from a caregiver	2,098 (20.3)	1,175 (23.9)	193 (14.2)[a]	692 (19.2)[a,b]	38 (7.2)[a,b,c]	<0.001
Relationship break up	1,565 (17.5)	815 (18.5)	167 (15.9)	542 (17.6)	41 (10.9)[a,c]	0.09
Experiencing sexual assault	1,104 (10.9)	594 (11.9)	66 (4.2)[a]	416 (13.0)[b]	28 (4.3)[a,c]	<0.001
Being discriminated against	1,047 (8.7)	578 (9.9)	107 (8.3)	330 (7.5)[a]	32 (5.1)[a]	0.03
Problems sleeping	2,206 (23.6)	1,210 (26.1)	258 (24.2)	694 (21.9)[a]	44 (8.6)[a,b,c]	<0.001

[a]Is significantly different from NSSI exposure.
[b]Is significantly different from suicide ideation exposure.
[c]Is significantly different from suicide attempt exposure.
NSSI, nonsuicidal self-injury; STB, suicidal thought and behavior.

but did not disrupt my life; (3) *it disrupted my life for a short time*; (4) *it disrupted my life in a significant or devastating way, but I no longer feel that way*; and (5) *it had a significant or devastating effect on me that I still feel.*

In terms of independent variables, depression and anxiety were assessed with the Revised Children's Anxiety and Depression Scale. The Revised Children's Anxiety and Depression Scale[31,32] is a self-report 25-item questionnaire that assesses current symptoms of depression and anxiety with high reliability and validity,[33,34] on a scale of 0 (never) to 3 (always). Items were summed to generate a total score. This variable was used as a control variable given that perceptions of the outcome (life impact of exposure) are likely affected by the participants' own mental health symptoms.

In measuring individual characteristics, age was a continuous variable ranging from 13 to 22 years. Self-reported household income comprised 3 answer choices, which is an approved practice for asking youth about this topic, for example,[35] lower than average, about average, and higher than average. For multivariate analyses, those who indicated that their family income was lower than average were compared with all other youth. Sexual identity was measured by asking participants which of the following options (Table 1) best represents how they think of themselves (mark all that apply). Gender identity was measured by asking participants what terms (Table 1) best express how they describe their gender identity (mark all that apply). Race response options included White, Black or African American, Asian, Hawaiian or Pacific Islander, American Indian or Alaska Native, unknown or not reported, other (specify), and prefer not to answer. Multivariate analyses adjusted for the 3 main racial categories endorsed (White versus all other, Black versus all other, Asian versus all other). Participants were also asked whether they were of Hispanic or Latino origin (yes/no). A positive response to any racial or ethnic minority group was coded as yes (1).

SDOH screening tools exist but are designed primarily for in-person assessment of adults or asked of adults about their children in clinical settings. Items and scales used in this study were drawn from this work[36] and then modified and piloted with youth to ensure comprehension. These items were measured across 5 self-reported domains: economic instability (3 items measured on a 5-point scale and combined for a total score), structural (i.

e., poor home conditions; 8 items covered problems where one currently lives, such as mold or bugs[36]), neighborhood disorder (12 items measured perceptions of the severity of different neighborhood conditions[37]), nonvictimization adversity (10 items measuring nonviolent traumatic events and chronic stressors measured with a yes/no response; items were summed for a total count score),[38] discrimination (as measured using the Everyday Discrimination Scale),[39] and barriers to mental health care (6 items adapted from Britt and colleagues,[40] with language made appropriate for the study's younger sample, e.g., I don't know where to get help). Details for each construct are published elsewhere.[41]

Statistical Analysis

Weights were applied so that the data behaved as if they were nationally representative both demographically and behaviorally, including being balanced for age, sex, race, Hispanic ethnicity, and education using rim weighting.[42] Sexual orientation and gender identity were weighted using targets from the Youth Risk Behavior Survey. Using a procedure seen across many national studies,[22,43] missing data for each variable were <5% and conservatively coded as no for dichotomous constructs and replaced with the mean for continuous constructs. Data were analyzed using the svy commands in Stata SE (Version 19) for weighted survey data.

The authors report on the characteristics of the sample and the percentage that endorse any lifetime exposure and the number of types of STB exposures. Using incident data (i.e., counting each report of exposure separately by event instead of by person), weighted crosstabulations compare different characteristics of exposure collapsed across all types as well as comparisons across all 4 types (i.e., NSSI, suicide attempt, death by suicide, and thoughts of suicide). Pairwise differences between types of STB exposure are also conducted to identify which groups are significantly different from one another. Next, using ordered logistic regression for categorical outcomes, the authors explored incident (e.g., type of exposure [with NSSI as the reference category], degree of closeness with the person), individual characteristics (e.g., sexual minority), and SDOH (e.g., adversity) factors related to differing life impact on the person helping with little life effect as the comparison group (Model 1) and then adjusted for personal depression and anxiety symptomatology (Model 2).

RESULTS

Across all incidents, regardless of type, the most common relationship with the person struggling with STBs was a friend the participant knew in person (52.8%), followed by a friend then only knew online (11.7%), a student at school (10.9%), and a romantic or dating partner (or ex-partner) (9.9%) (Table 2). Looking more specifically at the profile of relationships within each of the 4 types of exposure, the nature of reported relationships differed across types of STB. Specifically, exposure to suicide death was most likely to be an adult family member or a student at school, categories of relationships that were less common among the other types. Despite this, one third of suicide deaths were reported to be a friend they knew in person. The degree of closeness with the person was measured separately, consistent with previous work.[28] There was variation across all incidents, where 19.6% of youth said that they were not at all close, 31.6% were somewhat close, 23.2% were very close, and 24.3% were extremely close to the person. Youth who knew someone struggling with NSSI or thoughts of suicide were more likely to say that they were close to the person, whereas those who knew someone who had died by suicide reported less closeness.

The recency of the exposure varied from 11.1% saying that the person's struggles with STB started 6 months ago or less (11.1%) to more than 10 years ago (2.0%) from the time of the survey (Table 2). Participants reporting knowing someone who had died by suicide were more likely than those of the other types to say that they found out about this after it was over (68.5%) compared with 46.2% for a suicide attempt, 26.2% for thoughts of suicide, and 24.5% for NSSI. More frequently for these other STB types, the participant found out about it as it was starting or after it had started but was still happening. Most often, the participant found out about the STB directly from the person who was going through it.

Youth reported on average, across all exposure types, knowing about 2.61 (SD=2.5) co-occurring concerns that the person struggling with STB was dealing with (Table 2), with variation by type of exposure. NSSI exposure was associated with the most co-occurring concerns (Mean=3.08), followed by suicide attempt without death (Mean=2.37), thoughts of suicide (Mean=2.05), and suicide death (Mean=1.13). Specific co-occurring concerns are depicted in Table 3, with comparisons across types of exposure. The most frequently reported co-occurring concerns that participants had knowledge of were sleeping problems (23.6%), eating disorder (21.9%), child abuse or neglect by a caregiver (20.3%), sexual or gender minority identity/coming out (20.0%), and failing a class (19.2%).

Little impact of the STB exposures on the participant was reported by 15.5% of youth; 41.1% reported somewhat of an effect, but it did not disrupt their life; 20.5% said that it disrupted their life for a short time; 12.1%

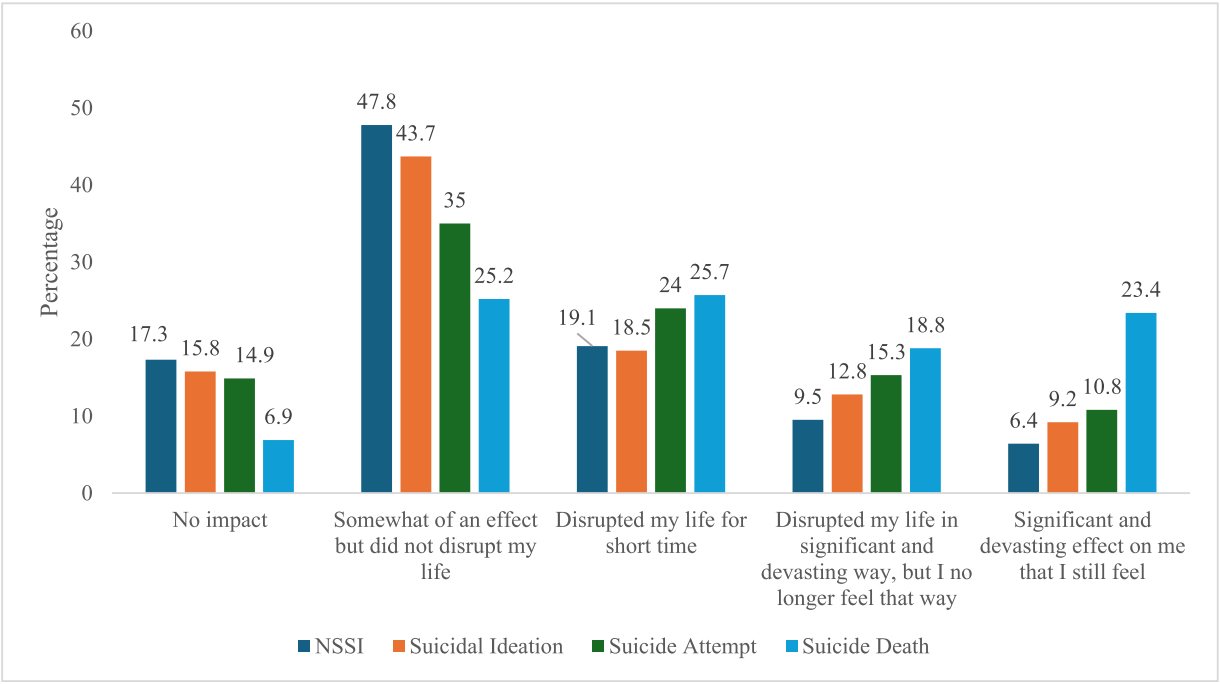

Figure 1. Life impact by type of STB exposure.
STB, suicidal thought and behavior.

said that it disrupted their life in a significant and devastating way, but they no longer feel that way; and 8.8% said that it had a significant and devastating effect on them that they still feel (1.9% of incidents had missing data about this). Life impact varied significantly across the four types of exposure (Figure 1). Youth who knew someone who had died by suicide were the most likely to report a significant and devastating life effect that they still felt.

The adjusted odds of life impact (with no effect as the reference group) given the type of exposure, incident details, individual characteristics, and SDOHs are depicted in Table 4. Youth who knew someone struggling with thoughts of suicide were 1.3 times more likely to report significant life impact than those who knew someone struggling with NSSI (p=0.2); knowing someone who had attempted suicide had 2.6 times increased odds (p<0.001), and those knowing someone who had died by suicide had 12.3 times increased odds of significant life impact.

There were significantly higher odds of life impact in incidents where the person struggling with STB was a romantic or dating partner or a family member. Consistent with this, the closer the participant said that they were to the person, the higher the odds of greater life impact. Participants who knew about the STB before or while it was happening reported higher odds of life impact. The more additional concerns the participants knew that the person was struggling with, the higher the odds of more life impact. Deficits in SDOH, specifically economic instability and barriers to mental health care, were also related to more life impact. Further adjusting for recent personal depression and anxiety symptoms did not change the overall relationships between exposure and life impact as depicted in Table 4.

DISCUSSION

Overall, exposure to different types of STBs had negative impacts on young people who knew about what was happening (even after controlling for their own symptoms of anxiety and depression and person-level demographics), which is in line with past research on this topic.[4,8,17,18] Loss through suicide carried the highest reported life impact, consistent with research on suicide survivorship.[28,44] Adding to extant research, young people also perceived serious effects across the range of STB behaviors, including NSSI and thoughts of suicide. Those youth who were close with the person who engaged in STBs, knew about it before or while it was happening (thus putting the participant in the greatest position to try to help), and also noted that the person had increased additional concerns beyond STB/NSSI were most likely to report the highest life impacts. These are areas where future preventive interventions need to help young bystanders mitigate compassion fatigue and

Table 4. Ordered Logistic Regression of Relationship Between STB Incident Characteristics and Life Impact

Construct	Model 1: Incident, individual, and SDOH			Model 2: +Personal depression and anxiety symptoms		
	AOR	95% CI	*p*-value	AOR	95% CI	*p*-value
Type of STB						
NSSI (ref)	1.0	—	—	1.0	—	—
Thoughts of suicide	1.32	1.05, 1.67	0.02	1.36	1.08, 1.72	0.01
Suicide attempt	2.26	1.92, 2.66	<0.001	2.27	1.92, 2.68	<0.001
Death by suicide	12.30	8.77, 17.25	<0.001	11.96	8.45, 16.91	<0.001
Incident details						
Relationship with person						
Friend knew in person	1.08	0.78, 1.48	0.65	1.05	0.76, 1.46	0.76
Friend only knew online	0.78	0.54, 1.13	0.19	0.79	0.54, 1.14	0.21
Romantic or dating partner	1.62	1.10, 2.37	0.01	1.65	1.12, 2.45	0.01
Student at school	0.71	0.49, 1.02	0.06	0.71	0.48, 1.03	0.07
Family member	1.97	1.36, 2.85	<0.001	1.97	1.35, 2.88	<0.001
Degree of closeness with person	1.75	1.62, 1.89	<0.001	1.75	1.61, 1.89	<0.001
How found out						
Person told me directly	0.94	0.79, 1.12	0.49	0.95	0.80, 1.14	0.61
Someone else told me	0.80	0.67, 0.96	0.01	0.84	0.70, 1.01	0.06
Knew about it before or while it was happening	1.81	1.55, 2.12	<0.001	1.83	1.56, 2.14	<0.001
When first started						
Started 1 year ago or less	0.94	0.80, 1.11	0.49	0.94	0.79, 1.11	0.48
Not sure when started	0.79	0.65, 0.97	0.03	0.79	0.64, 0.97	0.03
Number of additional concerns	1.11	1.07, 1.14	<0.001	1.10	1.07, 1.14	<0.001
Individual characteristics and SDOH						
Age	1.02	0.99, 1.05	0.10	1.03	1.00, 1.06	0.05
Sexual minority identity	1.06	0.91, 1.23	0.46	0.98	0.84, 1.15	0.82
Gender minority identity	1.15	0.94, 1.40	0.17	1.06	0.87, 1.30	0.55
Racial minority	0.85	0.73, 1.00	0.05	0.86	0.73, 1.01	0.07
Ethnic minority	1.01	0.86, 1.18	0.93	1.01	0.86, 1.19	0.89
Urban area	0.91	0.76, 1.09	0.33	0.96	0.79, 1.15	0.63
Rural area	1.20	1.03, 1.39	0.02	1.25	1.07, 1.45	0.005
Economic instability	1.18	1.09, 1.29	<0.001	1.15	1.05, 1.25	0.001
Structural disorder (home and community)	0.99	0.89, 1.11	0.90	0.97	0.87, 1.09	0.61
Adversity	0.97	0.94, 1.01	0.16	0.96	0.92, 0.99	0.03
Discrimination	1.01	1.00, 1.02	0.13	1.00	0.99, 1.01	0.48
Barriers to mental health care	1.03	1.01, 1.04	0.002	1.01	1.00, 1.03	0.12
Mental health						
Depression and anxiety symptoms	—	—	—	1.02	1.01, 1.03	<0.001

Note: In addition to the variables listed in the table, each model also adjusted for low income, type of community (rural, urban), race, ethnicity, sexual minority identity, gender minority identity, and age.
NSSI, nonsuicidal self-injury; STB, suicidal thought and behavior.

help young people be realistic about what they are able to do to help, the goal of many gatekeeper training programs. This finding supports prevention programs for young people that emphasize helping oneself and connecting with a trusted adult rather than carrying concerns alone.[45,46] Importantly, bystanders who reported experiencing poverty and lack of access to mental health resources also reported a greater negative impact of knowing and trying to help someone in their social network. This finding underscores the idea that SDOH deficits not only directly impact young people's mental health but also contribute to adversity burden by heightening the negative impacts of being a bystander to others' distress.

Findings also highlight the wide diversity of incidents where youth have knowledge of someone else's struggles with STBs, ranging from people that they are closely connected with in person to those they only know online or as a student in their school. They find out in different ways and at different times in the STB process. This is

consistent with research that shows that peers are most likely to disclose STB to peers[6,7] and fits with research on the importance of peer networks for prevention embodied in programs such as Sources of Strength[47] and Teen Mental Health First Aid.[48] Importantly, participants in this study who reported that they knew about the STB before or while it was going on reported greater life impact. This may be because they may feel that they have the greatest opportunity to intervene, which may create stress, especially if young people are unsure about what actions may be helpful.[21] Indeed, the central aim of this study was to examine the nature of exposure to STBs within participants' networks and to understand differences in the characteristics of that exposure. For all but suicide deaths, youth were most likely to find out about the behavior directly from the person going through it, either as it was starting or very soon after. This finding suggests that young people are aware and attuned to their peers' distress and would likely be a motivated audience for prevention strategies related to helping within networks. Similar to previous research, closeness with the person at risk was most related to increased perceptions of life impact and likely explains the link found between greater impact and the at-risk person being an intimate partner or family member.[44] However, the association between closeness and life impact means that knowing people in a larger social network struggling with STBs, such as friends and people met online, can be very impactful if they feel close to that person, and participants with this exposure also might need help after these losses. Clinicians should consider asking about exposures, especially among close network members, when assessing young people's mental health concerns. This survey did not ask details about warning signs or how the participants knew that someone was at risk, however. Future research using qualitative methods can help to understand other important contextual elements of the incident.

The impact of exposures varied on the basis of several features of a participant's own individual context, findings that support the recent growth in studies that include SDOH in analyses. Living in a rural area and income instability were both associated with greater reported life impact of exposure. This may be related to access to support and mental health services, which are lower in rural communities and in areas with fewer economic resources, as well as increased stigma often present in rural communities.[49] If helpers have concerns about resource access, it may make helping more stressful because they are experiencing high levels of concern about a network member combined with concerns about where they might help that person get access to support. This is something that needs further study. Interestingly, individual identity characteristics were related in previous work to overall exposure,[22] but they were not significant at the multivariate level for life impact, especially when a participant's own mental health was controlled for. This connects to previous work that highlights the importance of SDOH for understanding mental health outcomes among young people.[50,51]

To date, studies of both gatekeepers' (individuals trained to help identify and refer social network members in distress to services) and bystanders' (those not necessarily trained to intervene but who know of network members in distress) exposure to STBs and interpersonal violence have tended to study 1 type of exposure at a time. This study examined the interrelated complexity of young people as helpers to network members coping with STBs. Youth reported knowing about many additional struggles beyond the STB that the person they were concerned about was facing. This is a new finding not systematically examined in other research on STB exposure. As these co-occurring needs increased, so did the self-reported impact. This is an important feature of understanding helping burden and is consistent with previous work related to compassion fatigue.[52] Gatekeeper trainings should include self-care and support for bystanders, as is being done for populations such as crisis line volunteers.[53] Such programs should address bystander intervention across different forms of violence rather than more siloed approaches that address just sexual or interpersonal violence without also discussing mental health issues such as suicide.

Limitations

Analyses used cross-sectional data from the baseline survey, so conclusions about causality between exposure variables and outcomes cannot be drawn, although life impact was asked about in the context of a specific incident which mitigates this concern. Future research with longitudinal data will be necessary. Many measures were created for this study, and further testing of measures is needed. The survey relied on self-report and may be affected by recall biases. This study focused mainly on aspects of STB exposure and the context of exposure that might confer risk for negative outcomes. Connections to resilience science and the identification of strengths and protective factors are also needed. Finally, this study did not delve into incident characteristics related to online versus in-person helping, another topic for further research.[54]

The impact of STB exposure on individuals varied as a function of variables specific to the exposure incident (closeness to an at-risk person, other issues affecting the at-risk person), aspects of the person exposed (individual identities), and aspect of their situation (SDOH, specifically income and rural location). Further research is

needed to confirm these findings in other samples and using longitudinal data to better examine causal pathways to distress but also to resilience after exposure. A growing number of suicide prevention programs train adults and peers to be more active bystanders—to try to help when they see someone who may be at risk for self-harm.[55–57] Awareness, knowledge, response, and impact likely vary on the basis of the relationships between the people involved, how and when youth find out about it, and other co-occurring challenges that are going on in the person's life, and skills to meet this variation are needed. Furthermore, exposure carries a risk for long-term impact. This study shows that for most participants, the distress was relatively short lived. However, for some, it was long standing, and this is particularly true for youth who know someone who had died by suicide. Findings highlight how critical it is to have systems in place when someone dies by suicide, including in schools, families, and communities.

Prevention approaches may need to be tailored to help young people exposed to STBs to appreciate and understand the potential personal impacts on those exposed and to design interventions, especially for youth who show greater impacts. Furthermore, SDOH, especially economic resources, were related to greater exposure impact. Prevention initiatives need to be broadened not only to make sure that they reach young people in under-resourced areas but also to enact policies that improve the economic stability of communities. Suicide prevention is not just about education and skills related to STBs but also about creating better safety nets for young people and their families to decrease depression and adversity burdens overall.

CONCLUSIONS

This study unpacked several STB exposure variables that were related to perceptions of life impact. Findings indicated that exposures are diverse, and these details affect the adversity burden associated with knowing someone with STBs. Participants with greater closeness to the at-risk person, who saw the at-risk person struggling with multiple problems, lived in a rural area, and was experiencing economic hardship reported more negative personal impacts. Designing prevention and intervention strategies that address the impact of exposure is an important direction for public health innovations.

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