

Does coping reduce suicidal urges in everyday life? Evidence from a daily diary study of adolescent inpatients

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Funding information

National Institute of Mental Health, Grant/Award Number: K23-MH-113776-01

Abstract

Background: Youth suicide has been increasing at an alarming rate. Identifying how youth at risk for suicide cope with daily distress and suicidal thoughts could inform prevention and intervention efforts. We investigated the relationship between previous-day coping and next-day suicidal urge intensity in a high-risk adolescent sample for a 4-week period. We also investigated the influence of adolescents' average coping levels, over 4 weeks, on daily severity of suicidal urges.

Methods: A total of 78 adolescents completed daily diaries after psychiatric hospitalization ($n = 1621$ observations). Each day, adolescents reported their use of specific coping strategies, overall coping helpfulness, and intensity of suicidal urges.

Results: Greater professional support seeking from providers/crisis lines and perceptions of coping helpfulness on the previous day were associated with lower next-day suicidal urges. Adolescents who reported greater average use of cognitive strategies, personal support seeking from family/friends, and higher average perceptions of coping helpfulness, relative to others, had lower daily suicidal urges. Noncognitive strategy use was not related to daily suicidal urge intensity.

Conclusion: Findings point to the benefit of intervention efforts focusing on strengthening personal and professional supportive relationships, assisting youth with developing a broader coping repertoire, and working with adolescents to identify strategies they perceive to be helpful.

KEYWORDS

adolescence, coping, daily diary, ecological momentary assessment, suicidal ideation

Youth suicide has increased at an alarming rate in recent years (Curtin & Heron, 2019) and is currently the second leading cause of death (Heron, 2019). According to recent estimates in the United States, 18.8% of high school students reported seriously considering suicide, and 8.9% indicated that they attempted suicide in the past year (Ivey-Stephenson et al., 2020). Additionally, the development of suicidal thoughts and behaviors typically occurs in adolescence (Gould et al., 2003;

Kessler et al., 1999; Nock et al., 2008), suggesting that approaches aimed at reducing suicidal thoughts and behaviors in adolescents could be beneficial in mitigating risk factors associated with eventual death by suicide. Suicidal thoughts are a primary predictor of suicidal behavior (e.g., Horwitz et al., 2015; Prinstein et al., 2008), yet few studies have examined how individuals at risk for suicide cope with distress, including coping with suicidal urges, and how coping in day-to-day life

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impacts suicidal ideation or behaviors. Addressing this gap could inform much needed intervention efforts for youth at risk for suicidal behavior.

Coping refers to the use of cognitive and behavioral strategies to manage the demands of a challenging situation or to reduce the negative emotions caused by such stress, and has been implicated in various mental health outcomes such as depression and substance abuse (e.g., Cooper et al., 1992; Coyne et al., 1981). While numerous studies have demonstrated correlational associations between coping and suicidal thoughts or behaviors (e.g., Cole, 1989; Horwitz et al., 2011; Spirito et al., 1996), only a few studies have examined these relationships prospectively. In longitudinal studies, certain coping strategies such as self-blame (e.g., Horwitz et al., 2018; Svensson et al., 2014) and avoidance (e.g., Alix et al., 2020) were associated with increased risk for suicidal thoughts or behaviors, whereas positive reframing and problem-focused coping have demonstrated protective effects (e.g., Horwitz et al., 2018; Nrugham et al., 2012; Svensson et al., 2014). At the same time, acceptance-based coping strategies have had protective effects in some studies (e.g., Pietrzak et al., 2017) and deleterious effects in others (e.g., Khurana & Romer, 2012), suggesting that the context in which coping strategies are used has a sizeable influence on effectiveness.

Previous research has also examined the effectiveness of safety plan use in managing suicidal thoughts and urges. Typically, safety plans include internal (e.g., distraction, self-soothing) and external (e.g., calling a crisis line) coping strategies that are specifically aimed at reducing the intensity of suicidal thoughts and urges (Stanley & Brown, 2012). Stand-alone safety and crisis response planning interventions have demonstrated effectiveness in reducing suicidal behavior in adults (Bryan et al., 2017; Stanley et al., 2018), suggesting that coping in this way can be effective in reducing suicide risk. Other studies involving veterans have shown that coping specifically with suicidal thoughts also protected against suicidal events within a 90-day period, even after adjusting for previous suicide attempts, suicidal thoughts, and other well-known risk factors (Interian et al., 2019). In a study examining adolescents and young adults seen for psychiatric emergency services, greater perceived self-efficacy in using such strategies to manage suicidal thoughts, as well as confidence that coping strategies will be helpful, were associated with lower odds of suicidal behavior 4 months later (Czyz et al., 2016), suggesting that beliefs about one's ability to cope and perception of coping helpfulness might also be important protective factors. More broadly, dialectical behavior therapy, which is one of the few psychotherapies to demonstrate effectiveness for reducing suicidal ideation and self-harm behaviors in adolescents (for a review see Kothgassner et al., 2021), has a strong emphasis on developing effective coping strategies to manage emotional distress.

Notably, the majority of previous longitudinal studies assessed coping at only one or two time-points, spaced several months to years apart, which offers limited insight into how daily-level coping influences proximally occurring suicidal thoughts and behaviors. One way to address this gap is by using intensive longitudinal methods, such as daily diaries or ecological momentary assessments (EMAs), to

capture momentary or day-to-day fluctuations in coping and suicidal thoughts. Intensive longitudinal methods have several advantages to traditional prospective examinations, including ecological validity (i.e., measurement of constructs "in the real world"), reducing retrospective bias, capturing variability in constructs across multiple observations, and investigating near-term associations (i.e., hours to days later) between constructs of interest (e.g., Davidson et al., 2017). To our knowledge, only two studies have explored short-term associations between coping and suicidal thoughts. Nock and colleagues (2010) inquired about different types of coping behaviors adolescents engaged in after experiencing suicidal thoughts, finding that participants most frequently reported talking to someone, trying to actively change suicidal thoughts, or doing work/homework as a way of coping. In an EMA study involving 50 adults with borderline personality disorder, Stanley and colleagues (2021) examined short-term associations between common coping strategies and suicidal ideation intensity. They found that distraction and positive activity-oriented strategies, but not mindfulness-oriented strategies, lowered the intensity of suicidal thoughts in the short term (i.e., next-observation), although all strategies were perceived as helpful by participants.

1 | CURRENT STUDY

The present study seeks to expand previous research by investigating daily coping and its association with suicidal ideation among adolescents recently discharged from psychiatric hospitalization who responded to daily surveys for 4 weeks. Over this high-risk postdischarge period, we focused on internal and external coping behaviors that are typically included on safety plans. Our primary objective included examining prospective associations between different types of previous-day coping behaviors, as well as perceived coping helpfulness, and next-day suicidal urge intensity. For each coping type and perception of coping helpfulness, we also sought to understand the associations between average levels of each construct (aggregated across the 4-week period) and daily suicidal urge intensity. By examining both previous-day and average coping levels, we are able to identify the extent to which adolescents' typical levels of coping, as well as more proximally occurring change in coping, may be protective against daily suicidal urge intensity. Given the limited literature in this area, it is important to delineate if coping in everyday life is associated with suicidal thoughts across both state and trait levels of influence. More broadly, very little is known about suicidal individuals' coping behavior in everyday life, including the extent to which coping serves a protective role in the near-term. To the best of our knowledge, day-to-day coping and suicidal ideation were examined in only a single study of adults with borderline personality disorder followed over a week-long period. By focusing on an adolescent sample during a high-risk transition period, this study provides additional insights about coping during a 4-week period, the association between previous-day coping and next-day suicidal urges, and how overall levels of coping during this time

period are associated with daily suicidal urges. This study will provide insights into how adolescents who struggle with suicidality cope with distress and suicidal urges, and how different coping constructs (i.e., strategies and perceptions of helpfulness) are related to reductions in suicidal urge intensity in everyday life.

2 | METHODS

2.1 | Participants and procedures

Psychiatrically hospitalized teens (age range: 13–17) who were admitted due to suicide risk (suicidal ideation that included thoughts about method, intent, or plan in the past week and/or past month suicide attempt) were recruited for this study. Exclusion criteria included: (1) severe cognitive impairment; (2) altered mental status (e.g., psychosis, mania); (3) transfer to residential treatment/medical unit; (4) lack of access to legal guardian (e.g., ward of state); and (5) no cell phone access. Eligibility was established following screening of admission records and consultation with the treatment team. Recruitment took place between March 2019 and January 2020 as part of a pilot psychosocial intervention study. As part of this intervention, all participants received a brief safety planning intervention before the daily diary protocol. Concurrent with the daily diary protocol, some participants received two additional follow-up components while others did not. For additional details, please see Czyz et al., 2021b.

Of 94 individuals approached to participate in this study, 82 (87.2%) provided both adolescent assent and parental consent. Eighty participants completed the baseline assessment before hospital discharge and initiated the daily survey protocol, which began on the day following the date of discharge from the hospital. Every evening, daily surveys were sent via text messages to participant's cell phone for 4 weeks. Participants could receive up to \$222 in study compensation, including \$4/daily survey completed. Responses to daily surveys were monitored by the study's on-call staff who contacted participants if they endorsed current ideation with intent/plan or a suicide attempt in last 24 h. Endorsement of any suicidal thoughts resulted in a display of an automated message with crisis contact information. A final sample size of 78 adolescents was used for this study, as two participants did not complete any daily surveys. This study was approved by the Institutional Review Board at the University of Michigan and conforms to the Declaration of Helsinki standards.

2.2 | Baseline measures

2.2.1 | Patient Health Questionnaire-9 (PHQ-9)

The adolescent version of the PHQ-9 (Johnson et al., 2002) was used to assess baseline depressive symptom severity. Items range on a 4-point Likert scale, from *not at all* (0) to *nearly every day* (3).

The adolescent version of the PHQ-9 has strong psychometric properties, including convergent validity with a diagnostic interview of mood difficulties (Johnson et al., 2002). The internal consistency in this sample was good ($\alpha = .83$).

2.2.2 | The Columbia-Suicide Severity Rating Scale (C-SSRS)

C-SSRS (Posner et al., 2011) was used to assess suicidal ideation severity, on a 0–5 scale (from “wish to be dead” to “suicidal ideation with specific plan and intent”), and suicidal behavior (actual, interrupted, and aborted suicide attempts). At baseline, we report last-week suicidal ideation severity and lifetime suicide attempts obtained via medical record review; the C-SSRS is used as part of clinical protocol before admissions.

2.3 | Daily survey measures

2.3.1 | Daily suicidal ideation urges

Each evening, participants indicated the frequency with which they experienced suicidal ideation within the last 24 h. If adolescents reported any suicidal thoughts, they were asked to rate the intensity of their suicidal urge on a 7-point scale (from “low” to “high”). Those who did not report any suicidal ideation received an urge score of 0. This item was modeled after another intensive longitudinal study (Nock et al., 2010). For our main outcome variable, this urge score was lagged to assess next-day suicidal urge intensity.

2.3.2 | Daily coping

Each day, adolescents reported engagement in eight coping strategies in reference to either suicidal thoughts or, when suicidal thoughts were not present, feelings or stressful events. The eight coping strategies were: (1) talked with a friend or peer, (2) talked with a parent or family member, (3) contacted a crisis line (call, text, or chat), (4) talked with a therapist, counselor, or doctor, (5) did something relaxing or comforting, (6) distracted self with something else, (7) tried to tell self something calming or positive, and (8) either (a) thought about reasons for living (on days when suicidal thoughts were endorsed) or (b) thought about something that makes self feel better (on days without ideation). Level of engagement with each strategy was reported on a 3-point scale (from *not at all* [0] to *a lot* [2]). The eight strategies were grouped into four theoretically related categories: reaching out to personal support (strategies 1–2), reaching out to professional support (strategies 3–4), noncognitive coping strategies (strategies 5–6), and cognitive coping strategies (strategies 7–8), with scores ranging from 0 to 4. Perceived coping helpfulness, irrespective of strategy, was also reported each day, ranging from *not at all helpful* (1) to *extremely helpful* (5). A variable indicating total

coping used each day, across the eight strategies, was also computed (ranging from 0 to 16).

2.4 | Data-analytic plan

A series of multilevel models were conducted to examine if previous-day coping (within-person level) predicted next-day suicidal urge intensity and if average coping level across the 28-day period (between-person level) predicted daily suicidal urge intensity. Four coping categories, as described above, were examined separately, as were two separate models for helpfulness and total coping, resulting in six total models. For each of the models, level 1 (within-person) predictors included the previous-day coping/helpfulness variable and previous-day suicidal urge as a covariate. Level 2 predictors included the corresponding individual mean-level (i.e., between-person) coping/helpfulness variable. Models also included continuous time and intervention indicators during the daily diary period as covariates (given that data were derived from an intervention study). All models included random intercepts. As is typical in daily diary studies, missing data was missing for the entire day (rather than partial completion of a daily survey). As such, missing observations were not included in analyses.¹ Therefore, only consecutive daily observations were used across all six models. Maximum-likelihood estimation was used to handle missing data and an autoregressive covariance matrix was used for the residuals. Analyses were conducted in *R* using *nlme* package (Pinheiro et al., 2017).

3 | RESULTS

Participants had a mean age of 15.19 years ($SD = 1.35$) and 69% were assigned female at birth. Participants reported the following ethno-racial breakdown (could select more than one category): 83.3% ($n = 65$) White, 6.4% ($n = 5$) African-American/Black, 5.1% ($n = 4$) Asian, 5.1% ($n = 4$) American Indian or Alaska Native, and 1.3% ($n = 1$) Native Hawaiian or Other Pacific Islander, 2.6% ($n = 2$) Other. Nine participants (11.5%) self-identified as Hispanic. An average baseline C-SSRS score was 3.91 ($SD = 0.91$), which represents relatively high initial level of ideation (scale range = 0–5). Participants reported an average PHQ-9 score of 18.08 ($SD = 5.42$), falling in the moderately severe depressed range. As reported elsewhere (see Czyz et al., 2021a), at 1-month follow-up, six adolescents (8.1%) reported engaging in suicidal behavior (i.e., interrupted, aborted, and/or actual attempts). Further sample details can be found in Czyz et al. (2021b). During the 28-day period, 1621 daily observations were recorded (adherence rate: 72.4%), of which 631 (38.9%) captured instances of

suicidal ideation. On average, individuals responded to 20.78 surveys ($SD = 6.92$, range = 1–28 surveys/participant). Participants reported between 0 and 28 instances of suicidal ideation across the daily diary assessment period ($M = 9.86$, $SD = 7.91$).

3.1 | Characteristics of coping

As shown in Table 1, across the 28-day period, the most frequently and least frequently endorsed category of coping, respectively, were noncognitive ($n = 1351$ days; 83%) and reaching out to professional support ($n = 367$ days; 22%) strategies. Noncognitive strategies were also most frequently used on days with reported suicidal ideation (88% of days), in comparison to all other strategies. Coping of any kind was endorsed on 90% of the days during the 28-day period. Multilevel Pearson correlations were computed using *rmcorr* (Bakdash et al., 2017) and revealed the associations between coping strategies ranged from 0.09 (professional support/noncognitive strategies) to 0.48 (cognitive/noncognitive strategies). Table 1 provides intraclass correlation coefficient values for the different coping categories, revealing that a substantial amount of variance in coping was due to within-person variability (range: 0.45–0.77).

3.2 | Daily suicidal urge intensity

Six multilevel models examined the association between coping variables and severity of suicidal urge. For each predictor of interest, each model included within- (relative to self) and between- (relative to others) coping variables. As shown in Table 2, at the within-person level (relative to one's typical levels), greater use of professional support seeking the previous day was associated with lower next-day suicidal urges², as was true for higher levels of within-person helpfulness. At the between-level (relative to others), adolescents with greater average use of personal support and cognitive strategies, along with greater average levels of perceived helpfulness of coping, had lower daily suicidal urges.

4 | DISCUSSION

In this paper, we examined the association between daily coping and severity of suicidal thoughts among adolescents during the high-risk period following psychiatric hospitalization. Over these 4 weeks, adolescents reported using any coping strategy on the vast majority of days (90%), with noncognitive strategy use being the most frequently endorsed, followed by use of cognitive strategies and personal support seeking. In contrast, professional support seeking

¹We examined if previous day suicidal urges and coping categories predicted next-day data missingness through a series of multilevel logistic regressions, finding that these relationships were nonsignificant: suicidal urges (odds ratio [OR] = 0.94, $p = .325$), personal support (OR = 1.25, $p = .290$), professional support (OR = 1.04, $p = .866$), noncognitive strategies (OR = 1.26, $p = .392$), and cognitive strategies (OR = 1.37, $p = .167$).

²Given the relatively low frequency of crisis line use, we investigated if seeking therapeutic services alone and if crisis line strategy use alone predicted next-day suicidal urge intensity. Each coping strategy predicted lower next-day suicidal urges (all $ps < .004$), suggesting that this effect was driven by both types of strategies.

Coping variable	1-ICC	Frequency of coping			Extent of coping M ± SD ^a
		Nonsuicidal days (n = 993)	Suicidal days (n = 631)	All days (n = 1624)	
Personal support	0.51	678 (69%)	393 (62%)	1071 (66%)	1.47 ± 1.02
Family	0.55	498 (50%)	240 (38%)	738 (45%)	0.66 ± 0.57
Peer	0.59	573 (58%)	311 (49%)	884 (54%)	0.80 ± 0.57
Professional support	0.73	211 (21%)	156 (25%)	367 (22%)	0.36 ± 0.43
Therapeutic	0.76	206 (21%)	140 (22%)	346 (21%)	0.33 ± 0.39
Crisis-line	0.77	6 (0.6%)	31 (5%)	37 (2%)	0.03 ± 0.12
Noncognitive strategies	0.62	798 (81%)	553 (88%)	1351 (83%)	2.39 ± 0.98
Relaxation	0.63	666 (67%)	483 (77%)	1149 (71%)	1.10 ± 0.54
Distraction	0.69	772 (78%)	532 (84%)	1304 (80%)	1.29 ± 0.49
Cognitive strategies	0.45	660 (67%)	421 (67%)	1081 (67%)	1.75 ± 1.21
Self-talk	0.49	593 (60%)	381 (60%)	974 (60%)	0.90 ± 0.62
Positive thinking	0.51	590 (59%)	321 (51%)	911 (56%)	0.85 ± 0.61
Coping total	0.49	871 (88%)	588 (93%)	1495 (90%)	5.97 ± 2.96
Helpfulness	0.58	–	–	–	3.65 ± 0.77

Note: 1-ICC values are provided for all observations and provide an estimate of variance attributable to within-person variability. M ± SD = means for each individual were computed and then a grand-mean of the means is provided and its corresponding standard deviation.

Abbreviation: ICC, intraclass correlation coefficient.

^aRanges: 0–4 (personal support, professional support, noncognitive strategies, cognitive strategies), 0–2 (individual coping strategies), 0–16 (coping total), 1–5 (helpfulness).

TABLE 1 Characteristics of coping variables

TABLE 2 Multilevel models predicting next-day suicidal urges

Coping variable	Within-person			Between-person			ΔR ²
	b	SE	p	b	SE	p	
Personal support	−0.02	0.04	.587	−0.42	0.17	.014	0.04
Professional support	−0.25	0.07	.000	−0.10	0.43	.817	0.01
Noncognitive strategies	0.02	0.04	.511	−0.12	0.17	.523	0.00
Cognitive strategies	−0.03	0.04	.368	−0.28	0.13	.036	0.03
Coping total	−0.02	0.02	.238	−0.11	0.06	.052	0.02
Helpfulness	−0.14	0.05	.003	−1.11	0.18	.000	0.18

Note: The bold values .000 is also the significance level, p-value. Each row represents a separate single model that included within-person and between-person levels of the corresponding coping variable. All models included continuous time, intervention phase, and previous day suicidal urge as covariates. ΔR² = change in model R² after including all predictors of interest in Step 2 of the model (covariate Model R² = 0.05).

was the least frequently endorsed. With regard to our primary objective of understanding prospective associations between coping and suicidal ideation, results suggested that greater previous-day professional support seeking and previous-day perception of coping helpfulness, relative to adolescents' typical levels, were significantly associated with lower next-day suicidal urges, even when controlling for previous-day suicidal urges. Relative to others, adolescents with higher overall use of personal support seeking and cognitive strategies over the 4-week period, as well as greater perceptions of coping helpfulness over this period of time, tended to experience lower daily suicidal urges.

Perception of coping helpfulness emerged as a particularly important factor in buffering against higher intensity of daily suicidal urges, given its significance at both between- and within-person levels. This finding is somewhat contradictory to conclusions drawn by Stanley et al. (2021), wherein helpfulness ratings did not distinguish between coping strategies that were associated, or not associated, with next-observation suicidal ideation. It is possible that sample differences (adults vs. adolescents) and measurement of helpfulness itself (in reference to each strategy vs.

overall) may have accounted for the discrepancy in findings. Indeed, perception of helpfulness assessed more globally was robustly associated with reduced likelihood of daily NSSI engagement in another study of suicidal adolescents (Czyz et al., 2019). Further, greater perceived self-efficacy to utilize specific coping strategies as well as confidence that coping strategies will be helpful were prospectively associated with reduced risk of suicidal behavior among adolescents and young adults following an emergency department visit (Czyz et al., 2016). Given this important role of perceived helpfulness, continuing to monitor adolescents' progress toward greater mastery in coping during the high-risk postdischarge period is essential. In addition, treatment could focus on adjusting coping strategies and mastering coping tools that teens perceive as effective to better meet adolescents' treatment needs, as certain coping strategies may be more effective for some teens but not others. Further, addressing perceptions of helpfulness (e.g., challenging cognitive distortions, altering expectations) may, in turn, lead to reductions in suicidal thought intensity in everyday life.

Coping strategies that involved support seeking were generally associated with less severe suicidal thoughts. Adolescents with overall higher personal support seeking (i.e., talking to family, peers) had lower daily suicidal urge intensity relative to others. While previous-day change in personal support did not impact next-day ideation, the pattern of findings observed in this study still converges with previous research pointing to social connectedness as a protective factor against suicidal thoughts and behaviors (e.g., Arango et al., 2019; Ewell-Foster et al., 2017; King et al., 2019). It is possible that a relationship between previous-day personal support seeking and next-day suicidal urges was not found due to this strategy having limited variability, as it was reported frequently and consistently. As such, limited variance may have impacted our ability to capture daily relationships between personal support and suicidal urges, which was only observed at the between-person level. Nevertheless, these findings emphasize the importance of fostering adolescents' supportive relationships following discharge. It might be particularly important to emphasize the role of personal support seeking when adolescents experience suicidal thoughts, considering that support seeking was slightly less endorsed on suicidal days than on nonsuicidal days. It may also be that this pattern reflects relational conflict and/or withdrawal from social interactions on days suicidal thoughts are experienced. In contrast, we found that greater previous-day professional support seeking, which included contacting a crisis line or speaking to a professional (e.g., therapist), was associated with lower suicidal urge intensity the next-day. This finding may suggest a benefit of using crisis support services, which are challenging to evaluate (e.g., Hoffberg et al., 2020), or may correspond with effective management of heightened suicidal thoughts on the previous-day when other professional services were sought (e.g., speaking to a therapist). In fact, supplemental analyses suggest that each of these sources of professional support was protective against next-day suicidal ideation. It will be important for future research to replicate this relationship and to better understand professional support seeking patterns in daily life; this strategy was the least endorsed by adolescents (i.e., 22% of the time), which might suggest that it is relied on appropriately during moments of crisis or that further professional support is needed to address heightened levels of suicidal urges.

While adolescents reported using any form of coping on the vast majority of days, it is noteworthy that noncognitive strategy use was the most frequently utilized across suicidal and nonsuicidal days. It is possible that noncognitive strategies, which included activities that were distracting or relaxing, is a "first-line" coping response, as these coping tools may be less effortful than other strategies (e.g., seeking out personal support or actively changing one's thoughts). In previous research with adolescents, distraction with work/homework also emerged as a common strategy used to cope with suicidal thoughts, although seeking out personal support and actively changing one's thoughts were more frequently endorsed than distraction techniques (Nock et al., 2010). This pattern of findings is important to highlight, considering that noncognitive strategy use was not significantly associated with daily suicidal ideation urges (at the between-level), nor predictive of next-day suicidal ideation urges (at the within-person level). Although somewhat distinct strategies, this is in line with findings from Stanley and colleagues (2021), illustrating that mindfulness-oriented strategies were not related to next-observation suicidal ideation. It is possible that noncognitive strategy use is indicative of an avoidant coping approach, which previous research has shown is linked to deleterious outcomes (e.g., Alix et al., 2020). While noncognitive strategies may be effective when perceived as helpful, to be impactful in the longer term, effective coping may require more active approaches like personal support seeking or cognitive strategies, both of which were found to be protective in our study. It might be beneficial for clinicians to assist youth in exploring different forms of distraction (of varying cognitive demand) and develop additional coping approaches to reduce sole reliance on avoidance strategies among vulnerable youth. Consistent with this implication, the indicator for total coping in this study approached significance, suggesting that having a range of coping strategies in one's repertoire is likely beneficial.

Findings from this study must be considered in light of some limitations. Adolescents were asked to report on suicidal thoughts and coping once/day at the same time, reducing our ability to investigate more proximal associations between coping and suicidal thoughts occurring within the same day. Additionally, perceived helpfulness was assessed globally for all coping strategies used on a given day, and not assessed for each coping strategy separately. Additional research is warranted to examine how perceived helpfulness moderates the impact of specific coping behaviors on suicidal ideation to inform how interventions can further facilitate coping effectiveness. Furthermore, rates of coping strategy use might not be representative of naturalistic coping strategy use, given that this data was collected as part of an intervention study. Future research should also investigate different types of coping strategies in a high-risk adolescent sample, along with examining the relationship between coping strategies and suicidal behaviors (e.g., interrupted, aborted, attempted suicide) in daily life. Although the majority of participants received outpatient services during the follow-up period, detailed information about treatment adherence or its course, which may have bearing on coping, is not known. Additionally, while our adherence rates to the daily surveys were strong, our sample was

predominantly White and recruited from a single inpatient unit, and it is unclear whether our findings would generalize to more diverse samples or settings. Finally, while outside of the scope of this paper, we recommend that future research investigate if previous-day suicidal thoughts predict engagement in coping strategies on the next-day, thereby investigating if these relationships are reciprocal.

To our knowledge, this is the first study to investigate the link between daily coping and suicidal ideation in a high-risk adolescent sample using intensive longitudinal methods. Our findings offered an in-depth examination of daily suicidal thoughts and different aspects of daily coping behavior (specific coping strategies and perceived helpfulness of coping). Findings pointed to the importance of perceived helpfulness of coping strategies as being protective against suicidal thoughts. Specific coping strategies (support seeking, cognitive strategies) also emerged as important protective factors. Our findings suggest that intervention efforts may wish to focus on strengthening personal and professional supportive relationships and working towards a broader coping repertoire that includes strategies beyond distraction and relaxation techniques. Additionally, given that therapeutic support was related to lower suicide urge intensity the next-day, it is critical to reduce barriers to treatment access, which may include facilitating greater availability of low-cost and accessible (e.g., online, mobile, telehealth) treatment alternatives to ensure that more individuals reap the benefits of therapeutic support. Yet, perceptions of coping helpfulness had the strongest protective effects for both next-day suicidal urges and urges throughout the posthospitalization period, further suggesting that working closely with adolescents to identify strategies they perceive to be helpful is critical. In addition to informing future research directions, this study offers new insights about daily coping behavior and its association with suicidal thoughts among youth at risk for suicide during the high-risk period following hospitalization.

ACKNOWLEDGEMENTS

Support for this study was provided by the National Institute of Mental Health (K23-MH-113776-01; PI: Czyz). Adam Horwitz receives funding from the National Center for Advancing Translational Sciences (KL2 TR002241).

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/da.23253>

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How to cite this article: Al-Dajani, N., Horwitz, A. G., & Czyz, E. K. (2022). Does coping reduce suicidal urges in everyday life? Evidence from a daily diary study of adolescent inpatients. *Depression and Anxiety*, 39, 496–503. <https://doi.org/10.1002/da.23253>