

ORIGINAL ARTICLE

Elevated interoceptive deficits in individuals with eating disorders and self-injurious thoughts and behaviors: A replication and extension

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Abstract

Introduction: People with eating disorders (EDs) frequently report self-injurious thoughts and behaviors (SITBs). We aimed to replicate and extend findings demonstrating greater interoceptive deficits according to SITB severity. We predicted that interoceptive deficits would be greater among people with versus without lifetime SITBs and among those with multiple suicide attempts compared with single attempts or nonsuicidal self-injury. We also predicted that interoception would be increasingly impaired with greater current suicidality severity.

Method: Adults ($N=118$) seeking ED treatment reported current and lifetime SITBs upon admission to treatment. We used planned contrasts to compare interoceptive deficits (self-reported using the Eating Disorders Inventory) by SITB and current suicidality groups (assessed by self-report and clinical interview).

Results: Interoceptive deficits were greater among people with any SITB history compared to those without. People with multiple suicide attempts did not differ in interoceptive deficits from those with single attempts or only nonsuicidal self-injury. Interoceptive deficits were elevated among those with any current suicidality compared to those with no suicidal symptoms; interoceptive deficits did not differ according to severity of suicidality.

Conclusion: Among those with EDs, interoceptive deficits are elevated among those with concurrent SITBs. Interventions aimed at improving interoception may reduce the risk for SITBs.

KEYWORDS

eating disorders, interoceptive deficits, nonsuicidal self-injury, replication, suicidality

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INTRODUCTION

People with eating disorders (EDs) report self-injurious thoughts and behaviors (SITBs; including nonsuicidal self-injury [NSSI] and suicidality ranging from ideation to fatal attempts) at higher rates than peers without EDs (Cucchi et al., 2016; Kiekens & Claes, 2020; Pisetsky et al., 2013; Smith, Zuromski, & Dodd, 2018). Deficits in interoception—the ability to accurately perceive, understand, and/or respond to internal bodily sensations (e.g., hunger/satiety, pain, or emotions)—may make it possible to objectify the body and to cause discomfort, pain, or harm through behaviors such as SITBs or disordered eating (Brausch & Muehlenkamp, 2014; Claes & Muehlenkamp, 2014). Interoception is a multifaceted construct capturing various aspects of the momentary state of the body (Khalsa et al., 2018). Recent active inference models of interoception consider it to consist of both top-down predictions and bottom-up signals of the body's current state, which are combined to create an overall representation of the body that includes both conscious and unconscious elements. Interoception is increasingly recognized as a central component of psychological functioning, and dysfunction in interoception has been linked with various forms of psychopathology (Critchley et al., 2019; Khalsa et al., 2018; Paulus et al., 2019).

Interoceptive deficits are robustly associated with both EDs and SITBs. The exact mechanism by which interoceptive deficits relate to these behaviors is not fully clear, but it is generally thought that disconnection from the body makes it possible to engage in various forms of self-harming behaviors such as ED behaviors and SITBs (Brausch & Muehlenkamp, 2014; Claes & Muehlenkamp, 2014). There may be several possible explanations for multifinality in the relationship between interoceptive deficits and self-harm, both in terms of which of these behaviors develop (i.e., does someone develop an ED or SITBs, or both) and in terms of which behavior is selected in a given moment (specifically, among people exhibiting both ED and SITB, why does someone engage in purging, for example, rather than NSSI in a given moment). For instance, the body modality in which interoceptive deficits manifest (e.g., gastric versus pain interoception), momentary motivations (e.g., for self-punishment, emotion regulation, and/or distraction; Kiekens & Claes, 2020; Robillard et al., 2022; Taylor et al., 2018), or early learning experiences around fear or anxiety about body sensations (Schaumberg et al., 2021; Zucker & Bulik, 2020) may differentiate between individuals for whom, or the moments when, one form of self-harm is selected over another.

Poor interoception has been linked with EDs and SITBs, both separately and when co-occurring. Deficits

in interoception are present across ED diagnoses (Martin et al., 2019) and are implicated in the etiology and maintenance of EDs (Herbert, 2020; Jenkinson et al., 2018). Interoceptive deficits are also present across the suicide continuum (for a review, see Hielscher & Zopf, 2021) and may indicate the severity of SITB history (Duffy et al., 2021), including among people with a remote (i.e., greater than 5 years ago) history of suicidal behavior (DeVillie et al., 2021). Interoceptive deficits predict later ED symptoms and suicidality in community adolescents (Perkins et al., 2021) and moderate the relationship between bulimia symptoms and suicidality among college students (Clapham et al., 2023). Furthermore, several findings indicate that the presence of both ED and SITBs is associated with worse interoception than either ED or SITBs alone (Claes et al., 2012; Fujimori et al., 2011; Gómez-Expósito et al., 2016; Solano et al., 2005). This suggests that particularly pronounced interoceptive deficits in someone with an ED may indicate the presence of additional safety concerns requiring clinical attention.

We aimed to replicate and extend findings regarding the relationship between interoceptive deficits and SITBs specifically among people with EDs. The first finding we aimed to replicate comes from Smith, Forrest, and Velkoff (2018), who examined interoception in two samples of adults with EDs and found worse interoception among people reporting SITBs versus not. Specifically, in the first sample (100 women in ED treatment, $M_{\text{age}} = 26.92$, 96% White), participants with lifetime suicide attempt(s) or past-year self-reported NSSI had worse interoception than those without such history. In the second sample (88 women and 4 men recruited from ED treatment centers throughout the United States, $M_{\text{age}} = 32.82$, 93% White), greater severity of SITB history was associated with worse interoception. Specifically, people with multiple suicide attempts had worse interoception than people with a single attempt and those engaging in NSSI, though the latter two groups did not differ from one another. We aimed to replicate these findings linking greater interoceptive deficits with suicidal and nonsuicidal self-injurious behaviors.

A second result that we aimed to replicate is that interoceptive deficits appear to function linearly along the continuum of suicidality severity, such that interoception is worst among those who attempt suicide, followed by those who plan but do not attempt suicide, followed by those who consider suicide but do not make a plan or attempt (Forrest et al., 2015; Rogers et al., 2018; Smith et al., 2020). Past research examining deficits in interoception along the continuum of self-harming severity has generally conceptualized severity based on historical report (e.g., categorizing participants according to their greatest *lifetime* severity of suicidality from ideation to attempts). For example, in a sample of military service

members and veterans, those with current suicidal ideation had worse body appreciation compared to those with lifetime suicidal ideation (Smith, Witte, Grunewald, et al., 2023; Smith, Witte, Troop-Gordon, et al., 2023). To our knowledge, only one study has examined how *current* severity of suicidality is associated with interoception, using the Multidimensional Assessment of Interoceptive Awareness (MAIA; Mehling et al., 2012), in a sample of people with EDs. The MAIA measures aspects of interoception such as the tendency not to worry about body sensations and the belief that one can trust one's body sensations. This study found that, although several components of interoception were associated with suicidal ideation, the severity of interoceptive deficits did not correspond with the severity of current suicidality (Perry et al., 2021). We aimed to replicate and extend this finding by examining interoceptive deficits along the continuum of current (rather than lifetime) severity of suicidality, using an alternate and commonly used measure of interoceptive deficits that primarily assesses for interoception related to emotions (the Eating Disorders Inventory). Understanding the relationship between interoceptive deficits and current suicidality is important for clinical applications. If greater deficits are indeed associated with worse current suicidality, then interoception may be a useful indicator of an individual's current level of risk and should be routinely assessed in clinical management and monitoring.

Our hypotheses were developed to replicate and extend previous research (Forrest et al., 2015; Rogers et al., 2018; Smith, Forrest, & Velkoff, 2018). Replication of findings in clinical science is essential to guide effective and efficient prevention and intervention efforts. Although clinical psychology has lagged behind other fields of psychology in addressing issues of reproducibility (Tackett et al., 2017), conducting studies to replicate and extend existing research builds confidence in established findings. Aim 1: The purpose of Aim 1 was to examine the relationship between interoceptive deficits and self-harming behaviors. In a direct replication of Smith, Forrest, and Velkoff (2018), we predicted that interoception would be worst among people with multiple suicide attempts, followed by people with a single attempt, then people with only NSSI, and finally people with no SITB history. Aim 2: The purpose of Aim 2 was to examine the relationship between interoceptive deficits and current suicidality, ranging from ideation through planning and attempts. Extending upon previous studies (Forrest et al., 2015; Perry et al., 2021; Rogers et al., 2018), we predicted that interoception would be worst among people with high suicidality (assessed regarding current suicidal symptoms, rather than worst lifetime severity), followed by people with moderate suicidality, then those with low

suicidality, and finally people with no current suicidal symptoms. We tested these hypotheses in a sample of adult patients in intensive treatment for an ED at a higher level of care.

METHOD

The data analyzed here were collected as part of an ongoing study of treatment outcomes in an ED treatment program. Reports from these data have been published elsewhere; here, we include a subset of the full sample and the analyses reported are unique. Participants were included in the study if they had data available for the measures included in this study. One of the studies we aim to replicate (Perry et al., 2021) used this database as well; while there is some overlap in the participants included in these two studies, these analyses test different variables than those reported previously. The procedures for this study were approved by the appropriate IRB; data are available from the first author upon reasonable request.

Participants

Participants were 118 adults ($N=103$ cisgender women, $N=7$ cisgender men, $N=3$ trans-men/trans-masculine, $N=5$ gender-queer/gender nonconforming/nonbinary) seeking treatment at a partial-hospitalization level of care in an ED treatment center within an academic medical center in the United States. Demographics are reported in Tables 1 and 2. ED diagnoses were determined based on the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) or the Structured Clinical Interview for DSM-5 (First et al., 2015).

Procedures

During program intake, patients were provided a description of the study and invited to participate. Participants who chose to participate provided written informed consent and completed self-report questionnaires. Only data from admission were included in this study, as this was the only time point with MINI data for suicidality (see below).

Materials

Suicidality and self-injury

Module B of the MINI was used to determine current and previous suicidality. This module assesses the presence

TABLE 1 Sample characteristics and means for study measures—by SITB group.

	No SITBs (<i>n</i> = 74)	NSSI only (<i>n</i> = 21)	Single attempt (<i>n</i> = 14)	Multiple attempts (<i>n</i> = 9)			
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	χ^2	<i>p</i>	
Race					4.11	0.98	
White	52 (70.3)	14 (66.7)	9 (64.3)	8 (88.9)			
Asian	5 (6.8)	2 (9.5)	0 (0.0)	0 (0.0)			
Black	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)			
Native Hawaiian/Pacific Islander	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)			
Other	11 (14.9)	4 (19.0)	3 (21.4)	1 (11.1)			
Ethnicity					2.02	0.57	
Hispanic/Latinx	10 (13.5)	3 (14.3)	4 (28.6)	1 (11.1)			
Not Hispanic/Latinx	60 (81.1)	18 (85.7)	10 (71.4)	8 (88.9)			
ED Diagnosis					22.97	0.03	
Anorexia nervosa—restricting	42 (56.8)	7 (33.3)	4 (28.6)	5 (55.6)			
Anorexia nervosa—binge/ purge	14 (18.9)	6 (28.6)	5 (35.7)	2 (22.2)			
Bulimia nervosa	2 (2.7)	1 (4.7)	0 (0.0)	2 (22.2)			
ARFID	2 (2.7)	3 (14.3)	0 (0.0)	0 (0.0)			
OSFED	14 (18.9)	4 (19.0)	5 (35.7)	0 (0.0)			
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i>	<i>p</i>	Partial η^2
Age	24.71 (8.63)	26.23 (8.78)	25.24 (6.24)	24.53 (5.10)	0.20	0.90	0.005
Length of ED since initial onset (years)	8.32 (7.46)	12.20 (9.98)	12.42 (6.97)	9.53 (4.23)	2.06	0.11	0.052
Body mass index	18.72 (2.24)	19.34 (3.15)	20.03 (2.94)	19.96 (2.73)	1.58	0.20	0.040
Interceptive deficits	31.77 (8.45)	37.81 (9.90)	35.57 (10.07)	38.78 (6.28)	4.44	<0.01	0.105

Abbreviations: ARFID, avoidant/restrictive food intake disorder; ED, eating disorder; NSSI, nonsuicidal self-injury; OSFED, other specified feeding or eating disorder; SITB, self-injurious thoughts and behaviors.

and number of previous suicide attempts. Participants also report current (i.e., past month) suicidal symptoms (e.g., ideation, planning, and attempts) and the number of symptoms endorsed provides a rating of current suicidality severity (low, moderate, high, or no current suicidal symptoms). The MINI shows good reliability and validity (Lecrubier et al., 1997; Sheehan et al., 1997; Sheehan et al., 1998), and furthermore, the suicidality module demonstrates good predictive validity for future SIB (Katz et al., 2019; Roaldset et al., 2012). NSSI was assessed using the question “How many times TOTAL in the PAST MONTH have you engaged in self-harm behaviors?” Participants were provided with the description “Self-harm refers to any behavior that you have engaged in intentionally to hurt yourself” and were given examples. For Aim 1, we created a categorical variable for self-injury: no SITBs, NSSI only, single attempt, and multiple attempts. For Aim 2, we used the MINI-rated categorical

variable for current suicidality severity: low, moderate, high, or no current suicidal symptoms.

Interceptive deficits

Interception was measured using the Interceptive Deficits subscale of the Eating Disorders Inventory 3 (EDI; Garner, 2004). Items are rated on a scale from 1 (*never*) to 6 (*always*) and summed to generate a score; higher scores indicate greater interoceptive deficits, although it is important to note that the EDI primarily assesses for emotion-related interoception. Reliability was good ($\alpha = 0.89$). We selected the EDI as our measure of interoception because this would provide a direct replication of Smith, Forrest, and Velkoff (2018), and a methodological extension of Perry et al. (2021), who used the MAIA in their examination of suicidality and interoception in this dataset.

TABLE 2 Sample characteristics and means for study measures—by suicidality group.

	No suicidality (<i>n</i> = 50)	Low suicidality (<i>n</i> = 26)	Moderate suicidality (<i>n</i> = 13)	High suicidality (<i>n</i> = 29)			
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	χ^2	<i>p</i>	
Race					6.35	0.90	
White	37 (74.0)	17 (65.4)	9 (69.2)	20 (69.0)			
Asian	3 (6.0)	2 (7.7)	0 (0.0)	2 (6.9)			
Black	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.4)			
Native Hawaiian/Pacific Islander	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)			
Other	6 (12.0)	5 (19.2)	2 (15.4)	6 (23.1)			
Ethnicity					2.81	0.42	
Hispanic/Latinx	5 (10.0)	6 (23.1)	3 (23.1)	4 (13.8)			
Not Hispanic/Latinx	42 (84.0)	19 (73.1)	10 (76.9)	25 (86.2)			
ED Diagnosis					12.21	0.43	
Anorexia nervosa—restricting	27 (54.0)	15 (57.7)	4 (30.8)	12 (41.4)			
Anorexia nervosa—binge/purge	10 (20.0)	6 (23.1)	4 (30.8)	7 (24.1)			
Bulimia nervosa	1 (2.0)	0 (0.0)	1 (7.7)	3 (10.3)			
ARFID	4 (8.0)	1 (3.8)	0 (0.0)	0 (0.0)			
OSFED	8 (16.0)	4 (15.4)	4 (30.8)	7 (24.1)			
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i>	<i>p</i>	Partial η^2
Age	26.39 (10.35)	24.32 (6.43)	26.41 (7.76)	22.71 (3.99)	1.46	0.23	0.037
Length of ED since initial onset (years)	9.60 (8.92)	9.16 (7.68)	14.29 (7.59)	7.76 (5.01)	2.19	0.09	0.055
Body mass index	18.23 (2.02)	18.94 (1.93)	20.01 (2.32)	20.25 (3.38)	4.91	<0.01	0.114
Interoceptive deficits	31.30 (8.72)	33.54 (7.64)	39.15 (9.07)	36.07 (9.82)	3.58	0.02	0.086

Abbreviations: ARFID, avoidant/restrictive food intake disorder; ED, eating disorder; OSFED, other specified feeding or eating disorder.

Data analysis

We conducted analysis of covariance tests with planned contrasts in SPSS 28 to determine whether self-injury groups and suicide severity groups differed on interoception. As in Smith, Forrest, and Velkoff (2018), we included age as a covariate in analyses of self-injury groups, as older participants had a longer time in which to have engaged in self-injury. The pattern of results remains the same without this covariate.

RESULTS

Descriptive and test statistics are reported in Tables 1 and 2. Aim 1: There was a significant group difference (four levels: multiple suicide attempts, single suicide attempt, NSSI only, and no SITBs) in interoceptive deficits among self-injury groups ($F[4,118]=4.44$, $p < 0.01$, $\eta^2 = 0.11$). As predicted, people with any SITBs

had greater interoceptive deficits than people without ($F[1,113]=11.62$, $p < 0.01$, $\eta^2 = 0.09$). Contrary to predictions, there was not a significant difference when comparing people with multiple suicide attempts to people with only NSSI or a single attempt ($F[1,113]=0.305$, $p = 0.58$, $\eta^2 < 0.01$). Similar to previous findings, there was also not a significant difference between the NSSI and single attempt groups ($F[1,113]=0.71$, $p = 0.40$, $\eta^2 = 0.01$). Aim 2: When we compared current suicidal severity groups (four levels: none, low, moderate, and high), there was a significant difference in interoceptive deficits ($F[4,118]=3.58$, $p = 0.02$, $\eta^2 = 0.09$). As reported in previous findings, people with any current suicidality (low, moderate, and high) had greater interoceptive deficits than people reporting no suicidality ($F[1,114]=8.60$, $p = 0.01$, $\eta^2 = 0.07$). The comparison of the moderate and low groups was marginally significant ($F[1,114]=3.51$, $p = 0.06$, $\eta^2 = 0.03$), and the comparison of the moderate and high groups was not significant ($F[1,114]=1.10$, $p = 0.30$, $\eta^2 = 0.01$). Interoceptive

deficits were descriptively highest among the moderate suicidality group ($M = 39.15$, $SD = 9.07$), followed by the high ($M = 36.07$, $SD = 9.82$), low ($M = 33.54$, $SD = 7.67$), and no current suicidality ($M = 31.30$, $SD = 8.72$) groups.

DISCUSSION

We replicated previous findings demonstrating the relationship between interoception and SITBs (Forrest et al., 2015; Rogers et al., 2018; Smith, Forrest, & Velkoff, 2018). Among people with EDs, interoceptive deficits were greater for those with versus without a history of SITBs. The effect size was medium ($\eta^2 = 0.09$), and similar to that reported ($\eta^2 = 0.07$) by Smith, Forrest, and Velkoff (2018). This aligns with previous research, suggesting that interoceptive deficits are significantly elevated among individuals reporting both disordered eating and NSSI compared to those reporting either in isolation (Franko et al., 2004; Muehlenkamp et al., 2012; Ross et al., 2009), and lends support to the theory that interoceptive deficits promote body disconnect and therefore facilitate engagement in SITB (Brausch & Muehlenkamp, 2014; Claes & Muehlenkamp, 2014). We did not replicate previous findings that people with multiple suicide attempts had greater interoceptive deficits compared to those with single attempts or NSSI only, but we did replicate previous results showing no significant difference between the latter two groups. These results indicate that in our sample, the primary difference in interoceptive deficits may be between those with any history of SITB and those without.

Extending upon previous results demonstrating greater interoceptive deficits along the suicidality continuum for lifetime history, we showed (consistent with Perry et al., 2021) that any current suicidal symptoms were associated with greater interoceptive deficits, although there were no significant differences based on current suicidality severity. Thus, greater interoceptive deficits do not appear to index higher levels of *current* suicidal severity, in contrast to previous findings regarding *lifetime worst-point* suicidality severity. The fluid vulnerability theory of suicide suggests that while chronic, stable properties of suicidal ideation exist, recent changes in suicidality are more strongly associated with future suicidal behavior (Bryan et al., 2020; Rudd, 2006). It may be the case, therefore, that a certain level of interoceptive deficits is sufficient to set the stage for any level of suicidality, whereas other variables contribute to advancing along the suicidality continuum (e.g., reaching a critical threshold of unacceptable loss; Capron et al., 2021).

Identifying the variables that facilitate progression from ideation about self-injury to engagement in that behavior is essential (Klonsky et al., 2018). The findings presented here and elsewhere identify interoceptive deficits

as an important correlate of SITB, especially among people with EDs, who are known to already have elevated interoceptive deficits. However, in order to best predict and prevent suicidal and nonsuicidal forms of self-injury, it is essential that future research seek to identify the variables that explain *why* people attempt self-harm *when* they do. Risk factors that indicate momentary risk for imminent self-harming behavior are beginning to receive empirical attention through methods such as ecological momentary assessment and digital phenotyping (Ballard et al., 2021; Gee et al., 2020). Short-term fluctuation in interoception is associated with momentary risk for NSSI (Velkoff & Smith, 2023), and studies show that affect, hopelessness, general and suicide-specific rumination, and sleep may predict suicidal thoughts and behaviors (Gee et al., 2020; Kivelä et al., 2022; Rogers, 2023). Importantly, developing an understanding of the momentary risk factors that lead to SITB will make it possible to develop targeted interventions, including just-in-time adaptive interventions that provide precise interventions at just the right time to prevent potentially lethal behavior (Coppersmith et al., 2022). It will be critical for future research to continue to examine specific momentary risk factors for SITB among people with ED, as it may be the case that, given the existing elevations in interoceptive deficits among people with EDs, there may be other risk factors that are better indicators of imminent risk in this population in particular.

In this study, we used the EDI as our measure of interoception, similar to the studies we were replicating as well as abundant research in the field of interoception. However, the EDI primarily assesses interoception related to emotions, which is related to a similar construct, alexithymia. Alexithymia refers to an inability to identify and describe emotions (Taylor, 1984) and is commonly present in people with EDs and/or SITBs (Iskric et al., 2020; Nowakowski et al., 2013), and indeed, interoceptive deficits may underpin alexithymia. Alexithymia and emotion interoception are related but distinct, as, for example, Forrest et al. (2015) found a correlation of $r = 0.54$ between the EDI interoceptive deficits subscale and the Toronto Alexithymia Scale (Bagby et al., 1994) in their sample of people with suicidality. Recently, scholars of interoception have raised concerns about the use of the EDI interoceptive deficits subscale (or other commonly used measures such as the MAIA) as a general measure of overall interoceptive abilities, highlighting the multifaceted nature of interoception (Desmedt et al., 2022; Murphy et al., 2019; Suksasilp & Garfinkel, 2022). There are separable components of interoception, including interoceptive accuracy, interoceptive sensibility (beliefs about one's interoceptive abilities), and interoceptive awareness (metacognitive awareness of one's own accuracy) that require different methods of measurement (Khalsa et al., 2018; Murphy

et al., 2019). Moreover, interoceptive abilities may differ along different bodily axes such as cardiac versus gastric interoception. It may be the case that only certain dimensions of interoception, or certain bodily sensations but not others, are related to SITB, either generally or in people with ED in specific. Answering this question will only be possible with future research that uses more comprehensive measurement of multiple dimensions of interoception across several relevant bodily sensations. Developing such a nuanced understanding of the relationship between interoception and SITB will not only contribute to theoretical conceptualizations of the etiology of various forms of self-harm, but will also inform the development of targeted interventions.

This study has limitations worth noting. First, we had a relatively small sample with unbalanced group sizes. Future work should examine these relationships in a larger sample with groups of more balanced size and in samples with greater diversity of race, ethnicity, and SES. Second, participants reported past-month NSSI. While this allowed us to examine interoceptive deficits in people with recent NSSI, there may have been people in the “no SITB” group who nevertheless engaged in NSSI in the more distant past. However, previous work has shown greater interoceptive deficits in recent compared with distant suicide attempts (Forrest et al., 2015). Thus, people with distant NSSI (i.e., more than 1 month ago) may indeed more closely resemble people with no history of SITB. Third, these data are cross-sectional, representing the relationship between interoception and SITB at admission to treatment. Therefore, we cannot draw conclusions about the longitudinal relationship between interoceptive deficits and SITBs, including any possible effects of treatment. Lastly, the interoceptive deficits subscale of the EDI mostly assesses emotion-related interoception as opposed to physical sensations. Other aspects of interoception, such as pain-specific interoceptive accuracy (Forrest & Smith, 2021), may also be relevant to risk for SITBs.

Interoceptive deficits are present in several mental disorders, and SITBs co-occur with numerous disorders beyond EDs (Paulus et al., 2019). This suggests that interoception may be an important target of intervention with therapeutic effects reaching across multiple forms of psychopathology. Promising new treatments aimed at improving interoception are in development (e.g., Boswell et al., 2015, 2019; Smith et al., 2021, 2022; Smith, Witte, Grunewald, et al., 2023; Smith, Witte, Troop-Gordon, et al., 2023). Our results and those we have replicated here suggest that these interventions could have an important impact on risk for SITBs.

CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available from the first author upon reasonable request.

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