

## Interoception in self-harm and suicide: A scoping review protocol

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**Author Affiliation:**Vanke School of Public Health,  
Tsinghua University.**ADMINISTRATIVE INFORMATION****Support** - None.**Review Stage at time of this submission** - Preliminary searches.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202530119**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 March 2025 and was last updated on 27 March 2025.**INTRODUCTION**

**Review question / Objective** (1) To integrate the multimodal assessments of interoception in studies related to self-harm and suicide; (2) To synthesize evidence on the psychological, behavioral, and neurophysiological mechanisms linking different dimensions of interoception to self-harm and suicide; (3) To assess the effectiveness of interoception-based interventions in individuals at risk of self-harm and suicide.

**Background** Self-harm and suicide are pervasive public health challenges globally, demanding urgent attention due to their profound societal impact. Interoception, the perception and awareness of internal bodily states, plays a pivotal role in understanding the complex pathways leading to self-harm and suicide. This review seeks to integrate current multimodal evidence on interoception in the context of self-harm and

suicide, aiming to illuminate its significance in both the mechanisms and prevention of these critical issues.

**Rationale** Interoception may serve a novel and diverse risk/protective factor in suicide research. Interoception abnormalities may lead to feeling disconnected from one's own body, which that feeling is a mechanism to facilitating suicidal behavior. Despite increasing interest in interoception, a comprehensive synthesis of research on its mechanisms in self-harm and suicide has yet to be presented in the scientific literature. Additionally, while some interventions have shown promise, there is a lack of clear consensus on the effectiveness of interoception-based approaches. Through a systematic review that employ diverse measurement modalities to clarify the psychological, behavioral, and neurophysiological mechanisms, as well as the effectiveness of intervention, this review aims to enhance our comprehension and guide future research and clinical approaches in this area.

## METHODS

**Strategy of data synthesis** The proposed review will follow the five-stage framework (Arksey & O'Malley, 2005). The search will be conducted in three English-language based databases including PubMed, PsycInfo and Web of Science. To ensure comprehensive search results, the search strategy employed two key term combinations: interoception and self-harm/suicide, linked by the Boolean operator "AND." During full-text screening and data extraction, we will further systematically identify and code psychological, behavioral, and neurophysiological mechanisms linking interoception to self-harm and suicide, as well as relevant interventions.

(1) Terms related to interoception: "interocept\*" OR "body awareness" OR "bodily awareness" OR "internal body sense" OR "body vigilance" OR "bodily vigilance" OR "body sensation\*" OR "psychophysiology" OR "autonomic awareness" OR "autonomic system\*" OR "autonomic nervous system" OR "physical sensation\*" OR "somatosensat\*" OR "somatoform disorder\*" OR "somatisation" OR "somatiz\*" OR "somatic awareness" OR "somatic symptom\*" OR "somatic preoccupation" OR "somatic problem\*" OR "somatic hypervigilance" OR "somatic sensitivity" OR "interpersonal touch" OR "slow touch\*" OR "sensual touch\*" OR "pain percept\*" OR "pain detect\*" OR "pain awareness" OR "skin sensation\*" OR "skin sensitivity" OR "touch perception" OR "cenesthesia" OR "heartbeat perception" OR "heartbeat detection" OR "heartbeat discrimination".

(2) Terms related to self-harm and suicide: "self-harm" OR "DSH" OR "deliberate self-harm" OR "self-injury" OR "self-injur\* behavi\*" OR "intentional self-injur\*" OR "intentional self-harm" OR "self destructive behavi\*" OR "non-suicidal self-injur\*" OR "NSSI" OR "self-mutilation" OR "suicid\*" OR "parasuicide".

**Eligibility criteria** Studies of participants of all ages were included. Inclusion criteria included studies that were (a) Published prior to April 1, 2025; (b) Empirical studies published in peer-reviewed journals and in the English language; (c) Include assessments of self-harm (including non-suicidal self-injury and self-harm) and suicide (suicidal ideation, plans, attempts, or deaths); (d) Include validated measurement of at least one aspect or dimension of interoception; and (e) Report quantitative data on the association between self-harm/suicide and interoception, or any influence of interoceptive processes on self-harm/suicide.

Exclusion criteria included: (a) Studies focusing on body modification practices (e.g., piercing, tattooing) primarily as cultural expressions or forms of creativity or identity; (b) Studies on physician-assisted suicide; (c) Qualitative data and single case studies examining associations; (d) Conference abstracts, dissertations, theses, or book chapters; and (e) Studies lacking adequate information necessary for data extraction.

### Source of evidence screening and selection

The process of screening and selecting evidence will involve four reviewers working independently, under the supervision of two other reviewers. Initially, the four reviewers will conduct searches in the designated databases based on the predefined search strategy. Subsequently, a two-step screening process will be carried out. First, titles and abstracts will be screened according to predetermined inclusion and exclusion criteria. Second, full-text screening will be performed for studies aligning with the research objectives. Any discrepancies or inconsistencies identified during screening will be resolved through consensus in a joint session involving the two other reviewers. Following this, the reviewers will evaluate the quality of the included studies using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guidelines.

**Data management** Data management for this review will ensure meticulous extraction and synthesis of relevant information across key themes: measurement modalities of interoception, associations with self-harm and suicide, neurophysiological mechanisms, and intervention effectiveness. Detailed data extraction will include participant characteristics (eg, age, sex), study characteristics (eg, country, methodological design), screening tools for interoception and self-harm/suicide, forms of interoception, modes of self-harm/suicide experiences (eg, ideation, plans, and attempts), multimodal neurophysiological factors/findings, and details of interoception-based intervention programs. Synthesis of data will involve organizing extracted information into tables and charts for comparative analysis. This synthesis will illuminate the role and mechanism of interoception in the pathways to self-harm and suicide, guiding future research and clinical approaches in this critical area.

**Language restriction** Studies in English will be included in the review.

**Country(ies) involved** China.

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**Keywords** Interoception, Self-harm, Suicide, Intervention, Psychophysiology, Mental health.

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