

## ORIGINAL ARTICLE

# Daily-level assessment of the contexts under which seeking social support relates to risk of suicidal thinking

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## Abstract

**Introduction:** Perceived social support is a well-established protective factor against suicidal ideation, yet few studies have examined how actually seeking social support relates to suicidal ideation. We investigated the contexts under which social support seeking may be related to greater, or lesser, suicidal ideation.

**Methods:** Undergraduates completed ecological momentary assessments up to 6 times daily. Multi-level moderated logistic regressions examined interactions between presence of daily-level support seeking with burdensomeness and loneliness as indicators of same-day and next-day suicidal ideation.

**Results:** Seeking social support was positively associated with same-day, but not next-day reports of suicidal thinking. On days when participants felt burdensome and sought support, they had greater odds of reporting suicidal ideation (OR = 1.659, 95% CI = [1.420, 1.938]), compared with days they felt burdensome but did not seek support. There was no effect of burdensomeness on next-day ideation. There was no significant interaction effect between support seeking and loneliness on same-day or next-day ideation.

**Conclusions:** Seeking support and feeling like a burden are associated with a greater likelihood of experiencing suicidal ideation. The current results underscore the importance of equipping at-risk individuals with a toolbelt of a variety of coping skills.

## KEYWORDS

burden, loneliness, social support seeking, suicidal ideation

## INTRODUCTION

Social connectedness is a well-established protective factor against suicidal thoughts and behaviors (Hirsch & Barton, 2011; Kleiman & Liu, 2013). Within the Interpersonal Theory of Suicide (IPTs), an unmet desire for social connectedness with others (i.e., *thwarted*

*belongingness*), combined with beliefs that one is a burden on their social network is thought to lead to the onset of suicidal thoughts (Joiner, 2005; Van Orden et al., 2010). Both inside and outside of the context of the IPTs, considerable research regarding social connection has focused on understanding *perceived* connectedness to others as a protective factor against suicidal thoughts and behaviors

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(Ackard et al., 2006; Czyz et al., 2012). Recent research has also investigated the distinction between frequency of social contact compared with closeness of social relationships and how these factors impact suicidal thoughts and behaviors. Lower levels of social closeness had a stronger association with suicidal ideation and attempts, compared with the frequency of social contact (Mueller et al., 2022). Despite this important investigation into the aspect of social connectedness that is most implicated in suicidal thoughts and behaviors, few studies have extended beyond a perception of connectedness to also examine the impact of acting on the desire for social connection by actually *seeking* support from others.

Social support seeking may have the potential to either increase or decrease the presence of suicidal thoughts. Previous longitudinal research on high school students found that seeking social support was associated with decreased probability of experiencing suicidal thoughts and behaviors (Cenkseven-Önder, 2018). Beyond this work on the bivariate relationship between seeking support and suicidal thoughts and behaviors, we are not aware of any research that has addressed how the act of seeking social support interacts with (and possibly intensifies the effect of) suicide risk factors like thwarted belongingness and perceived burdensomeness.

Social support seeking may be an important coping skill to combat suicidal thoughts and behaviors. As suggested by the IPTS, perceived burdensomeness, and thwarted belongingness lead to an individual's desire to die by suicide (Van Orden et al., 2010). Accordingly, seeking out social support may increase social connection, lead to lower levels of thwarted belongingness and perceived burdensomeness, and subsequently decrease suicidal thoughts. However, the act of seeking social support acknowledges that a problem exists. Consequently, social support seeking may serve as a metric of the onset of a crisis, which, if the attempt to elicit support is unsuccessful, may foster negative feelings and exacerbate suicidal thinking.

College students may be particularly vulnerable to the impact of social support seeking. Numerous studies have demonstrated the strong relationships between greater levels of social support and less suicidal thoughts and behaviors among college students (Hirsch & Barton, 2011; Whatley & Clopton, 1992). As college is often a time in which individuals expand their social network considerably, both online and in person (Wertalik, 2017), college students represent a cohort of individuals with particularly unique levels of social support seeking, which may impact their mental health. Moreover, the IPTS has also been successfully tested among college students, with support detected for associations between increased perceived burden and thwarted belonging with greater suicidal behavior (Becker et al., 2020). With considerable

prior research examining these factors among college students, there is reason to continue to investigate the ways in which social support, perceived burden, thwarted belonging, and suicidal ideation interact with one another among this population with unique social contexts.

The majority of research on these risk factors has focused on relationships with suicidal ideation and behaviors over long periods of time or cross-sectionally, however, existing research has shown that suicidal ideation varies over short time periods (Kleiman et al., 2017). Clarification of the roles of perceived burdensomeness and thwarted belongingness as short-term predictors of suicidal ideation is needed. This study sought to investigate how social support seeking interacts with daily levels of perceived burdensomeness and thwarted belongingness to impact the occurrence of suicidal thoughts. We hypothesized that perceived burdensomeness and thwarted belongingness would be associated with increased suicidal ideation. Due to limited existing research regarding the relationship between seeking social support with perceived burdensomeness, thwarted belongingness, and suicidal thoughts, there were no a priori hypotheses regarding the role of social support seeking.

Two recent studies have investigated constructs of interest from the IPTS using ecological momentary assessment (EMA; Hallensleben et al., 2019; Parrish et al., 2021). Hallensleben et al. (2019) detected that among psychiatric inpatients perceived burdensomeness was associated with passive suicidal ideation in prospective analyses, whereas thwarted belongingness was not associated with passive suicidal ideation over short time periods/days (Hallensleben et al., 2019). Similarly, EMA work by Parrish et al. (2021) found that among a sample of outpatients with psychotic symptoms, suicidal ideation was associated with higher levels of perceived burdensomeness and lower levels of thwarted belongingness. Building upon these studies, investigation into the role of seeking support in relation to perceived burdensomeness, thwarted belongingness, and suicidal ideation may clarify the role of acting upon a desire to connect with others, within the context of the IPTS variables. In the present study, we used daily-level assessments to assess the role of support seeking, thwarted belongingness, and perceived burdensomeness on suicidal ideation on a daily level.

## METHODS

### Participants

The final sample consisted of 74 undergraduate students from a large public university in the Northeast who participated in larger study on everyday lives of college

students that consisted of two waves of students (total  $N = 461$ ). See Kleiman et al. (2020), which presents data from the first wave of the study for an overview of the methodology used in both waves. The participants who were included in this study were individuals with recent suicidal thinking, defined as either (1) a report of suicidal thinking in the month prior to the study or (2) at least one report of suicidal thinking during the study (see below for operationalization of suicidal thinking). 86.49% of the sample reported suicidal thinking during the study and 48.65% reported suicidal thinking in the month before the study. The average age was 19.38 years ( $SD = 0.999$  years). The sample was 70.27% cisgender female, 25.68% cisgender male, 2.70% transgender female, 1.35% non-binary, and 1.35% chose not to disclose. The sample was 50% Asian, 31.08% White, 5.40% African American/Black, 1.35% American Indian/Alaskan Native, and the remainder endorsed multiple races or chose not to disclose. Regarding ethnicity, 10.81% of the sample identified as Hispanic/Latinx. Table 1 provides a summary of participant demographics and suicidal ideation rates.

**TABLE 1** Sample demographics and suicidal ideation rates ( $N = 74$ )

Variable	$N$ (%) / $M$ ( $SD$ )
Age	19.38 (0.999)
Gender	
Cisgender female	52 (70.27%)
Cisgender male	19 (25.68%)
Transgender female	2 (2.70%)
Non-binary	1 (1.35%)
Chose not to disclose	1 (1.35%)
Race	
Asian	37 (50.00%)
White	23 (31.08%)
African American/Black	4 (5.40%)
American Indian/Alaskan Native	1 (1.35%)
Multiple Races/Chose not to disclose	9 (12.16%)
Ethnicity	
Non-Hispanic/Latinx	66 (89.19%)
Hispanic/Latinx	8 (10.81%)
Past month suicidal ideation	
Yes	36 (48.65%)
No	38 (51.35%)
Suicidal ideation endorsed during the study	
Yes	64 (86.49%)
No	10 (13.51%)

## Procedures

Participants were recruited via various university email listservs. Participants completed a consent form and then were sent a baseline survey and instructions on how to install the smartphone ecological momentary assessment (EMA) app, MetricWire ([www.metricwire.com](http://www.metricwire.com)). Once the app was installed, participants received six surveys per day for a total of eight weeks. The six surveys each day contained an assessment of various current affect states. Each night, the last survey of the day included an additional set of questions about events that occurred during the day. Participants were paid up to \$235 in Amazon.com giftcards for their time in the study.

## Measures

### Loneliness

We assessed loneliness at each momentary survey (i.e., *how lonely do you feel right now?*) on a 0 (not at all lonely) to 10 (very lonely) scale. We created a day-level aggregate measure reflecting the mean level of loneliness reported each day for each participant, consistent with all other variables that were measured on the daily level. This type of aggregation could lead to losing some meaningful within-day variability. To assess the extent to which we may have lost variability when aggregating from the within- to between-day level, we examined the intraclass correlations (ICCs) for loneliness at both within- and between-day levels, comparing them to the between person level. The within-day *ICC* was 0.499 [95% CI: 0.424, 0.587] and the between-day *ICC* was 0.571 [95% CI: 0.494, 0.656]. Given the overlap in confidence intervals, it suggests that there was no significant difference in the variability captured by the momentary (i.e., within-day) assessment of loneliness compared with the between-day aggregate.

### Burdensomeness

We assessed daily perceived burdensomeness at the nightly survey (i.e., *how burdensome did you feel today?*) on a 0 (not at all burdensome) to 10 (very burdensome) scale.

### Support seeking

Each night, participants were provided with a list of things they did to cope with stress or negative emotion during that day, including “Sought support from other people.”

For the current study, 0 = did not seek social support and 1 = sought social support.

## Suicidal thinking

Each night, participants were asked whether they had experienced a number of stressful events during the day, including whether they “had suicidal thoughts.” For the current study, 0 = did not have suicidal thoughts and 1 = had suicidal thoughts. We also used this variable as our primary selection criterion for inclusion in this secondary analysis. Specifically, participants were included on the basis of having suicidal thoughts at least once during the study.

## Analytic strategy

We performed two sets of multi-level moderated logistic regressions using the *lme4* R package (Bates et al., 2015). One set of models used contemporaneous data, where same day presence/absence of suicidal thinking was the dependent variable. The other set of models used prospective data, where next day presence/absence of suicidal thinking was the dependent variable. Using models on both time scales allowed us to capture the duration of our hypothesized effects (i.e., whether they persist to the next day or are limited to only one day). Both sets of models included two primary analyses. The first analysis included daily-level support seeking and burdensomeness, as well as their interaction. The second analysis included daily-level support seeking and loneliness, as well as their interaction. In both models, we included burdensomeness and loneliness centered on participant means as well as each participant's mean, which allowed us to identify between versus within-person effects. Given that we were interested primarily in day-level effects, we only examined the interaction between social support and the participant-mean centered data. We participant-mean centered burdensomeness and loneliness using the *EMAtools* package (Kleiman, 2017). We plotted significant interactions using the *sjPlot* package (Lüdtke, 2021) and probed significant interactions using the *reg-helper* package (Hughes, 2021).

## RESULTS

### Descriptives

The 74 participants provided data on a total of 2750 days ( $M = 37.16$  days per participant,  $SD = 18.50$  days). On these days, participants completed an average of 4.17

out of 6 surveys per day (69.5% compliance rate). When adjusting for the variation in number of days in which participants provided data, participants reported suicidal thinking, on average, on 12.31% of days they were in the study ( $SD = 19.36\%$ ). When examining the frequency of suicidal thinking among the 64 participants (86.5% of the sample) who reported suicidal thinking at least once in the study, these participants reported a total of 205 days of suicidal thinking, with an average of 3.20 days of suicidal thinking per participant ( $SD = 5.65$ , range = 1–35 days). Exactly half ( $n = 32$ ) of the sample who endorsed suicidal thinking during the study did so on more than one day.

## Same-day analyses

When examining the bivariate relationship between support seeking and odds of suicidal thinking (i.e., without including any moderators), there was a significant relationship such that participants were 2.82 times more likely to report suicidal thinking on days in which they sought support ( $OR = 2.82$ , 95%  $CI = 1.79, 4.42$ ,  $p < 0.001$ ). Table 2 shows the results of both moderated regression analyses showing the contemporaneous association with same-day odds of suicidal thinking. In the first model examining, the support  $\times$  burdensomeness interaction, the main effect of burdensomeness was positively associated with increased odds of suicidal thinking. The interaction between the two was also significant. When examining the simple slopes (see Figure 1 for plot), the effect of burdensomeness on odds of having suicidal thoughts was greater on days when participants sought support ( $OR = 1.659$ , 95%  $CI = [1.420, 1.938]$ ) than on days when they did not seek support ( $OR = 1.289$ , 95%  $CI = [1.185, 1.402]$ ). In the second model, examining the support  $\times$  loneliness interaction, both seeking support and loneliness were positively associated with odds of suicidal thinking. However, the interaction between the two was not significant.

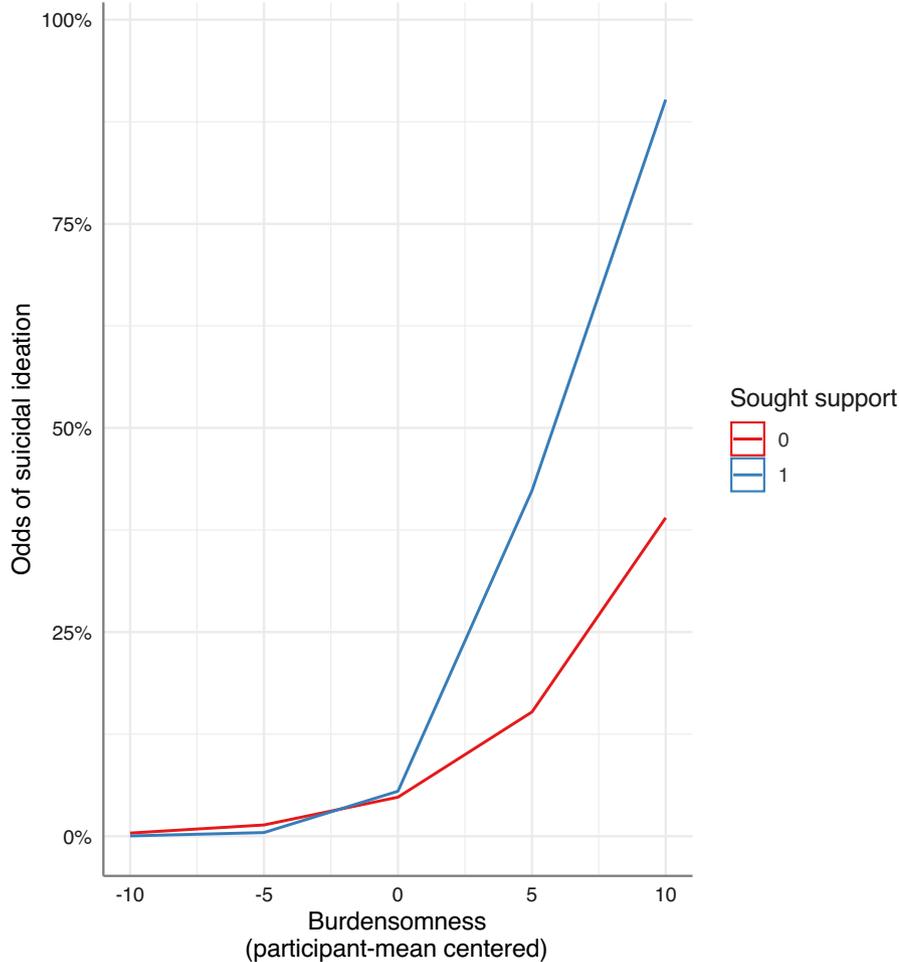
## Prospective analyses

When examining the bivariate relationship between support seeking and next day odds of suicidal thinking (i.e., without including any moderators), there was no significant main (unmoderated) effect ( $OR = 0.816$ , 95%  $CI = [0.474, 1.405]$ ,  $p = 0.463$ ). Table 2 also shows the results of both moderated regression analyses showing the prospective association with same-day odds of suicidal thinking. As can be seen in the table, there were significant prospective associations between the main effect of burdensomeness and loneliness. Higher levels of burdensomeness and loneliness were associated with greater

TABLE 2 Results of the regression analyses predicting the odds of the occurrence of daily suicidal thinking

Predictor	Contemporaneous (same day) models						Longitudinal (next day) models					
	Burdensomeness × support			Loneliness × support			Burdensomeness × support			Loneliness × support		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
(Intercept)	0.020	0.01–0.04	<0.001	0.023	0.01–0.04	<0.001	0.023	0.01–0.048	<0.001	0.023	0.01–0.048	<0.001
Sought support (vs. did not seek)	1.159	0.65–2.06	0.614	2.762	1.70–4.49	<0.001	0.701	0.39–1.26	0.237	0.701	0.39–1.26	0.237
Burdensomeness (participant mean)	1.365	1.15–1.62	<0.001				1.299	1.10–1.54	0.003			
Burdensomeness	1.289	1.19–1.40	<0.001				1.103	1.01–1.21	0.029			
Burdensomeness × support	1.287	1.08–1.53	0.005				1.055	0.87–1.29	0.592			
Loneliness (participant mean)				1.137	0.99–1.31	0.075				1.088	0.94–1.26	0.265
Loneliness				1.355	1.22–1.50	<0.001				1.248	1.12–1.39	<0.001
Loneliness × support				1.015	0.82–1.26	0.894				0.975	0.74–1.29	0.860
Random effects												
$\sigma^2$	3.29			3.29			3.29			3.29		
$\tau_{00}$	1.52 <sub>ID</sub>			1.59 <sub>ID</sub>			1.35 <sub>ID</sub>			1.69 <sub>ID</sub>		
ICC	0.32			0.33			0.29			0.34		
N	75 <sub>ID</sub>			75 <sub>ID</sub>			74 <sub>ID</sub>			74 <sub>ID</sub>		
Observations	2255			2750			2107			2491		
Marginal $R^2$ /conditional $R^2$	0.153/0.421			0.094/0.389			0.070/0.340			0.036/0.363		

Note: participant mean = each participant's mean. Burdensomeness and loneliness are participant-mean centered.



**FIGURE 1** Results of the burdensomeness  $\times$  support interaction predicting the odds of occurrence of daily suicidal thinking

odds of next day suicidal thinking. Additionally, in both models, the main effect for social support and the interactions between social support and burdensomeness and between social support and loneliness were not significant.

## DISCUSSION

The focus of the current study was to understand the association between social support seeking and suicidal ideation. In our cross-sectional analyses, we found that (1) seeking support was associated with increased suicidal thinking, (2) on days when participants felt burdensome and sought social support, they had greater odds of reporting suicidal ideation, and (3) social support had no effect on the relationship between thwarted belongingness and having suicidal thoughts. These findings may seem contrary to what might be expected; however, as we discuss below, these findings highlight an important distinction between *seeking* social support and *feeling* or *perceiving* support. In prospective analyses, there was no significant effect for social support seeking and the impact of perceived burdensomeness and thwarted belongingness was associated with next-day suicidal ideation, whereas the

impact of social support seeking did not last into the next day.

Across the tested cross-sectional models, the main effect of social support seeking was associated with increased odds of suicidal thoughts. Typically, the presence of social support is associated with decreased suicidal thoughts and behaviors (Czyz et al., 2012). Importantly, this study focused on the act of seeking social support, rather than feeling supported. Seeking social support may indicate that something is wrong; when someone feels the need to turn to others for support, there is an implication that an individual is doing poorly. On its own, the act of seeking support was found to be associated with increased suicidal ideation, supporting the notion that while *perceiving* social support may be protective against suicidal ideation, *seeking* social support is an indicator of distress and thus may indicate suicidal thoughts.

Social support seeking moderated the contemporaneous association between perceived burdensomeness and suicidal thoughts; however, there was no significant interaction between social support seeking and thwarted belongingness. While seeking support may be unlikely to intensify an unmet desire to belong, reaching out and asking for support has the potential to put an individual at

risk of having their desire for support rejected, prompting worry about burdensomeness. Moreover, an individual may in fact receive the support they wanted but still have increased perceived burdensomeness (e.g., “I’m grateful that she’s always there for me, but I feel guilty for placing this burden on her”). In addition to the possibility of attempts to seek social support being successful yet producing guilt, the type of stress that results in an individual seeking support may be more intensive, such that suicidal ideation may be more likely, regardless of whether social support seeking is successful or not. It is also a possibility that these participants erode support by seeking it so much that there is less available support or the support that is available is often relied on, serving to create (accurate) perceptions of burdensomeness. Given the multitude of potential interpretations of these findings, further research is needed to continue to understand how the extent to which the desired support is provided impacts suicidal ideation. Additionally, future research may benefit from building upon related existing research to understand the extent to which seeking social support in relation to feelings of burdensomeness interacts with reassurance seeking to impact suicidal ideation (Hames et al., 2015; Starr & Davila, 2008).

Regarding the need to clarify the roles of perceived burdensomeness and thwarted belongingness as short-term predictors of suicidal ideation in the context of the IPTS, perceived burdensomeness appears to have a more robust role in promoting suicidal thinking, particularly in relation to an individual actively seeking social support. The relevance of perceived burdensomeness in the current results is consistent with prior research that has shown perceived burdensomeness to be a more robust predictor of suicidal ideation compared with thwarted belongingness (Chu et al., 2017; Hallensleben et al., 2019). It may also be that different findings for loneliness and perceived burdensomeness were due to retrospective report for perceived burdensomeness at the end of each day compared with multiple times daily assessment of loneliness in the moment feelings of loneliness. Future research should seek to assess these variables at the same frequency to further understand whether these variables have different associations with suicidal ideation in the short-term.

In prospective analyses, there was no significant effect for social support seeking. Whereas the impact of feeling perceived burdensomeness and thwarted belongingness was associated with next-day suicidal ideation, the impact of social support seeking does not last into the next day. Thus, efforts to support individuals in handling instances of social support seeking that do not go as predicted may be most impactful when focused on short-term periods of time following these interactions. These prospective analyses may also align with alternative interpretations of the

cross-sectional analyses wherein individuals may experience burdensomeness, leading to suicidal ideation, which in turn leads to seeking support. This pathway would also show evidence of effective coping skill usage.

There are important clinical and intervention-related implications as a result of these findings. Social support seeking, a coping skill, was associated with greater odds of suicidal ideation. The goal of a coping skill is to reduce unpleasant emotions. If seeking social support may sometimes does the opposite of its intended purpose, there is a need to teach people how to seek support in a way that does not make them feel worse and how to respond to and recover when facing unsuccessful attempts to obtain social support. Moreover, if perceived burdensomeness and suicidal ideation precede social support seeking, the importance of ensuring that seeking social support does not exacerbate negative feelings remains necessary. Interventions are needed to assist people in learning how to seek support and how to appraise the support they receive without feeling like a burden on others. Relatedly, some individuals may benefit from receiving support in planning ahead or role playing for how they will cope with potential outcomes, particularly negative ones, following instances of seeking social support. In addition to skill-building around more beneficial approaches to social support seeking, more effective interventions are necessary for both preventing and lessening perceived burdensomeness. Existing research has developed and investigated the impact of therapy programs that target perceived burdensomeness and thwarted belongingness (i.e., Engage Psychotherapy; Van Orden et al., 2021). Similarly, work by Hill and Pettit (2019) on the LEAP intervention, focuses on targeting perceived burdensomeness among adolescents as a conduit to preventing suicide. Future studies should expand upon these interventions to test existing programs in other populations, such as college students, and develop additional interventions to help individuals in instances where social support is an appropriate venue for coping with problems, yet feelings of burdensomeness still arise.

While social support seeking may be a beneficial coping skill when it results in social connection, the current findings underscore the importance of equipping at-risk individuals with a toolbox of a variety of coping skills. Suicide safety plans rely heavily on reaching out to other people, as evidenced by three of the steps focusing on identifying people who can provide distraction, help, and support during a crisis (Stanley & Brown, 2012). These are essential components of a safety plan; however, in developing these plans, clinicians should help to ensure that individuals at risk are also prepared with additional coping strategies that are not reliant on external factors. In doing so, individuals who are more vulnerable to feeling like a

burden on others, may be better equipped to address their distress.

Given that this is a secondary analysis and the data were not collected with these study aims in mind, we were unable to assess the temporal direction of the results, limiting the current study. To clarify the direction of this interaction, future EMA research should seek to directly ask participants how they cope with both suicidal ideation and feeling like a burden on others, as well as assessing the outcome of social support seeking when they engage in this behavior. Additionally, we did not ask about the type of support that participants sought from others, preventing us from knowing whether individuals were seeking emotional, information, instrumental, or other support types, which may have impacted findings. Future studies should explicitly query for this information.

Seeking support is beneficial when people receive the support that they seek. However, as revealed in this study, seeking support and feeling like a burden are associated with increased suicidal ideation, though the direction of this relationship requires further investigation. Improved interventions are needed to help individuals seek support when they need it and simultaneously decrease perceptions of oneself as a burden. It may also be beneficial to help people seek support before they experience high levels of perceived burdensomeness or suicidal thoughts. In doing so, we can foster the benefit of social support seeking as a coping mechanism to ensure that when people turn to their friends and family for support, they are able to maximize the value in reaching out to others.

#### FUNDING INFORMATION

N/A.

#### CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

#### ETHICS APPROVAL STATEMENT

IRB approval was obtained from the Rutgers University IRB.

#### PATIENT CONSENT STATEMENT

All patients provided written informed consent.

#### PERMISSION TO REPRODUCE MATERIAL FROM OTHER SOURCES

N/A.

#### CLINICAL TRIAL REGISTRATION

N/A.

#### DATA AVAILABILITY STATEMENT

Data are available upon reasonable request from the corresponding author

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**How to cite this article:** Mournet, A. M., Kellerman, J. K., Yeager, A. L., Rosen, R. L., Kim, J. S., & Kleiman, E. M. (2022). Daily-level assessment of the contexts under which seeking social support relates to risk of suicidal thinking. *Suicide and Life-Threatening Behavior*, 00, 1–9. <https://doi.org/10.1111/sltb.12911>