Published in final edited form as:

J Interpers Violence. 2025 December ; 40(23-24): 5605–5633. doi:10.1177/08862605241303954.

A Model of Bystander Helping to Prevent Suicide: Examining and Extending the Theory of Planned Behavior

Victoria Banyard[1], **Kimberly J. Mitchell**[2], **Lisa M. Jones**[2], **Shira Dunsiger**[3], **Michele L. Ybarra**[4]

[1]Rutgers University, New Brunswick, NJ, USA

[2]University of New Hampshire, Durham, NH, USA

[3]Brown University, Providence, RI, USA

[4]Center for Innovative Public Health Research, San Clemente, CA, USA

Abstract

Research documents alarmingly high suicidal behavior risk among adolescents and young adults in the United States. A related concern is similarly high rates of exposure to the self-directed violence (SDV) of others. The current study examined how components of the Theory of Planned Behavior explain factors related to helping social network members engaging in SDV. Baseline data (N = 4,981) from the longitudinal study, Project Lift Up, were analyzed cross-sectionally. Young people, ages 13 to 22, were recruited through social media platforms; sexual and gender minority youth were oversampled. Participants answered questions about exposure to other people's SDV and measures of key constructs related to the Theory of Planned Behavior for helping reduce SDV including perceptions of what others think about helping and behavioral control. Three outcomes were assessed: Intent to help someone, proactive behavior to promote the other person's mattering, and proactive behavior to prevent SDV. Measures showed adequate reliability and validity (Cronbach's alphas above .70). Overall, regression analyses across the three outcomes partially supported the Theory of Planned Behavior. Attitudes and confidence explained variance in intent to help and proactive behavior outcomes, whereas intent and social norms showed more mixed associations with the three outcomes. While the Theory of Planned Behavior is useful to explain gatekeeper outcomes for suicide prevention, specific significant factors within the model vary by the specific outcome being examined. Further research to unpack nuances in gatekeeper behaviors is needed and may help design prevention strategies.

Keywords

violence prevention; bystander; self abuse; Lesbian/Gay/Bisexual/Transgender

Corresponding Author: Victoria Banyard, Rutgers University, 390 George Street, New Brunswick, NJ 08901-8554, USA. victoria.banyard@rutgers.edu.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

Introduction

The rates of deaths by suicide have been increasing over time; increasing by 62% between 2007 and 2021 among people ages 10 to 24 (from 6.8 deaths per 100,000 to 11.0) (Curtin et al., 2023). These rates varied by age: among youth ages 10 to 14, rates increased from 0.9 to 2.9 per 100,000 and then remained stable through 2021; among youth ages 15 to 19, rates increased from 7.5 to 11.8 deaths per 100,000 between 2009 and 2017, and then remained stable through 2021; the suicide rate for young adults, ages 20 to 24, increased from 11.9 to 19.4 deaths per 100,000 between 2001 and 2021. Health disparities in suicide exist: from 2020 to 2021, suicide rates increased significantly for non-Hispanic Black and non-Hispanic White females, as well as non-Hispanic American Indian or Alaska Native, Black, and White males. In 2021, 26.3% of high-school students who identified as a sexual minority reported attempting suicide in the past 12 months compared to 5.2% of their heterosexual peers.

Thoughts of suicide and non-suicidal self-injurious (NSSI) behaviors also occur at alarming rates and share common risk and protective factors with people who die by suicide, although there are complexities in the links between suicide behaviors and NSSI (Grandclerc et al., 2016). According to the Youth Risk Behavior Survey, 18.8% of students seriously considered suicide in 2019, with prevalence rates the highest among females (24.1%), White non-Hispanic students (19.1%), and students identifying as a sexual minority (46.8%) (Ivey-Stephenson et al., 2020). A meta-analysis across 62 studies involving 264,638 youth found an aggregate lifetime prevalence of NSSI among a non-clinical sample of adolescents to be 22.0%, and in the last 12 months, to be 23.2% (Xiao et al., 2022). Results of a meta-analysis of 97 articles suggest that sexual minority youth are 2.25 to 5.80 times more likely to report NSSI compared with heterosexual youth (Rogers & Taliaferro, 2020). Further, lifetime, past year, and past 6-month rates are significantly higher among gender minority youth compared to cisgender youth. In one study of middle- and high-school students in an underserved community, NSSI was similar between boys and girls but differed by race, with African–American youth being more likely to report this behavior than White youth(Latzman et al., 2010).

In the current paper, we consider attempts to die by suicide, thoughts of suicide, and NSSI together under the term self-directed violence (SDV). Both are an important part of recent concerns about the mental health of adolescents and young adults (Gaylor et al., 2023). Added to this adversity burden is the impact that exposure to others' SDV may have on young people (Mitchell et al., 2022). Young people experience stress when they are exposed to other people's SDV behaviors but are also potential prevention and intervention resources when it occurs. Increasing numbers of prevention programs focus on potential bystanders,[1] sometimes also referred to as gatekeepers (Quinnett, 2023; Williford et al., 2021). A key goal of these programs is to reduce barriers to accessing mental health resources and to

[1]. Numerous terms are used to refer to those exposed to peers who engage in interpersonal or SDV including bystander, actionist, and gatekeeper. In the field of suicide prevention gatekeeper is most often used. Given that in some fields the term gatekeeper can be used to represent a barrier to positive outcomes, we chose to use the word bystander in the current study.

make sure that peers, school personnel, family, and community members who learn about someone's risk for suicide are able to connect the at-risk individual to professional support.

Helping people who have thoughts of dying by suicide or who engage in self-harming behaviors is a complicated process and one that is less well understood than bystander behaviors to support people experiencing other problems such as sexual and relationship violence or bullying (Holmes et al., 2021). What much of the research on bystanders, particularly for suicide prevention, has in common, however, is the widespread use of the Theory of Planned Behavior (TPB) as a guiding model (Kuhlman et al., 2017; Robinson-Link et al., 2020). The TPB was developed by Ajzen (Ajzen & Schmidt, 2020) and colleagues to explain the uptake of health behaviors. It is one of the most widely used theoretical models in prevention and intervention programming. Behavior is determined somewhat distally, in this model, by attitudes about the target behavior (e.g., Is it seen favorably? Is it seen as useful or helpful?), perceptions of what others think about the behavior (e.g., social norms), behavioral control (e.g., one's own sense of efficacy or confidence in performing the behavior and factors related to how much the behavior is under the individual's ability to effect it). These attitudes and self-efficacy affect intentions to perform the behavior and intentions are the proximal driver of behavior (Ajzen & Schmidt, 2020). While other helping models have been proposed for bystanders to interpersonal violence (Banyard, 2015), the more specific use of the TPB in suicide prevention made it a useful frame for the current study. Indeed, to date, research on this model for suicide prevention has been applied most often with college students, adults, or participants engaged in suicide prevention training courses (Aldrich, 2015). Intervention studies suggest weak effects of variables specified in the model on actual helping behaviors (Robinson-Link et al., 2020), suggesting the need for more research both on the measures used to assess components of TPB and on how they relate to a variety of helping actions across samples. The current study aimed to understand how components of the TPB explain variation in helping behaviors among a younger sample than is often studied in relation to SDV bystander behaviors. While direct links between suicide behaviors, ideation, and NSSI are complex (more likely with certain combinations of risk factors), given high rates of all of these kinds of SDV among young people, the current study examined helping across the range of SDV rather than only suicide thoughts and behaviors or NSSI specifically.

The Theory of Planned Behavior

TPB has been used in several studies of suicide exposure, and prevention (Aldrich, 2015; Aldrich et al., 2023; Cox, 2021; Kuhlman et al., 2017) including what the suicide prevention field terms "gatekeeper training programs." At the core of these programs, adults, and more recently, adolescents, are taught to recognize signs that someone may be considering dying by suicide, to ask questions, and to connect the individual to supportive resources (Ng et al., 2021; Williford et al., 2021). The TPB has been used to understand barriers and facilitators to bystander engagement and helping and is often used to guide prevention messaging (Cox, 2021). Because the TPB was developed to predict the changing of one's own behavior, further research is needed to better understand its applicability in predicting helping behavior, particularly whether variables related to affecting bystander behaviors

are the same or different from efforts to change solely one's own behavior, particularly in samples that include adolescents.

TPB and Bystander SDV Prevention

A number of studies have explored how TPB factors are linked to bystander behaviors to reduce SDV (Burnette et al., 2015, Aldrich et al., 2023). Attitude/belief measures (e.g., awareness of risk factors for suicide, beliefs that suicide can be prevented, and attitudes about the acceptability of using mental health services) have shown mixed results in predicting intention to help. While Kuhlman et al. (2017) looked at attitudes related to a wider range of bystander actions in a sample of adults and found attitudes were related to intent to help, other research has not found this association. For example, in one study of college resident advisors, attitudes about referring to mental health services were not significantly related to bystander intent to refer at-risk students (Servaty-Seib et al., 2013). Another study of college students found that positive or negative feelings about intervening with a person who had suicidal ideation were not related significantly to intent to help (Aldrich, 2015).

Two other key distal parts of TPB are self-efficacy and social norms. These variables have shown a stronger relationship to bystander behaviors compared to the mixed effects of attitudes described above. Among resident assistants on a college campus, feeling confident about asking about SDV, and perceiving that social network members supported helping (social norms), were related to greater intent to refer perceived at-risk students to counseling (Servaty-Seib et al.,2013). A study of school personnel, however, did not find significance for self-efficacy (Wyman et al., 2008) when actual bystander behaviors (rather than intent) were measured. In a study by Aldrich et al. (2023) with college students, intent to help was predicted by greater self-efficacy, more positive perceived social norms, and attitudes showing that participants believed intervening would be helpful. A study by Kuhlman et al. (2017) found greater perceived self-efficacy to help was the only variable significantly associated with greater intent to ask questions about someone's thoughts of suicide. Intent to question, consistent with the TPB, was related to both referral and questioning behavior outcomes.

Mixed effects related to how components of the TPB explain bystander helping may be due in part to the variety of measures used as measurement development in this area is in its early stages and measures that may capture variables specific to adults may be different from those used on campus with college-attending young adults or what might be needed for understanding adolescent bystanders' experiences. For example, a pilot study of adolescents described a variety of new helping behaviors captured in open-ended responses (Banyard et al., 2021). This work highlighted the need for ongoing measurement development.

Gaps in the Application of TBP to Bystander Response to SDV

The extant research provides some support for aspects of the TPB's predictive value for bystander behavior. These include findings that higher self-efficacy for helping and social norms supportive of bystander intervention increase intent and helping. Given the growing use of bystander training for SDV prevention, ongoing research is needed to fill in a number

of gaps in our understanding of how helping might happen. The first gap relates to the types of helping that are measured. Typical behavior outcomes are whether the bystander asks about SDV and whether they refer to professional helpers. Asking questions about suicide may be enacted very differently than referring someone for professional help. Indeed, there is evidence that different factors are associated with different types of bystander behavior (Kuhlman et al., 2017; Muehlenkamp & Hagan, 2020). Preliminary work with younger participants showed that peers are engaging in a wide range of helping behaviors (e.g., contacting a crisis hotline, encouraging the person to get counseling or talk to their family) to try to reduce SDV (Banyard et al., 2021). Further, and borrowing from the interpersonal violence literature (Banyard et al., 2020), prevention behaviors for bystanders have been expanded beyond actions when someone is directly at risk to now include behaviors that can enhance the presence of strengths. An example would be promoting norms about healthy relationships. In the area of SDV prevention, the interpersonal theory of suicide highlights isolation and a blocked sense of belonging as risk factors for suicide (Calear et al., 2021). Proactive bystander behaviors, then, might include promoting a sense of belonging and mattering (a sense that one is connected to and important to other people) among social network members generally as well as promoting healthy coping with stress among network members (Wyman et al., 2022). These proactive behaviors have been less frequently measured and studied in the suicide and SDV prevention literature.

A broader developmental range is also absent from the current literature. Most studies use college samples or adults, and samples that are engaged in prevention training. The field knows less about adolescents even though pilot data showed over 80% of one sample reported SDV exposure (most also knew multiple people at risk of SDV) and an average of 5 different types of helping behaviors (Banyard et al., 2021). Further, there are also very few articles that measure actual behavior or that measure a range of types of helping beyond just asking questions or making referrals. Given that young people are at high risk of suicide and suicide exposure, more research is needed to refine measures and models of helping (Kuhlman et al., 2017).

The current study addresses limitations in the field of understanding TPB as a model of bystander intervention to prevent SDV. The study expands the age range for testing TPB related to helping with SDV prevention to include adolescents, assesses the reliability of new measures centered on the experiences of this younger age group, and looks at proactive behaviors rather than those focused on risk reduction. Specifically, the aims of the current project are to examine the TBP cross-sectionally in a sample of adolescents and young adults. Analyses first described a range of measures developed for the current study (Aim 1). These measures were then used to examine components of TPB. Specifically, we hypothesized that attitudes/beliefs about SDV, greater self-efficacy to help prevent SDV and perceptions of social norms supportive of helping would be related to greater intent to help and greater self-reports of proactive helping behaviors (Aim 2). Intent to help was measured as both an outcome, since it is described as a key driver of behavior in the TPB, and as a positive correlate of two measures of proactive helping (behaviors to learn more about SDV prevention and to have conversations about it, and behaviors to support a sense of mattering in one’s social network). The findings can be used to further evaluate bystander training with adolescents and tailor bystander training programs.

Methods

The Project Lift Up Study is an ongoing longitudinal national survey of youth and young adults designed to understand bystander behaviors for SDV. Baseline data consists of 4,981 youth and young adults (aged 13–22 years) recruited between June 11, 2022 and October 30, 2023, including a large oversample of sexual and gender minority youth. Table 1 provides details of the demographic characteristics of the sample. The protocol was reviewed and approved by the University of New Hampshire Institutional Review Board.

Participants were recruited through study ads (i.e., advertisements) on social media, predominantly *Facebook* and *Instagram*, but also *Reddit*, *Snapchat*, *Quora*, and *TikTok*. Online ads encouraged youth and young adults to "have their voice heard" and "make a difference." Survey aims were not mentioned to reduce self-selection bias based upon interest in a particular topic. Those interested clicked on the online advertisement, which linked them to a secure survey that provided a study description and screening questions to determine eligibility. Those who were eligible (i.e., 13–22 years of age, living in the United States, English speaking), were then asked to read an assent (ages 13–17) or consent (ages 18–22) form and to indicate their willingness to participate in the survey before continuing with the main survey. A waiver of caregiver permission was granted because requiring caregiver consent could potentially place youth in situations where their sexual experiences and/or sexual attraction could be unintentionally disclosed to their parents. Appropriate mechanisms were in place to protect the participants, such as localized referrals to mental health support.

Extensive steps were taken to help ensure the validity of the data against fraudulent entries and bots, including collecting multiple data points (i.e., IP address, internet service provider, phone number, city and state of residence, city and state of birth, email address, and social media account names), which were reviewed 3 to 5 times per week, depending on the rate of completion, by cross-referencing them with all prior complete and incomplete entries for duplication. Other data points reviewed include time spent completing the survey, response to purposely inserted attention check questions (i.e., to ensure your browser is working correctly, please answer "strongly agree"), whether the participant accepted or declined the incentive, and referral sources (e.g., how the participant came into the study). If we were still uncertain after reviewing the above datapoints, we conducted direct outreach via email or phone to suspicious individuals.

Participants were given a $15 incentive as an Amazon gift code for completing the survey. Ineligible youth were directed to a web page that included links to general resources for youth (e.g., National Youth Crisis Hotline, 988 Crisis Line). To promote a diverse sample, demographic quotas were identified. Once the targeted number of participants in a particular group had been achieved (e.g., aged 13–17, cisgender girls), subsequent youth in this group who were otherwise eligible were deemed ineligible. Specifically, we established 16 "bins" for study reflecting different age (adolescents vs. young adults) and social identity group memberships, sex at birth (male vs. female), sexual and gender identity (SGM vs. non-SGM), and race/ethnicity (race or ethnic minority vs. not).

Measures[2]

Demographic Characteristics. Demographics were used as control variables in the analyses (see Table 1). Age was a continuous variable ranging from 13 to 22 years. Self-reported *household income* comprised three answer choices: lower than the average family, about the same as the average family, and higher than the average family. For multivariate analyses, those who indicated their family income was "lower than average" were compared to all other youth. Youth reported their *race* and were able to pick multiple responses. E*thnicity* was coded as Hispanic versus other. Participants were offered multiple options for gender identity: cisgender boy/man; cisgender girl/woman; transgender boy/man (assigned female at birth); transgender girl/woman (assigned male at birth); nonbinary; none of these describe me and I'd like to consider other options (i.e., genderqueer, genderfluid, gender variant, pangender, agender, indigenous, or other cultural gender minority identity (such as two-spirit), questioning or unsure, I want to specify), and prefer not to answer. Options for sexual identity included: gay, lesbian, bisexual, or heterosexual, none of these describe me and I'd like to see other options (i.e., queer, polysexual or omnisexual or sapiosexual or pansexual, demisexual, asexual, two-spirit, have not figured out, mostly heterosexual but sometimes attracted to people of my own sex, do not think of myself as having sexuality, do not use labels, questioning or unsure), and prefer not to answer. Participants could endorse multiple options. Since the research questions in the current paper did not focus specifically on sexual or gender identity, two dichotomous variables were created, one indicating sexual minority identity (yes/no), and the other gender minority identity (yes/no).

Components of TPB

Self-Efficacy. Behavioral control or self-efficacy (measured as bystander confidence) as a bystander was measured using 13 items and a 5-point response scale in which youth were asked how able they felt they were to do a number of different prevention activities from "*not at all able*" (1) to "*extremely able*" (5) (see Table 2). Seven items were adapted from Wyman (Wyman et al., 2008) with language changed to be relevant to young people rather than school personnel, and four items from Aldrich (2015) that were not specific to college students and that were different from the Wyman items. Two additional items, including the ability to "talk with friends about suicide prevention" and "help someone who seems alone feel like they matter" were created for this study from the results of pilot qualitative data.

Readiness to Help. Based on bystander work in the field of interpersonal violence, but substituting "suicide and self-harm" for "sexual and relationship violence" four items were used (Banyard et al., 2014). For example, one item had youth respond to the statement: "suicide is not an important problem" as an item for denial. A responsibility item asked youth to respond to the statement: "I should learn more about suicide and self-harm." Youth responded on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Knowledge About Suicide Prevention. This construct was assessed using two items: "It is possible to prevent suicides" (Ramberg et al., 2021) and "Intervening when someone is

[2]Full survey available upon request from authors.

suicidal would be helpful." (Aldrich, 2015). A 5-point scale from "*strongly disagree* (1)" to "*strongly agree* (5)" was used.

Stigma About Help-Seeking. Stigma was assessed as an attitude using five items. Four items ("it is a sign of personal weakness to see a mental health counselor for personal problems") from Komiya et al. (2000) and one item from Mackenzie et al. (2004), "If I were feeling sad or worried or really upset, I would go see a counselor/therapist" were used. The main wording change was using "counselor/therapist" instead of "professional help" to increase clarity for our adolescent participants.

Social Norms Around Helping Behaviors Specific to Self-Harm. Items measuring social norms were modified from Aldrich et al. (2014) to parallel the bystander action items, to be appropriate for non-college samples, and to include forms of help-seeking from adults and others as noted by Wyman et al. (Wyman et al., 2010) Participants were asked how much each statement applies to "people you are close to"; seven specific behaviors were queried: (a) trying to help someone who wants to hurt themselves; (b) suggesting someone who is very depressed or thinking about hurting themselves see a counselor; (c) talk about suicide prevention; (d) reach out to let people know they belong and matter; (e) take away dangerous things, like guns or pills, from someone who may be at risk for hurting themselves; (f) contact a hotline or other mental health resource about someone they know who might be at risk for hurting themselves; and (g) ask someone who seems depressed if they are thinking about hurting themselves. Response options ranged from (1) *strongly disagree* to (5) *strongly agree*.

Social Norms About Proactive Behaviors and Mattering. A set of four items focused on social norms related to strengths-focused prevention was created for this study by asking about agreement on a 1 to 5 scale with items like "People I am close to think it is important to show friends and family that you appreciate them."

Outcomes

Bystander Intent. Due to space constraints, a one-item intent question was posed to all participants, "Overall, how willing would you be to help someone who is at risk for hurting themselves?" with responses on a scale ranging from (1) "*not at all willing*" to (5) "*extremely willing*." This one item correlated highly with the full scale administered only to participants who did not report any SDV exposure ($r = .69$, $p < .001$).

Due to considerations about survey length, only participants who did not report an instance of SDV exposure (and thus did not complete the set of incident follow-up questions) were given a full intent to help questionnaire ($n = 180$). This measure used 14 items adapted from previous work including 10 from Aldrich et al. (2014) (Adaptations removed items related to negative helping and specific to college campus contexts and combined items asking about the use of supports). Participants were asked to mark how willing they would be to "help someone who wanted to hurt themselves, in each of these ways." Five additional items were created based on qualitative questions from a pilot study (Banyard et al., 2021), "Get someone to promise not to hurt themselves," "Persuade someone I know to seek help if they

were hurting themselves," "Get others to help me try to help someone at risk for hurting themselves," " Talk to friends about suicide prevention," and "Help someone who seems alone feel like they matter or belong." Response options ranged from *not at all willing* (1) to *extremely willing* (5). Missing data ranged from 4.6% to 6.9%; missing responses were dropped. Reliability for the entire scale was (α = .96).

Proactive Bystander Behaviors. The current study focused on a new set of bystander prevention behaviors that are not reactive to a risky situation but rather model positive norms and contribute to protective factors. They are behaviors that can be done in the absence of risk (Banyard et al., 2019). Participants responded to a question asking about "things some people do to help more generally." Answers were provided for each of seven types of proactive helping using a 5-point scale from "*strongly disagree*" (1) to "*strongly agree*" (5). Seven items included behaviors like, "I show people I'm close to that they are important to me," and "I talk to people I'm close to about healthy ways to cope like exercise," and "I try to learn about warning signs of suicide and depression."

Data Analysis

To address the first aim, to describe measures used in the current study, a series of factor analyses using varimax rotation was run on the new TPB model measures (readiness, social norms, and bystander self-efficacy). These analyses were also run for the new proactive behavior outcome items. Reliability analyses were run for these measures for the full sample and with comparisons made between the following groups: (a) age (ages 13–17 vs. 18–22); (b) race and ethnic identity (White, non-Hispanic vs. youth of color); (c) gender identity (cisgender vs. gender minority); and (d) sexual identity (exclusively heterosexual vs. sexual minority). Finally, a set of cross-sectional linear regression models were used to regress the outcomes (intent and proactive helping actions) on the set of TPB variables measured controlling for a range of demographic variables and their own reported SDV. Intent to help, given its placement in the TPB was first treated as an outcome variable (to examine the extent to which TPB attitudes were related to intent) and also treated as a potential correlate of the proactive helping actions. Rates of missing data were low and missing items on scales were replaced with the item means.

Results

Describing Constructs of the TBD Model by Social Identity

Tables 2, 3, 4, 5, and 6 contain Aim 1 findings. Cognitive variables measured as part of TPB in the current study as knowledge of SDV prevention, were assessed with too few items for factor analyses and are discussed in more detail in the regression analyses below. Factor analysis of the four readiness-to-help items produced a one-factor solution (Cronbach's alpha was low at .56, although factor loadings for the four items were acceptable ranging from .58 to .76). Further, the same analysis of the 16 confidence items produced a two-factor solution that accounted for 54.1% of the variance (see Table 2). The first factor accounted for 29.9% of the variance and included nine items that reflected confidence in talking directly with someone about reducing their SDV behaviors This factor was labeled "efficacy

for direct intervention." The second factor (24.2% of the variance) included seven items that related to one's confidence in accessing resources for helping.

The six proactive behavior items were also analyzed using factor analysis. A two-factor rotated solution explained 68.3% of the variance. Factor one, four items (38.4% of the variance), reflected behaviors related to learning about suicide and positive mental health behaviors (named "SDV specific proactive behaviors"). Factor two consisted of two items (30.0% of the variance) that focused specifically on conveying a sense of mattering and belonging to others. This second factor seems to represent the bystander corollary of the sense of belonging that can be a risk factor when measured as an individual's perception that they matter or belong in relation to others (Glenn et al., 2022). Table 3 presents these findings.

Readiness to help loaded on one factor. The eleven social norms items were similarly analyzed using factor analysis with varimax rotation; a two-factor solution was again identified and accounted for 58.9% of the variance. Factor 1 (7 items and 31.0% of the variance) captured social norms specific to support for SDV-focused helping (see Table 4). The second factor (4 items explaining 27.9% of the variance) seemed to focus on support for promoting mattering and healthy coping among social network members.

Tables 5 and 6 display descriptive data for all these new measures for the full sample, as well as stratified by age and race/ethnicity, gender identity, and sexual identity. All measures demonstrated good reliability within each group, as well as consistency across different social identities. Bivariate correlations between these 10 TPB factors are shown in Supplemental Table 1. All variables were related to one another with Pearson correlations, ranging from .17 to .69. These analyses are meant to be a preliminary look at how these new measures performed.

Examining the Relation Between TPB Factors and Bystander Outcomes

Three bystander outcomes were assessed: Intent to help, proactive behavior—SDV specific, and proactive help—mattering (Aim 2, see Table 7). Linear regression analyses are displayed in Table 7. Intent to help, analyzed using the full sample and short measure—(see Supplemental Table 2), was greater among those participants who indicated supporting readiness to intervene ($\beta = .30$, $p < .001$) and greater knowledge about SDV prevention ($\beta = .05$, $p < .001$). Those who reported greater confidence in directly helping reported greater intent ($\beta = .33$, $p < .001$). Participants who reported engaging in more behaviors to convey that others matter to them also expressed greater intent to help ($\beta = .07$, $p < .001$) Social norms were not significantly related to intent nor was confidence for accessing resources for helping. Intent to help is traditionally measured using multiple items (Banyard et al., 2014), so we replicated regression analyses within the sample ($N = 180$) that received both intent measures to examine differences in outcomes for the two measures. Overall, the findings were similar, suggesting that the one-item intent measure was sufficient to capture variables that explained variance in this outcome. See Supplemental Table 2 for these regression analyses.

When SDV-specific proactive behaviors were the outcome, these behaviors were greater among young people who had greater readiness-to-help attitudes (β = .08, $p < .001$), higher scores on both indicators of confidence—to access resources (β = .21, $p < .001$) and intervene directly (β = .19, $p < .001$), who perceived higher social norms—both related to promoting mattering (β = .20, $p < .001$) and promoting helping (β = .09, $p < .001$), and those who reported engaging in more behaviors to show network members that they belong and matter (β = .16, $p < .001$). Intent to help was neither significant for this outcome nor were attitudes related to receiving help and knowledge about SDV prevention.

Proactive behaviors to show others that they matter were higher among participants who indicated greater readiness to help (β = .11, $p < .001$), lower perceived stigma related to mental health services (β = −.06, $p < .001$), greater confidence in intervening directly (β = 0.30, $p < .001$), greater perceptions of social norms around promoting mattering (β = .11, $p < .001$), and greater intent (β = .08, $p < .001$). Social norms related to helping were not significant for this behavioral outcome nor was knowledge about SDV prevention. Surprisingly, confidence in seeking outside resources was lower among those who indicated more mattering behaviors (β = −.11, $p < .001$).

Discussion

The current findings demonstrate that bystander behavior for SDV is multifaceted as aspects of TPB show mixed relationships depending on the outcome measured. Concepts drawn from TPB were significant in explaining variance in intent to help. Attitudes and confidence were associated with greater expressed intent to help. However, inconsistent with TPB, social norms were not significantly related to intent to help. It may be that one's intent to help is more driven by intra-individual factors (i.e., attitudes, knowledge, confidence) rather than more relational/contextual factors. For some types of bystander behaviors related to SDV, social norms may have a more direct effect on behavior than via intent as a mediator. This may also be a measurement issue, as the reference group for both social norms and intent to help were rather general. It may be that more specificity, for example, asking about what friends would do in questions about norms and asking intent questions again more specific to peers or family members, would produce more significant findings. Further research is needed.

Similar variables were also significantly associated with understanding variation in two types of prevention behaviors: bystander actions to engage in prevention conversations, and to help by promoting mattering and health in one's social networks. Consistent with the TPB, attitudes related to readiness to help (i.e., seeing SDV as a problem) were associated with higher self-reports of both outcomes. Self-efficacy and perceived social norms had robust associations with proactive actions. Knowledge of SDV prevention, however, was not a significant factor for understanding either outcome. Stigma (significant in previous work, Kuhlman et al., 2019) lowered only proactive behaviors related to mattering.

There were also nuanced findings that suggest that the TPB, as measured in the current study, does not fully explain each outcome measured. The social norms measure related to SDV helping was only significant for increased proactive bystander behaviors that

focused on learning more about SDV and how to help. On the other hand, social norms related to the value of showing others that they matter and belong and promoting healthy coping were associated with both proactive behaviors: those to prevent SDV specifically and more generally to promote mattering/healthy coping in one's network. Previous work on bystander intervention for violence prevention has shown different patterns of findings for various types of social norms (Banyard et al., 2019). The current findings suggest that different types of social norms perceptions are related to different types of prevention behaviors. Measures are needed that capture this complexity, and prevention strategies may need to work to foster various types of social norms including those related to different relationships (peers versus family members or acquaintances). Further, social norms themselves are a complex construct including the reference group for perceived norms, how much a person may be affected by perceived norms, and different types of social norms (descriptive versus injunctive). This is an important area for future research.

Surprisingly, self-efficacy in accessing resources to prevent SDV was related to lower behaviors to support belonging and mattering. It may be that those who are more willing to access outside resources may think it is less useful to spend time developing belonging and mattering as these are strategies that may center on helping more within a social network rather than outside of it. Importantly, newer programs like Wyman et al.'s (2022) Connect program seek to do both—strengthening social networks and increasing members' ability to access outside resources.

Contrary to the TPB, intent to help was significant only for proactive behaviors related to mattering and not those focused on SDV prevention specifically. This is consistent with other studies that show different patterns of TPB factors are significant for different types of bystander behaviors (Kuhlman et al., 2017; Muehlenkamp & Hagan, 2020). But those studies mainly studied the referral of someone to professional help or asking about suicide whereas here we also consider behaviors to show someone they matter or to help them cope with distressing feelings or encourage them to get professional mental health help. The current study expands the range of behaviors studied related to SDV prevention. Further, other models of helping (i.e., action coils; Banyard, 2015) may be helpful to assess in the context of SDV. Action coils are feedback loops that influence helping over time. In this model, for example, previous experience with one's own SDV help receiving and/or previous outcomes of bystander helping may in turn influence future helping behaviors.

Limitations

The findings presented here should be interpreted in light of study limitations. The sample was large, diverse, and national in scope, but the adolescent and young adult participants were participating in social media and opted into a survey. The sample was also predominantly White and from the suburbs, limiting generalizability to other communities. Moreover, data are cross-sectional; findings do not imply temporality. Moreover, it is possible that different factors are more important for adolescents' than for young adults' bystander behavior. These developmental analyses, along with examinations of other important subpopulations such as sexually minoritized youth, are important opportunities for future research. Ongoing measurement development is needed. Null findings may be

due to limitations in new measures. In particular, due to space constraints wording of items including social norms and bystander helping were worded generally for social network members. There may be important differences in norms reference groups, for example. Future research should develop assessments of constructs like intent to help that are more relationship and culturally specific. Finally, longitudinal testing of factors that promote or hinder bystander intervention are needed.

Implications for Research and Practice

Based on almost 5,000 13 to 24 year olds across the U.S., findings from the current study suggest that measures developed to assess key aspects of the TPB are reliable. Findings also provide important information on how elements of the TPB such as self-efficacy for helping and social norms have complex relationships with bystander intention and behavioral outcomes for youth bystanders of SDV, thereby extending the model to this important aspect of youth violence. A key implication for future research is the importance of including a wider range of factors and bystander behaviors when researching models. The study finds that the relationship between knowledge, attitudes, intentions, and behaviors is complicated. The current study found, for example, that social norms and helping behaviors around suicide prevention include not only items specific to suicide, but more general perceptions of social norms around mattering and helping behaviors that focus on communicating mattering also play important roles in bystander and bystander behaviors. The communication of mattering by bystanders is an important area for future research to focus on and is supported by research identifying the importance of belongingness in research on suicidal ideation (Glenn et al., 2022).

Although more research will be needed before translating findings into prevention practices, the findings of the current study do suggest several directions. Readiness and self-efficacy were significantly predictive of respondents' intent to intervene with someone at risk for suicide and both types of proactive bystander behaviors. The strength of these factors stands in contrast to knowledge about suicide, which predicted intent but not behaviors. These findings emphasize the importance of bystander-focused prevention initiatives and training to extend beyond just information delivery but to also assist bystanders in building the skills and confidence they need to support people in their lives struggling with SDV. The current measures could be used to evaluate prevention programs and also as assessments to help young people find language for approaching friends and talking about reactions they receive to their helping. Findings also suggest that the relationship between social norms perception and bystander intentions and behaviors is mixed and in need of further study. While some prevention programs for SDV, for example, are taking a social norms approach (Silk et al., 2017), it is important that research continue to help build an evidence base for understanding which types of social norms approaches may result in more effective responses by bystanders.

Conclusions

The TPB has been used for decades to help guide health prevention strategies, including bystander behaviors for suicide prevention. The current study extends this literature by

including adolescents. Findings suggest that factors of the TPB such as readiness to help, knowledge of suicide, self-efficacy for helping, and social norm perception can help predict youth and young adult bystander/bystander behaviors, but the relevant factors vary by the specific outcome being examined. The study highlights the importance of research that broadens the study of bystander outcomes beyond referring people engaging in SDV to support and services.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Funding

The author(s) disclosed receipt of the following financial support for the research and/or authorship of this article: This research was funded by NIMH grant number: *1R01MH128269.* The ideas expressed are the responsibility of the authors and do not represent the National Institutes of Health.

Biographies

Victoria Banyard, PhD, is a distinguished professor in the School of Social Work at Rutgers, the State University of New Jersey, and a member of the Center for Research on Ending Violence. Her research focuses on interpersonal violence prevention, especially bystander intervention, and resilience.

Kimberly J. Mitchell, PhD, is a research professor of psychology at the Crimes Against Children Research Center, located at the University of New Hampshire. Her areas of research include youth exposure to violence generally, with specific emphasis on the areas of technology-facilitated crimes against children, child sex trafficking, exposure to suicide, bias and hate crimes, and sexual violence perpetration. Her work also focuses on these issues among populations with health disparities, particularly sexual and gender minority youth. She has expertise with various national survey methodologies, including those involving law enforcement as well as social media recruitment of youth.

Lisa M. Jones, PhD, is a research associate professor of psychology at the Crimes against Children Research Center (CCRC), University of New Hampshire (UNH). She has over 20 years of experience researching child victimization and adversity exposure, with a focus on commercial sexual exploitation of children (CSEC), sexual abuse, bias and hate crime victimization, and technology-based victimization of children. Her research is aimed at using prevention science and rigorous evaluation methodologies to reduce victimization and improve services for child and youth victims. Dr. Jones publishes and presents regularly on these topics nationally and internationally.

Shira Dunsiger, PhD, is a biostatistician and currently an associate professor (research) in the department of behavioral and social sciences at Brown University. Her research focus is on developing a sophisticated statistical methodology for analyzing data from behavioral medicine, including violence, smoking cessation, physical activity, mood, depression, and

adherence outcomes. Her broad research interests include pattern detection, “big data”, and statistical mediation.

Michele L. Ybarra, PhD, is a recognized researcher in technology-related health issues for young people. She has published extensively in the areas of youth violence, particularly internet harassment and other types of online victimization, as well as sexual violence and dating abuse. She also is known for her contributions to research methodology as it relates to technology.

References

Ajzen I, & Schmidt P (2020). Changing behavior using the theory of planned behavior. In Hagger MS, Cameron LD, Hamilton K, Hankonen N, & Lintunen T (Eds.), The handbook of behavior change (pp. 17–31). Cambridge University Press.

Aldrich RS (2015). Using the theory of planned behavior to predict college students’ intention to intervene with a suicidal individual. Crisis, 36(5), 332–337. [PubMed: 26502783]

Aldrich RS, Cerel J, & Drapeau CW(2023) Suicide knowledge and intention to intervene: College students. Journal of American College Health, 71(1), 182–189. [PubMed: 33759712]

Aldrich RS, Harrington NG, & Cerel J (2014). The willingness to intervene against suicide questionnaire. Death Studies, 38(2), 100–108. [PubMed: 24517708]

Banyard VL (2015). Toward the next generation of bystander prevention of sexual and relationship violence: Action coils to engage communities. Springer.

Banyard V, Edwards K, & Rizzo A (2019). “What would the neighbors do?” Measuring sexual and domestic violence prevention social norms among youth and adults. Journal of Community Psychology, 47(8), 1817–1833. [PubMed: 31508824]

Banyard V, Mitchell KJ, Waterman EA, Rizzo J, A., & Edwards KM (2020). Context matters: Reactive and proactive bystander action to prevent sexual and dating violence in high schools. Journal of School Violence, 19(4), 499–511.

Banyard V, Mitchell KJ, & Ybarra ML (2021). Exposure to self-directed violence: Understanding intention to help and helping behaviors among adolescents and emerging adults. International Journal of Environmental Research and Public Health, 18(16), 8606. [PubMed: 34444354]

Banyard VL, Moynihan MM, Cares AC, & Warner R (2014). How do we know if it works? Measuring outcomes in bystander-focused abuse prevention on campuses. Psychology of Violence, 4(1), 101.

Burnette C, Ramchand R, & Ayer L (2015). Gatekeeper training for suicide prevention: A theoretical model and review of the empirical literature. Rand Health Quarterly, 5(1), 16.

Calear AL, McCallum S, Kazan D, Werner-Seidler A, Christensen H, & Batterham PJ (2021). Application of the interpersonal psychological theory of suicide in a non-clinical community-based adolescent population. Journal of Affective Disorders, 294, 235–240. [PubMed: 34303302]

Cox M (2021). Framing messages for suicide gatekeepers through theory of planned behavior. Southwestern Mass Communication Journal, 36(2), 1–14.

Curtin SC, & Garnett MF (2023). Suicide and homicide death rates among youth and young adults aged 10–24: United States, 2001–2021. NCHS Data Brief, 471, 1–8.

Gaylor EM, Krause KH, Welder LE, Cooper AC, Ashley C, Mack KA, Crosby AE, Trinh E, Ivey-Stephenson AZ, & Whittle L (2023). Suicidal thoughts and behaviors among high school students—Youth risk behavior survey, United States, 2021. MMWR Supplements, 72(Suppl-7), 45–54. [PubMed: 37104546]

Glenn CR, Kleiman EM, Kandlur R, Esposito EC, & Liu RT (2022). Thwarted belongingness mediates interpersonal stress and suicidal thoughts: An intensive longitudinal study with high-risk adolescents. Journal of Clinical Child & Adolescent Psychology, 51(3), 295–311. [PubMed: 34570668]

Grandclerc S, De Labrouhe D, Spodenkiewicz M, Lachal J, & Moro MR (2016). Relations between nonsuicidal self-injury and suicidal behavior in adolescence: A systematic review. PloS One, 11(4), Article e0153760. [PubMed: 27089157]

Holmes G, Clacy A, Hermens DF, & Lagopoulos J (2021). The long-term efficacy of suicide prevention gatekeeper training: A systematic review. Archives of Suicide Research, 25(2), 177–207. [PubMed: 31809659]

Ivey-Stephenson AZ, Demissie Z, Crosby AE, Stone DM, Gaylor E, Wilkins N, Lowry R, & Brown M (2020). Suicidal ideation and behaviors among high school students—Youth Risk Behavior Survey, United States, 2019. MMWR Supplements, 69(Suppl-1), 47–55. [PubMed: 32817610]

Komiya N, Good GE, & Sherrod NB (2000). Emotional openness as a predictor of college students' attitudes toward seeking psychological help. Journal of Counseling Psychology, 47, 138–143.

Kuhlman ST, McDermott RC, Kridel MM, & Kantra LM (2019). College students' peer-helping behaviors and stigma of seeking help: Testing a moderated mediation model. Journal of American College Health, 67(8), 753–761. [PubMed: 30240336]

Kuhlman ST, Walch SE, Bauer KN, & Glenn AD (2017). Intention to enact and enactment of gatekeeper behaviors for suicide prevention: An application of the theory of planned behavior. Prevention Science, 18, 704–715. [PubMed: 28444519]

Latzman RD, Gratz KL, Young J, Heiden LJ, Damon JD, & Hight TL (2010). Self-injurious thoughts and behaviors among youth in an underserved area of the southern United States: Exploring the moderating roles of gender, racial/ethnic background, and school-level. Journal of Youth and Adolescence, 39, 270–280. [PubMed: 19834794]

Mackenzie CS, Knox VJ, Gekoski WL, & Macaulay HL (2004). An adaptation and extension of the attitudes toward seeking professional psychological help scale 1. Journal of Applied Social Psychology, 34(11), 2410–2433.

Mitchell KJ, Banyard V, & Ybarra ML (2022). Are the bystanders okay? Exploring the impact of bystander behavior for self-directed violence. Journal of Adolescent Health, 70(2), 298–304.

Muehlenkamp JJ, & Hagan CR (2020). Factors predicting intent to intervene with a potentially suicidal peer. Archives of Suicide Research, 24(4), 483–497. [PubMed: 31248346]

Ng SH, Tan NJH, Luo Y, Goh WS, Ho R, & Ho CSH (2021). A systematic review of youth and teen mental health first aid: Improving adolescent mental health. Journal of Adolescent Health, 69(2), 199–210.

Quinnett PG (2023). The certified QPR pathfinder training program: A description of a novel public health gatekeeper training program to mitigate suicidal ideation and suicide deaths. Journal of Prevention, 44(6), 813–824. [PubMed: 37740846]

Ramberg I-L, Hökby S, Karlsson L, & Hadlaczky G (2021). Measuring attitudes toward suicide prevention among occupational staff frequently exposed to suicidal individuals: Psychometric evaluation and validation. International Journal of Environmental Research and Public Health, 18(8), 4001. [PubMed: 33920287]

Robinson-Link N, Hoover S, Bernstein L, Lever N, Maton K, & Wilcox H (2020). Is gatekeeper training enough for suicide prevention?. School Mental Health, 12, 239–249.

Rogers ML, & Taliaferro LA (2020). Self-injurious thoughts and behaviors among sexual and gender minority youth: A systematic review of recent research. Current Sexual Health Reports, 12, 335–350.

Servaty-Seib HL, Taub DJ, Lee J, Morris CW, Werden D, Prieto-Welch S, & Miles N (2013). Using the theory of planned behavior to predict resident assistants' intention to refer students to counseling. The Journal of College and University Student Housing, 39(2), 48–69.

Silk KJ, Perrault EK, Nazione SA, Pace K, & Collins-Eaglin J (2017). Evaluation of a social norms approach to a suicide prevention campaign. Journal of Health Communication, 22(2), 135–142. [PubMed: 28098508]

Williford A, Yoder J, Fulginiti A, Ortega L, LoMurray S, Duncan D, & Kennedy N (2021). Peer leaders as gatekeepers and agents of change: Understanding how sources of strength reduces suicide risk and promotes wellness. Child & Youth Care Forum, 51(3), 539–560.

Wyman PA, Brown CH, Inman J, Cross W, Schmeelk-Cone K, Guo J, & Pena JB (2008). Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. Journal of Consulting and Clinical Psychology, 76(1), 104. [PubMed: 18229988]

Wyman PA, Brown CH, LoMurray M, Schmeelk-Cone K, Petrova M, Yu Q, Walsh E, Tu X, & Wang W (2010). An outcome evaluation of the sources of strength suicide prevention program delivered by adolescent peer leaders in high schools. American Journal of Public Health, 100(9), 1653–1661. [PubMed: 20634440]

Wyman PA, Pickering TA, Pisani AR, Cero I, Yates B, Schmeelk-Cone K, Brown CH, Gibbons RD, Simonson J, & Pflanz SE (2022). Wingman-connect Program increases social integration for air force personnel at elevated suicide risk: Social network analysis of a cluster RCT. Social Science & Medicine, 296, Article 114737. [PubMed: 35131614]

Xiao Q, Song X, Huang L, Hou D, & Huang X (2022). Global prevalence and characteristics of non-suicidal self-injury between 2010 and 2021 among a non-clinical sample of adolescents: A meta-analysis. Frontiers in Psychiatry, 13, Article 912441. [PubMed: 36032224]

Table 1.

Demographic Characteristics ($N = 4,981$).

Characteristic	*n* (%)
Age	
13–17 years	2,835 (56.9)
18–22 years	2,146 (43.1)
Mean age (*SD*)	17.4 (2.2)
Sex at birth	
Male	1,868 (37.5)
Female	2,931 (58.8)
Intersex	46 (0.9)
Not reported	136 (2.7)
Gender identity[a]	
Exclusively cisgender	3,074 (61.7)
Transgender	751 (15.1)
Nonbinary, genderqueer, genderfluid, pangender, indigenous	1,206 (24.2)
Agender	204 (4.1)
Gender variant, questioning	348 (7.0)
Not reported	86 (1.7)
Any gender minority identity	1,814 (36.4)
Sexual identity[a]	
Exclusively heterosexual	2,005 (40.3)
Gay, lesbian	674 (13.5)
Bisexual, queer, polysexual, demisexual	1,927 (38.7)
Asexual, no sexuality	406 (8.1)
Questioning, mostly heterosexual, no labels	249 (5.0)
Not reported	64 (1.3)
Any sexual minority identity	2,909 (58.4)
Race[a]	
White	3,711 (74.5)
Black or African-American	557 (11.2)
Asian	572 (11.5)
Hawaiian or Pacific Islander	56 (1.1)
American Indian or Alaska Native	217 (4.4)
Not reported	394 (7.9)
Hispanic or Latino origin	1,071 (21.5)
Youth of color	2,153 (43.2)
Type of community	
Small town or rural area	1,470 (29.5)
Suburban area next to a city	2,462 (49.4)
Urban or city area	958 (19.2)
Not reported	91 (1.8)

Characteristic	*n* (%)
Family income	
Lower than the average family	1,346 (27.0)
About the same as the average family	2,279 (45.7)
Higher than the average family	1,174 (23.6)
Not reported	182 (3.7)

[a]Multiple responses possible.

Table 2.

Factor Analysis for New Efficacy to Help in Situations With SDV Scale.

Scale Item	Perceived Efficacy to Help	
	Direct	Access Resources
Ask someone if they are having thoughts of suicide	0.59	—
Do or say something helpful if someone told me they wanted to hurt themselves	0.78	—
Notice signs that someone might be at risk for hurting themselves	0.61	—
Get someone to promise not to hurt themselves	0.60	—
Persuade someone to seek help if they are at risk or hurting themselves	0.62	—
Really listen to someone who is having a hard time	0.68	—
Express my concern as a caring friend to someone who wants to hurt themselves	0.72	—
Be helpful in a situation where someone wanted to hurt themselves	0.75	—
Help someone who seems alone feel like they matter or belong	0.73	—
Connect someone who is at risk for hurting themselves to mental health services or a hotline for help	—	0.67
Get others to help me try to help someone at risk or hurting themselves	—	0.60
Feel comfortable looking for suicide prevention information from a trusted online source	—	0.60
Call a crisis hotline for help and advice if someone wants to hurt themselves	—	0.75
Be able to find someone in my community for the person at risk of hurting themselves to talk to	—	0.74
Find a friend or family member of the person at risk of hurting themselves to get help from	—	0.73
Talk to friends about suicide prevention	—	0.59

Note. Total scale alpha = .91; factor 1 alpha = .89; factor 2 alpha = .85. SDV = self-directed violence.

Table 3.

Factor Analysis for New Proactive Bystander Behavior Around SDV Measure.

Scale Item	Proactive Bystander Behavior Around SDV	
	Factor 1 (Specific to SDV)	Factor 2 (Mattering)
I talk to people I'm close to about suicide prevention.	0.82	—
I try to learn about warning signs of suicide and depression.	0.71	—
I talk to people I'm close to about getting help from a counselor if they are having a really hard time.	0.74	—
I talk to people I'm close to about healthy ways to cope with stress like exercise.	0.71	—
I show people I'm close to that they are important to me.	—	0.89
I show people I'm close to that I care about what they have to say.	—	0.89

Total scale alpha = .80; factor 1 alpha = .79; factor 2 alpha = .79. SDV = self-directed violence.

Table 4.

Factor Analysis for Two New Measures About Social Norms Related to Mattering and Social Norms Specific to Helping in Situations of SDV.

Scale Items	Social Norms Helping SDV	Social Norms Helping Mattering
People I am close to think it's important to. . .		
Show friends and family that you appreciate them.	—	.82
Tell people you care about them.	—	.85
Learn about suicide prevention.	—	.71
Talk about mental health or healthy ways to deal with stress.	—	.76
People I am close to would. . .		
Try to help someone who wants to hurt themselves	.63	—
Suggest that someone who is very depressed or thinking about hurting themself see a counselor	.70	
Talk about suicide prevention	.68	—
Reach out to let people know they belong and matter	.59	—
Take away dangerous things, like guns or pills, from someone who may be at risk for hurting themselves	.67	—
Contact a hotline or other mental health resource about someone they know who might be at risk for hurting themself	.73	—
Ask someone who seems depressed if they are thinking about hurting themselves	.72	—

Note. Mattering alpha = .83; helping norm alpha = .85. SDV = self-directed violence.

Table 5.

Measure Psychometrics by Participant Age.

TPB Variables	Full Sample (*n* = 4,981)	Adolescents (*n* = 2,835)	Young Adults (*n* = 2,146)	*p* Value	Cohen's *d*	White, Non-Hispanic	Youth of Color	*p* Value	Cohen's *d*
Readiness to help									
Alpha	0.56	0.57	0.55	—	—	0.55	0.57	—	—
Mean, *SD*	16.82 (2.38)	16.80 (2.41)	16.85 (2.33)	.43	−0.02	16.82 (2.31)	16.82 (2.46)	.96	−0.001
Stigma for receiving psychological help									
Alpha	0.77	0.77	0.77	—	—	0.78	0.76	—	—
Mean, *SD*	6.88 (2.91)	7.09 (2.93)	6.61 (2.87)	<.001	0.16	6.68 (2.86)	7.16 (2.95)	<.001	−0.17
Knowledge/literacy about SDV									
Alpha	0.61	0.62	0.60	—	—	0.62	0.60		
Mean, *SD*	6.78 (0.98)	6.73 (1.02)	6.85 (0.92)	<.001	−0.13	6.79 (0.96)	6.78 (1.00)	.77	0.01
Self-efficacy to help—Direct									
Alpha	0.89	0.88	0.89	—	—	0.88	0.89	—	—
Mean, *SD*	29.74 (5.90)	29.63 (5.89)	29.89 (5.92)	.11	−0.05	29.74 (5.72)	29.74 (6.14)	.99	−0.001
Self-efficacy to help—Access resources									
Alpha	0.85	0.85	0.85	—	—	0.85	0.85	—	—
Mean, *SD*	19.90 (5.27)	19.71 (5.30)	20.16 (5.23)	.003	−0.09	20.04 (5.18)	19.73 (5.39)	.04	0.06
Proactive bystander behavior around SDV—Factor 1 – SDV Specific									
Alpha	0.79	0.79	0.78	—	—	0.78	0.77	—	—
Mean, *SD*	10.92 (3.27)	10.68 (3.33)	11.23 (3.17)	<.001	−0.17	11.00 (3.23)	10.82 (3.34)	.05	0.05
Proactive bystander behavior around SDV—Factor 2 – Mattering									
Alpha	0.79	0.79	0.79	—	—	0.77	0.80	—	—
Mean, *SD*	6.72 (1.06)	6.68 (1.08)	6.77 (1.02)	.003	−0.08	6.77 (0.98)	6.65 (1.15)	<.001	0.11
Social norms around mattering									
Alpha	0.83	0.83	0.83	—	—	0.83	0.84	—	—
Mean, *SD*	13.03 (2.69)	12.92 (2.71)	13.17 (2.66)	.002	−0.09	13.03 (0.05)	13.02 (2.81)	.83	0.01
Social norms around SDV helping									
Alpha	0.85	0.85	0.85	—	—	0.85	0.85	—	—
Mean, *SD*	23.57 (4.91)	23.33 (4.96)	23.90 (4.84)	<.001	−0.11	23.76 (4.82)	23.33 (5.03)	.003	0.09
Intent to help[a]									

TPB Variables	Full Sample (*n* = 4,981)	Adolescents (*n* = 2,835)	Young Adults (*n* = 2,146)	*p* Value	Cohen's *d*	White, Non-Hispanic	Youth of Color	*p* Value	Cohen's *d*
Mean, *SD*	4.32 (0.77)	4.33 (0.79)	4.31 (0.76)	.57	0.02	4.37 (0.75)	4.26 (0.80)	<.001	0.15

Note. SD = standard deviation; SDV = self-directed violence.

[a]One item so alpha not appropriate.

J Interpers Violence. Author manuscript; available in PMC 2025 November 06.

Table 6.

Measure Psychometrics by Participant Sexual and Gender Identity.

	Gender Identity				Sexual Identity			
Variables	**Cisgender (*n* = 3,166)**	**Gender Minority (*n* = 1,814)**	***p* Value**	**Cohen's *d***	**Heterosexual (*n* = 2,072)**	**Sexual Minority (*n* = 2,909)**	***p* Value**	**Cohen's *d***
Readiness to help								
Alpha	0.57	0.55	—	—	0.56	0.56	—	—
Mean, *SD*	16.82 (2.4)	16.82 (2.3)	.95	−0.002	16.79	16.84	.45	−0.02
Stigma for receiving psychological help								
Alpha	0.77	0.76	—	—	0.77	0.77	—	—
Mean, *SD*	7.12 (3.0)	6.47 (2.7)	<.001	0.22	7.31 (3.0)	6.59 (2.8)	<.001	0.25
Knowledge/literacy about SDV								
Alpha	0.62	0.61	—	—	0.59	0.63	—	—
Mean, *SD*	6.81 (1.0)	6.76 (1.0)	.13	0.04	6.80 (1.0)	6.78 (1.0)	.25	0.03
Self-efficacy to help—Direct								
Alpha	0.89	0.88	—	—	0.90	0.88	—	—
Mean, *SD*	29.77 (5.9)	29.70 (5.9)	.70	0.01	29.81 (6.1)	29.69 (5.7)	.50	0.02
Self-efficacy to help—Access resources								
Alpha	0.86	0.84	—	—	0.87	0.83	—	—
Mean, *SD*	20.19 (5.3)	19.40 (5.2)	<.001	0.15	20.30 (5.5)	19.62 (5.1)	<.001	0.13
Proactive bystander behavior around SDV—Factor 1– SDV Specific								
Alpha	0.79	0.77	—	—	0.79	0.78	—	—
Mean, *SD*	10.69 (3.3)	11.32 (3.2)	<.001	−0.19	10.55 (3.4)	11.18 (3.2)	<.001	−0.19
Proactive bystander behavior around SDV—Factor 2 – Mattering								
Alpha	0.79	0.77	—	—	0.82	0.76	—	—
Mean, *SD*	6.66 (1.1)	6.82 (1.0)	<.001	−0.15	6.64 (1.1)	6.78 (1.0)	<.001	−0.12
Social norms around mattering								
Alpha	0.83	0.82	—	—	0.83	0.83	—	—
Mean, *SD*	12.85 (2.8)	13.33 (2.5)	<.001	−0.18	12.80 (2.8)	13.19 (2.6)	<.001	−0.15
Social norms around SDV helping								
Alpha	0.86	0.83	—	—	0.86	0.84	—	—
Mean, *SD*	23.37 (5.0)	23.94 (4.7)	<.001	−0.11	23.29 (5.1)	23.78 (4.7)	<.001	−0.10

J Interpers Violence. Author manuscript; available in PMC 2025 November 06.

Variables	Gender Identity				Sexual Identity			
	Cisgender (*n* = 3,166)	Gender Minority (*n* = 1,814)	*p* Value	Cohen's *d*	Heterosexual (*n* = 2,072)	Sexual Minority (*n* = 2,909)	*p* Value	Cohen's *d*
Intent to help[a]								
Mean, *SD*	4.32 (0.8)	4.32 (0.8)	.96	.001	4.30 (0.8)	4.33 (0.8)	.16	−0.04

Note. SDV = self-directed violence.

[a]One item so alpha not appropriate.

Table 7.

Linear Regression Analyses of Different Model Constructs and Their Relationships With Intent to Help and Proactive Bystander Behavior.

	Intent to Help With SDV (*n* = 4,928)		Proactive Bystander Behavior—SDV Specific (Factor 1)		Proactive Bystander Behavior—Mattering (Factor 2)	
Model Constructs	**Beta**	***p* Value**	**Beta**	***p* Value**	**Beta**	***p* Value**
Readiness to help	.30	<.001	.08	<.001	.11	<.001
Stigma for receiving psychological help	−.004	.77	−.01	.31	−.06	<.001
Knowledge about SDV	.05	<.001	−.01	.38	−.001	.93
Self-efficacy—direct (F1)	.33	<.001	.19	<.001	.30	<.001
Self-efficacy—resources (F2)	.01	.57	.21	<.001	−.11	<.001
Proactive behavior—SDV specific (F1)	.004	.80	—	—	.20	<.001
Proactive behavior—mattering (F2)	.07	<.001	.16	<.001	—	—
Intent	—	—	.003	.80	.08	<.001
Promoting positive norms around mattering	−.02	.15	.20	<.001	.11	<.001
Social norms around helping	.004	.77	.09	<.001	.01	.43

Note. Models adjust for type of community (rural, urban), low income, racial minority, ethnic minority, gender minority, sexual minority, and age.