

Interpersonal Capitalization and Unmet Interpersonal Needs Among Adolescents at Varying Risk
for Suicidal Ideation: A Daily Diary Study

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Abstract

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Adolescents at risk for suicidal ideation tend to report having unmet interpersonal needs, including perceived burdensomeness and thwarted belongingness. Interpersonal capitalization - an interpersonal process involving disclosing a positive personal event to others and evaluating others' responsiveness to such disclosure – can promote positive affect and social connectedness. This study examined whether daily capitalization attempts and perceived active-constructive responses to the capitalization attempts were associated with positive affect and fluctuations in unmet interpersonal needs among adolescents at varying risk of suicidal ideation. Adolescents ($M_{age}=15.55$; range=12-18) with and without major depression, at respectively higher-risk ($n=23$) and lower-risk ($n=32$) for suicidal ideation, completed 10 consecutive daily diaries reporting on interpersonal capitalization, positive affect, perceived burdensomeness, and loneliness (as a proxy for thwarted belongingness). Within-person hierarchical linear modeling analyses showed that daily capitalization attempts and perceived active-constructive responses were associated with higher positive affect in both groups. In the higher-risk group, daily capitalization attempts were associated with lower perceived burdensomeness ($b=-0.102$, $p<0.05$) and daily perceived active-constructive responses were related to lower loneliness ($b=-0.279$, $p<0.001$). Interpersonal capitalization is a positive interpersonal process that may modulate suicidal risk by shaping perceptions of unmet interpersonal needs in adolescents, particularly among those at higher risk for suicidal ideation.

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Contribution of Authors

Ignacio Perezmontemayor Cruz participated in study design and in the cleaning and analysis of the data. He also wrote the abstract, introduction, methods, results, and discussion.

Sasha MacNeil participated in study design, collected the data used in this study, participated in the cleaning and analysis of the data, and provided edits and suggestions on all sections of the thesis.

Jean-Philippe Gouin participated in study design, supervised the process of data collection, cleaning and analysis, and provided supervision and edits on all sections of the thesis.

Johanne Renaud supervised the process of data collection.

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Introduction

Suicidal ideation in adolescence is an important public health concern. In epidemiological studies, suicidal ideation tends to emerge and rise in prevalence during adolescence (Nock et al., 2013; Voss et al., 2019), with recent meta-analytic, worldwide estimates suggesting that 16.9% of youth between 14 and 21 years of age experienced suicidal ideation in their lifetime (Van Meter et al., 2023). Among youth with depression, the prevalence of suicidal ideation is at least doubled compared to community samples, with estimates ranging from rates of 38.2% to as high as 85% (Cash & Bridge, 2009; Kang et al., 2021; Kovacs et al., 1993; Zubrick et al., 2017). A number of theoretical frameworks outline transdiagnostic risk factors associated with the emergence and severity of suicidal ideation (Van Orden et al., 2010; Klonsky & May, 2015; O'Connor et al., 2011). These different theories converge to highlight the key role of interpersonal relationship quality in influencing the onset and severity of suicidal ideation.

The Interpersonal Theory of Suicide (ITS; Joiner, 2005; Van Orden et al., 2010) proposes that unmet interpersonal needs, namely feelings of thwarted belongingness and perceived burdensomeness, are independent and proximal risk factors for the development of passive suicidal ideation. Thwarted belongingness refers to perceptions of loneliness, disconnection, isolation, and of lack of reciprocal care, while perceived burdensomeness refers to perceptions that one's presence is unwanted and detrimental to others and often includes self-hate (Van Orden et al., 2010). When the individual is hopeless about their interpersonal needs being met in the future, thwarted belongingness and perceived burdensomeness synergistically contribute to increasingly active suicidal ideation. Empirically, thwarted belongingness and perceived burdensomeness have been independently and interactively associated with suicidal ideation in cross-sectional and longitudinal studies among community and clinical samples of adults and adolescents (Batterham

et al., 2018; Barzilay et al., 2015; Chu et al., 2017; Czyz et al., 2019; Hallensleben et al., 2019; Roeder & Cole, 2019).

A growing body of literature indicates that negative interpersonal experiences, such as bullying (Brailovskaia et al., 2020), chronic interpersonal stress (Buitron et al., 2016), low parental warmth (Buitron et al., 2020), deficits in social problem-solving (Chu et al., 2018), negative interactions with friends and family members (Donker et al., 2014), interpersonal mistrust (Hill et al., 2019), and attachment insecurity (Hunt et al., 2022; Venta et al., 2014) are associated with greater thwarted belongingness and perceived burdensomeness in both cross-sectional and longitudinal studies. Furthermore, thwarted belongingness and perceived burdensomeness appear to be dynamic states that fluctuate in severity over hours and days (Czyz et al., 2019; Hallensleben et al., 2019; Kleiman et al., 2017). Moreover, daily social experiences appear to influence short-term fluctuations in the perceptions of unmet interpersonal needs. Indeed, when adolescents with and without depression experienced more negative social interactions than usual for them, they also reported greater perceptions of loneliness and perceived burdensomeness (MacNeil et al., 2023). Similarly, among youths recently hospitalized for elevated suicide risk, participants reported greater thwarted belongingness on days following negative interpersonal events (Glenn et al., 2022). While these studies indicate that negative interpersonal experiences are associated with the perceptions of unmet interpersonal needs, the potential association between positive interpersonal processes and within-person fluctuations in thwarted belongingness and perceived burdensomeness has remained relatively unexplored in the literature (Janssens et al., 2024).

Interpersonal capitalization refers to the interpersonal process of disclosing a positive event to close others (Gable et al., 2004; Gable & Reis, 2010). This process is different from social support seeking, which involves sharing a negative event with close others to alleviate distress

(Otto et al., 2015; Reis et al., 2010). In seminal studies, disclosing positive experiences to others was associated with greater positive affect, above and beyond the experience of the positive event itself, thinking about the positive event, or having a positive social interaction without capitalization (Gable et al., 2004; Lambert et al., 2013). In daily diary studies, individuals also reported greater relationship closeness on days when they shared positive events with others compared to days when they did not engage in capitalization attempts (Gable et al., 2004; Reis et al., 2010). These effects of capitalization attempts are also moderated by how others are perceived to respond to the capitalization attempt. The perception of others as being responsive - in the form of positive, enthusiastic, and engaged in response to capitalization attempts (i.e. active-constructive responses) - has been associated with larger and more enduring increases in positive affect (Gable et al., 2004; Hovasapian & Levine, 2018; Lambert et al., 2013; Monfort et al., 2014), more intimacy (Otto et al., 2015), trust (Reis et al., 2010), relationship quality (Demir et al., 2017; Gable et al., 2012), and friendship maintenance (Demir et al., 2019), compared to negative or non-enthusiastic responses. Taken together, interpersonal capitalization (i.e. capitalization attempts and perceived active-constructive responses) is an interpersonal process that can promote positive affect and interpersonal closeness.

Individuals with elevated depressive symptoms tend to choose to disclose negative rather than positive events to others (Hershenberg et al., 2014; Gouin et al., 2020). However, when they are prompted to engage in capitalization attempts in a laboratory setting, they experience larger increases in positive affect than those with lower depressive symptoms (Hershenberg et al., 2014). These findings suggest that depressed adolescents at risk for suicidal ideation may benefit more from this type of positive social interactions through the resulting increases in positive affect and, potentially, relationship closeness. Indeed, interpersonal capitalization could foster stronger

feelings of relationship quality by initiating an iterative pattern of reciprocal positive interactions (Peters et al., 2018), whereby perceiving an active-constructive response may increase the likelihood of individuals engaging in additional capitalization attempts with their partner (Altermatt, 2017) and providing active-constructive responses when their partner engages in a capitalization attempt with them in the future (Kaczmarek et al. 2022).

The goals of the present study were to examine the within-person associations between daily capitalization attempts and perceived active-constructive responses with same-day experiences of positive affect and unmet interpersonal needs among adolescents considered at both higher-risk and lower-risk of suicidal ideation. Participants completed a 10-day daily diary procedure reporting on their capitalization attempts, perceived active-constructive responses, loneliness (as a proxy for thwarted belongingness), perceived burdensomeness, and positive affect in the last 24 hours. It was hypothesized that (1) participants would report decreased loneliness and perceived burdensomeness, and increased positive affect on days with more capitalization attempts and perceived active-constructive responses; and (2) that these associations would be stronger among the higher-risk group.

Methods

Participants

Adolescents with higher and lower risk for suicidal ideation were recruited. The higher-risk group consisted of adolescents with a diagnosis of major depressive disorder (MDD) recruited from a psychiatric outpatient clinic (n=24). The lower-risk group was comprised of adolescents without a history of mental health problems recruited in the community via flyers and local social media pages (n =32). Adolescents from the community in the lower-risk group were considered eligible

if they responded “no” to the following questions during the screening process: have you felt sad or depressed almost every day, for most of the day, in the last two weeks; have you felt less pleasure or less interest in your activities most days, for most of the day, in the last two weeks; are you currently in psychotherapy or counseling; have you or anyone around you thought you needed professional help currently or in the past to deal with your emotions or how you were behaving. To be eligible, participants needed to be aged 12 to 18 years, have attained puberty based on self-reported beginning of menstruation for females and the development of body pilosity and maturation of the voice for males, and have daily access to the internet during the study period. Informed consent was obtained from participants and their parent(s).

The final analytic sample included 55 participants. Mean participant age was 15.55 years old ($SD = 1.55$, range = 12-18). Participants in the higher-risk group ($M = 16.13$, $SD = 1.22$) were significantly older than participants in the lower-risk group ($M = 15.13$, $SD = 1.641$; $t(53) = -2.485$, $p = .016$). Both groups were predominantly female (lower-risk group: 65.6%; higher-risk group: 86.96%, $\chi^2 = 3.209$, $p = .07$) and White (lower-risk group: 78.12%; higher-risk group: 69.57%, $\chi^2 = 0.517$, $p = .472$). Participants in both groups had similar levels of parental education (bachelor's degree or higher; lower-risk group: 37.5%; higher-risk group: 43.48%, $\chi^2 = 3.196$, $p = .670$).

Procedure

During a laboratory session, participants completed self-reported questionnaires on sociodemographic information and current psychiatric symptoms. Starting on the day of their laboratory visit, participants completed a daily diary questionnaire for the following 10 consecutive days in which they reported on their capitalization attempts, perceived active-constructive responses from others, perceived burdensomeness, loneliness, and positive affect in the last 24-hours. Participants were asked to complete the online daily diary every night before going to bed.

During the laboratory visit, they were encouraged to set a nightly alarm at a time convenient for them to support adherence to the study protocol. Additionally, if an entry was missed, they received an email reminder to complete the next daily diary. Study participants completed 492 daily diary entries in total, with an average of 8.95 entries per person, ($SD = 2.31$; range = 1 to 14 entries; 89.45% compliance). Group belongingness and sociodemographic characteristics did not predict the number of daily diaries completed. One participant from the higher-risk group was excluded from analyses as they did not complete any daily diary entries. Two participants (one higher risk and one lower risk participant) were further considered for exclusion as they did not complete the minimum of three diary entries to calculate within-person fluctuations in daily variables. However, the analyses were run with and without these participants and the results did not change so they were kept in the final sample ($N=55$). Participants were compensated \$30CAD for their participation in the study. This study was approved by the institutional ethics review boards of Concordia University (#30006535) and of the Douglas Mental Health University Institute (IUSMD#16-10).

Measures

Daily Perceived Burdensomeness. Daily feelings of perceived burdensomeness were measured using one item from the Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2012). Participants selected which statement applied best to their feelings today from the following options: 0 – I think that people in my life are happier when I’m around; 1 – I do not think that people in my life would be happier if I were gone; 2 – I wonder that people in my life would be happier if I were gone; 3 – I am sure that people in my life would be happier if I were gone. This item had the highest item-total correlation on the INQ, indicating its strong construct validity in assessing perceived burdensomeness (Van Orden et al., 2006). The intraclass correlation (ICC) for

this item was .673, indicating that 33.7% of the variance in this item is explained by within-person differences.

Daily Loneliness. Daily thwarted belongingness was assessed using a single-item measure of loneliness as a proxy. Participants rated the extent to which they felt lonely on that day on a 5-point Likert-type scale ranging from 0 (Not at all) to 4 (Extremely). In past work, the loneliness item strongly correlated with the thwarted belongingness subscale of the INQ ($r=.914$), but not the perceived burdensomeness subscale ($r= -.078$; Van Orden et al., 2012). The ICC for this item was .525, indicating that 47.5% is explained by within-person differences.

Interpersonal Capitalization. Daily interpersonal capitalization attempts and responses were assessed using two items in the daily diaries. One item measured capitalization attempts, asking participants if they “shared positive thoughts, feelings, or events during the day”. The second item measured active-constructive responses, asking if “someone was excited about something positive that happened to you?” (Gable et al., 2004). For each item, participants were asked to endorse all options with whom these attempts and responses occurred in the last 24 hours from the following options: *My partner, My best friend, Other friends, My parents, Other members of my family, My classmates or coworkers, My teachers, Other professionals* (each coded 1), and *No one* (coded 0). Scores could range from 0 to 8, with higher scores indicating more capitalization attempts or active-constructive responses, respectively. The ICC for the item on capitalization attempts was .438, indicating that 56.2% of the variance in this item is explained by within-person differences. The ICC for the item on active-constructive responses was .496, indicating that 50.4% of the variance in this item is explained by within-person differences.

Positive Affect. Daily positive affect was measured using the short form of the Positive and Negative Affect Schedule for Children (PANAS-C; Ebessutani et al. 2012). The positive affect

subscale assessed the extent to which they experienced the following positive emotions in the last 24 hours on a Likert scale ranging from 1 (“very slightly or not at all”) to 5 (“extremely”): determined, calm, happy, lively, proud. This measure has been found to meet good internal consistency (Cronbach’s $\alpha = .82$ for positive affect; Ebesutani et al., 2012). In our sample, the within-person reliability of this subscale was acceptable ($\alpha = .75$; Bonito et al., 2012). The ICC for positive affect was .615, indicating that 38.5% of the variance in this subscale is explained by within-person differences.

Statistical Analyses

The associations of between-person and within-person differences in capitalization attempts and perceived active-constructive responses to capitalization (i.e. independent variables) with daily loneliness, perceived burdensomeness, and positive affect (i.e. dependent variables) were examined using hierarchical linear modeling. This analytic strategy accounts for the hierarchical structure and the non-independence of days (level 1) nested within individuals (level 2) (Bolger & Laurenceau, 2013). Scores on daily variables were averaged across all daily diary entries per participant to obtain their person mean. To capture between-person differences, person means were group mean-centered by subtracting the sample mean from each person’s mean. To capture within-person fluctuations, the daily scores on the independent variables were person-mean centered by subtracting the person’s mean across daily entries from each of their daily scores. This disaggregation technique allows to examine unique contribution of the within-person and between-person effects (Curran & Bauer, 2011). Intra-class correlations (ICC) were computed as measures of variability for all variables to estimate the proportion of variance found at the between-person (by the ICC value) and within-person (i.e., 1-ICC) levels (Bonito et al., 2012; Stapleton et al., 2016). Separate hierarchical linear regression models were conducted for each outcome variable.

All models included the covariates age, sex (coded 0 for male, 1 for female), ethnicity (coded 0 for White, 1 for non-White), and risk group (coded -1 for lower-risk, 1 for higher-risk). The between- and within-person main effects of the independent variables and their respective interactions with risk group membership were also specified. For significant interactions, the simple slopes were computed at high and low levels of capitalization attempt and perceived active-constructive responses ($\pm 1SD$ of the mean value). Analyses were conducted using SAS PROC MIXED, version 9.4 (Cary, North Carolina, USA).

Results

Descriptive statistics and between-person correlations between capitalization attempts, perceived active-constructive responses, loneliness, perceived burdensomeness, and positive affect are presented in Table 1. The higher-risk group reported higher loneliness, higher perceived burdensomeness, lower positive affect, fewer capitalization attempts, and less perceived active-constructive responses than the lower-risk group across the daily diary period (see Table 1). However, participants in the higher-risk group were as likely as the lower-risk group to perceive an active-constructive response when they did attempt to capitalize ($\chi^2 = 1.510, p = .219$). Results from the hierarchical models examining the between- and within-person associations of capitalization attempts and perceived active-constructive responses with positive affect, perceived burdensomeness, and loneliness are presented in Table 2.

Positive Affect

There was a between-person association between perceiving active-constructive responses to capitalization (but not capitalization attempts) and positive affect, indicating that participants who generally perceived others as more responsive to their capitalization attempts also reported

more daily positive affect. Furthermore, within-person differences in capitalization attempts and perceived active-constructive responses were significantly, positively associated with daily positive affect. In other words, participants reported more positive affect on days when they engaged in more capitalization attempts and when they perceived more active-constructive responses from others. These effects were not moderated by group, indicating that the effects of capitalization and active-constructive responses on positive affect were of similar magnitude for the higher-risk and lower-risk group. Of the covariates, age was a significant predictor of positive affect, with older participants reporting higher positive affect.

Perceived Burdensomeness

There were no between-person effects of capitalization attempts or perceived active-constructive responses on daily perceived burdensomeness. Within-person capitalization attempts were not independently associated with perceived burdensomeness. However, a significant interaction between within-person capitalization attempts and group was found. As depicted in Figure 1, there was a significant within-person association between capitalization attempts and perceived burdensomeness for the higher-risk group ($b = -0.102$, $SE = 0.051$, $p = 0.047$) but not for the lower-risk group ($b = 0.026$, $SE = 0.035$, $p = 0.466$). Participants in the higher-risk group reported less burdensomeness on days when they capitalized more than their own personal average. Furthermore, a significant main effect of within-person perceived active-constructive responses with daily perceived burdensomeness was observed. Participants in both groups reported less perceived burdensomeness on days when they perceived more active-constructive responses from others.

Loneliness

There were no between-person effects of capitalization attempts or perceived active-constructive responses on loneliness. A significant main effect of within-person capitalization attempts with daily loneliness was observed. When participants engaged in more capitalization attempts, they also reported less loneliness than their usual. A trending interaction with group was observed. Exploratory simple slope analyses suggested that the effect of capitalization attempts on loneliness was significant for the higher-risk group ($b = -0.225$, $SE = 0.080$, $p = 0.005$) but not for the lower-risk group ($b = -0.043$, $SE = 0.055$, $p = 0.435$). Moreover, there was a significant interaction between perceived active-constructive responses and group on daily loneliness. As depicted in Figure 2, the effect of perceived active-constructive responses on loneliness was significant for the higher-risk group ($b = -0.279$, $SE = 0.079$, $p < 0.001$) but not for the lower-risk group ($b = -0.018$, $SE = 0.055$, $p = 0.742$). Participants in the higher-risk group reported less loneliness on days when they perceived more active-constructive responses than their personal average, compared to days with fewer perceived active-constructive responses.

Discussion

The goals of this daily diary study were to examine the associations between daily capitalization attempts and perceived active-constructive responses with same-day positive affect and unmet interpersonal needs among adolescents with and without MDD, considered at higher- and lower-risk for suicidal ideation respectively. Results indicated that on days when they engaged in more capitalization attempts, participants in both groups reported increased positive affect and decreased loneliness, and participants in the higher-risk group also reported decreased burdensomeness, compared to days with fewer capitalization attempts. Furthermore, on days when they perceived more active-constructive responses to capitalization, participants in both groups

reported increased positive affect and decreased burdensomeness, and participants in the higher-risk group also reported decreased loneliness, compared to days with fewer perceived active-constructive responses to capitalization. These findings are the first to demonstrate that daily interpersonal capitalization is associated with perceptions of unmet interpersonal needs, an important proximal risk factor for suicidal ideation (Van Orden et al., 2010).

Adolescents with MDD at higher-risk for suicidal ideation reported fewer capitalization attempts and perceived active-constructive responses across the daily diary period, compared to their lower-risk counterparts without MDD. These findings are consistent with previous studies demonstrating that individuals with elevated depressive symptoms tend to engage less in adaptive emotion regulation strategies aimed at upregulating positive emotion (Beblo et al., 2012; Vanderlind et al., 2020), including interpersonal capitalization (Gouin et al., 2019; Hershenberg et al., 2014). Adolescents with MDD might have fewer occasions to engage in capitalization as they tend to be less likely to select situations that can elicit positive emotional experiences (Carvalho & Hopko, 2011) and, simultaneously, less likely to interpret daily events as positive (Beblo et al., 2012; Everaert et al., 2017). Furthermore, individuals with elevated depressive symptoms may experience deficits in approach motivation and behaviors (Trew, 2011), such that they are less likely to engage in social interactions (Hopko & Mullane, 2008) and when they do engage in self-disclosure with others, they tend to co-ruminate (Waller et al., 2014) and prefer discussing negative rather than positive events in their lives (Hershenberg et al., 2014).

Interestingly, when participants in the higher-risk group did capitalize, they were just as likely to perceive an active constructive response than their lower-risk counterparts. Individuals with elevated depressive symptoms demonstrate interpretation biases whereby they tend to negatively interpret neutral or ambiguous social stimuli (Hindash & Amir, 2012; Wisco & Nolen-

Hoeksema, 2010) and perceive others as less supportive (Stice et al., 2011). Based on this, it might be expected that adolescents with MDD would be more likely to misinterpret active-constructive responses to capitalization. However, responses to positive disclosures such as capitalization appear to be less prone to misinterpretation and more likely to result in a positive evaluation of the close other's response, compared to the responses to disclosures of negative experiences (Gable et al., 2012). Although objective provision of active-constructive responses was not measured as part of this study, these findings suggest adolescents with MDD tend to evaluate close others' responses to their capitalization attempts as positively as adolescents without MDD.

On days when adolescents in either group engaged in more capitalization attempts, they reported increased positive affect. Furthermore, when participants perceived others as responsive to their capitalization attempts, they reported higher positive affect, above and beyond the effect of capitalization attempts. These findings are consistent with the well-replicated within-person association between both components of the capitalization process and positive affect (Gable et al., 2004; Peters et al., 2018). However, in contrast with previous experimental research (Hershenberg et al., 2014), there was no group difference in the magnitude of the within-person association between capitalization attempts and positive affect between adolescents in the higher and lower-risk groups. The experimental manipulation of capitalization attempts in a controlled laboratory setting may have a stronger impact on positive affect than spontaneous engagement in capitalization in daily life. Nonetheless, the present results extend the within-person association of capitalization with positive affect to adolescents at higher and lower risk of suicidal ideation.

Interpersonal capitalization was also associated with perceptions of daily unmet interpersonal needs. Engaging in more capitalization attempts was associated with decreased daily perceived burdensomeness in the higher-risk group. The stress generation hypothesis posits that

individuals with depression demonstrate negative interpretation biases and maladaptive behavioral tendencies (e.g., social withdrawal) that enhance interpersonal stress, contributing to the maintenance of their symptoms (Hammen, 2005; Liu, 2013). Higher perceived burdensomeness has been associated with maladaptive behaviors that can exacerbate interpersonal stress, such as increased reassurance-seeking and experiential avoidance (Hames et al., 2015; Hapenny & Fergus, 2017). These behaviors can elicit negative social interactions, which, in turn, have been associated with greater perceptions of burdensomeness among adolescents with depression (MacNeil et al., 2024). This cycle may lead to a downward spiral of more frequent negative social interactions, increased feelings of burdensomeness, and risk for suicidal ideation (Van Orden et al., 2010). Conversely, capitalization attempts could interrupt such negative interaction cycles and instead foster an upward spiral associated with mutually reinforcing positive social interactions and positive affect (Peters et al., 2018). These attempts of positive self-disclosure and consequent positive interaction cycles may then improve their perception of their relationship quality with close others and eventually lead to decreased feelings of burdensomeness (Peters et al., 2018).

Perceiving more active-constructive responses was associated with decreased daily loneliness in the higher-risk group. This association is consistent with previous daily diary studies which have shown a within-person association between perceived active-constructive responses and lower loneliness in adult populations (Arpin et al., 2018; Gable & Reis, 2010). Similarly, this finding converges with existing research on the mental health correlates of perceived partner responsiveness - defined as the degree to which individuals perceive others as attending to and supporting core aspect of their self by exhibiting a caring, understanding, and validating attitude - a concept associated with perceived active-constructive responses (Reis & Gable, 2015). Indeed, perceived partner responsiveness has been associated with lower symptoms of depression (Fekete

et al., 2007; Kuczynski et al., 2022), increased relationship quality (Canevello & Crocker, 2010), and decreased daily suicidal ideation (Sels et al., 2024). Active-constructive responses to capitalization could contribute to this overall perception of responsiveness, improving relationship quality which, in turn, has been consistently associated with lower loneliness (Hopf et al., 2022; Janssens et al., 2021; Maisel et al., 2008). This association might be stronger in adolescents with MDD as they are more likely to feel less supported (Stice et al., 2011), more disconnected (Williams & Galliher, 2006), and less satisfied with the quality of their social relationships (Branje et al., 2010; Kupferberg & Hasler, 2023).

Adolescents with MDD report greater frequency, variability, and severity in unmet interpersonal needs compared to their non-depressed counterparts (MacNeil et al., 2024). Therefore, it is possible that the lower-risk sample experienced a floor effect, precluding the observation of some of the associations between interpersonal capitalization and unmet interpersonal needs in this group (Upegui-Arango et al., 2020). Alternatively, the benefits of interpersonal capitalization might be more marked in the higher-risk group given their more frequent and severe experience of unmet interpersonal needs (Davidson et al., 2011; MacNeil et al., 2024).

These findings point to the clinical potential of integrating interpersonal capitalization as part of interventions with adolescents reporting suicidal ideation. Consistent with the principles of behavioral activation – an evidence-based component of the treatment for depression (Tindall et al., 2017) – supporting adolescents to disclose positive events with close others could help improve mood and challenge perceptions of unmet interpersonal needs within this population. Similarly, formulating behavioral experiments regarding the expected quality of close others' responses to capitalization attempts may be another way to challenge perceptions of unmet interpersonal needs.

Future clinical studies are required to investigate the relevance and utility of interpersonal capitalization interventions with adolescents at risk for suicidal ideation.

The sampling of participants at both higher- and lower- risk of suicidal ideation is a strength of this study as it allowed to obtain a fuller spectrum of perceptions of unmet interpersonal needs. However, the small sample size has likely limited statistical power to detect group differences. Furthermore, participants in the higher-risk group were on average older and slightly more likely to be female than those in the lower-risk group. While this difference is representative of the clinical profiles of patients presenting in outpatient services (Mojtabai et al., 2016), our results should be replicated in larger and more generalizable samples. The daily diary study design allowed for the examination of within-person effects but relied upon repeated daily cross-sectional measurements, precluding the examination of the directionality of reported associations. For example, past evidence suggests that state loneliness is associated with decreased positive affect and lower perceived responsiveness after event-disclosure interactions (Arpin & Mohr, 2019). Future studies should use longitudinal designs to clarify the relationship between daily interpersonal capitalization and perceptions of unmet interpersonal needs over time. Similarly, experimental studies should investigate the causal impact of capitalization attempts on unmet interpersonal needs. Furthermore, the one-item measures used for loneliness and perceived burdensomeness may not capture the multidimensionality of these perceptions of unmet interpersonal needs (Van Orden et al., 2010). Lastly, the association of capitalization attempts and perceived active-constructive responses with direct measures of suicidal thoughts and attempts should be examined to better understand the role of interpersonal capitalization in reducing perceptions of unmet interpersonal needs and suicidal ideation.

Taken together, this study highlights associations between greater interpersonal capitalization and decreased perceptions of unmet interpersonal needs, especially for adolescents with MDD at higher risk for suicidal ideation. Furthermore, capitalization attempts and perceived active-constructive responses were shown to have specific associations with perceived burdensomeness and loneliness, respectively. Examining the longitudinal consequences of these daily processes, the potential mechanisms underlying them, and the clinical utility of interventions aiming to increase interpersonal capitalization among adolescents with MDD and suicidal ideation are important future directions.

Table 1.

Descriptive statistics and between-person Spearman Rho correlations among daily diary variables.

	Mean (SD)		Spearman Rho Correlations				
	Lower-risk group	Higher risk group	1.	2.	3.	4.	5.
1. Capitalization Attempts	1.624(0.895)	0.931(0.681) ^a	-	.871**	-.322**	-.323**	.252**
2. Perceived Active-Constructive Responses	1.448(0.927)	0.750(0.624) ^a	.907**	-	-.256**	-.256**	.324**
3. Loneliness	0.331(0.391)	1.767(0.879) ^a	-.024	-.133*	-	.551**	-.395**
4. Perceived Burdensomeness	0.167(0.274)	1.332(0.721) ^a	.094	-.021	.377**	-	-.247**
5. Positive Affect	3.262(0.532)	2.290(0.641) ^a	.469**	.534**	-.148*	-.516**	-

* $p < .05$; ** $p < .01$; ^a significant group difference at $p < .001$

Note: Correlations above the diagonal represent associations within the higher-risk group ($n = 23$) and correlations below the diagonal represent associations within the lower-risk group ($n = 32$).

Table 2.

Hierarchical linear regression models of the between- and within-person effects of interpersonal capitalization on unmet interpersonal needs.

	Burdensomeness	Loneliness	Positive Affect
<i>Fixed Effects</i>			
Intercept	0.745 (0.144)***	0.973(0.165) ***	2.927 (0.140)***
Age	-0.038 (0.043)	-0.069(0.050)	0.090 (0.042)*
Sex	-0.042 (0.150)	0.077(0.173)	-0.062 (0.147)
Ethnicity	-0.068 (0.145)	-0.316(0.166) ^t	-0.226 (0.141)
Risk Group	0.550 (0.077)***	0.647 (0.088)***	-0.364 (0.075)***
WP Capitalization Attempts	-0.049(0.040)	-0.171 (0.062)**	0.142 (0.043) **
BP Capitalization Attempts	0.147(0.245)	-0.019 (0.282)	-0.155 (0.239)
WP Active-Constructive Responses	-0.101(0.040)*	-0.192(0.062) **	0.100 (0.044)*
BP Active-Constructive Responses	-0.249(0.259)	-0.171(0.298)	0.548 (0.253)*
Group X WP Capitalization Attempts	-0.082(0.040)*	-0.116(0.062) ^t	0.025(0.043)
Group X BP Capitalization Attempts	-0.025(0.248)	-0.123(0.286)	-0.204 (0.242)
Group X WP Active-Constructive Responses	-0.073(0.262)	-0.168 (0.062)**	0.059(0.044)
Group X BP Active-Constructive Responses	-0.039(0.040)	-0.067 (0.301)	0.235(0.256)

^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Note: WP= within-person, BP= between-person; N=55. Sex was coded as 0 for male, 1 for female. Ethnicity was coded as 0 for White, 1 for non-White. Group was coded as 0 for lower-risk, 1 for higher-risk.

Figure 1.

Interactions of within-person capitalization attempts and risk group membership predicting daily perceived burdensomeness.

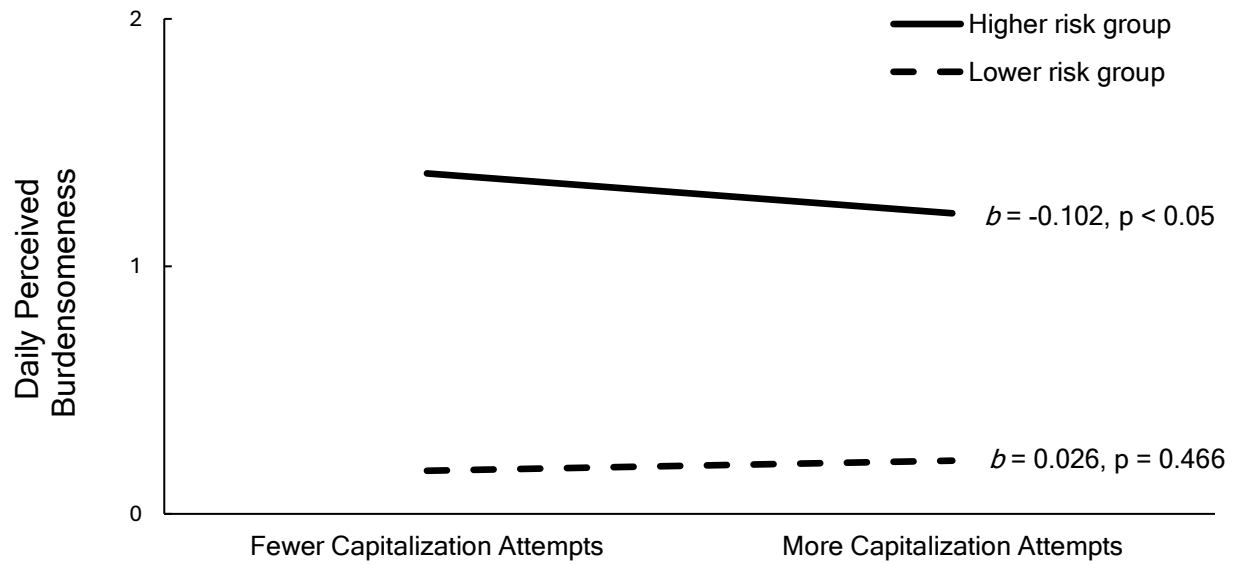
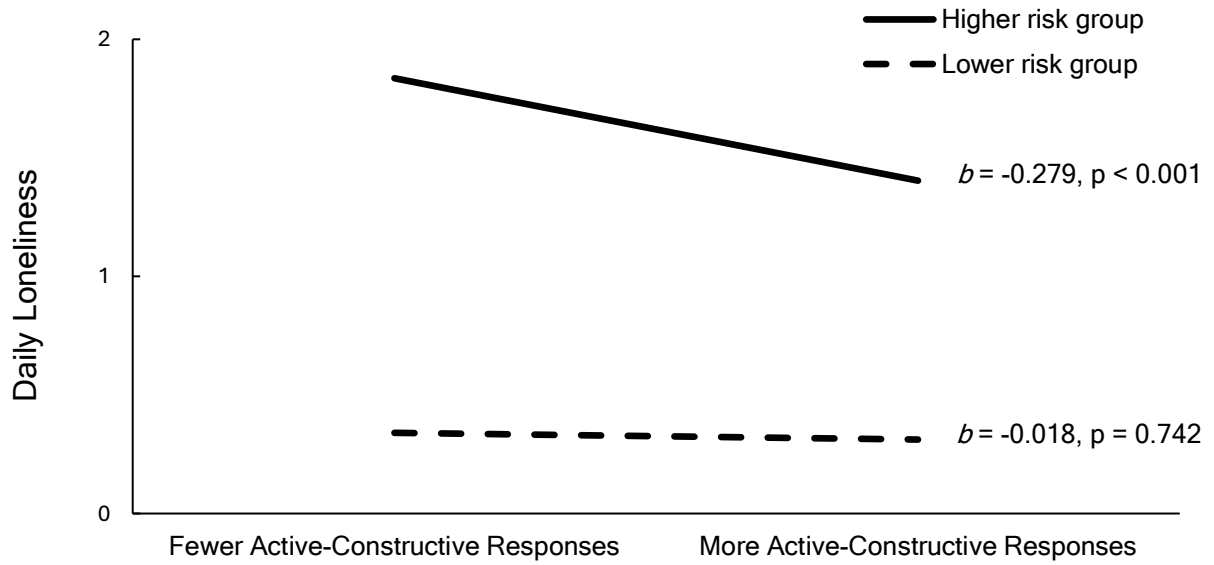


Figure 2.

Interactions of within-person perceived active-constructive responses and risk group membership predicting daily loneliness.



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