

## Article

# Does Interoceptive Awareness Influence Depression Through Anxiety in Peruvian Adults? A Mediation Analysis

Leidy Johana Vivas-Rivas <sup>1,†</sup>, Antonio Serpa-Barrientos <sup>2,†</sup>, Susan M. Oblitas-Guerrero <sup>3</sup>,  
Sandra P. Carranza-Cubas <sup>3</sup> and Jacksaint Saintila <sup>3,\*</sup>

<sup>1</sup> Department of Psychology, Universidad Cesar Vallejo (UCV), Lima 15081, Peru; psicovivas@gmail.com

<sup>2</sup> Department of Psicology, Universidad Nacional Mayor de San Marcos, Lima 15081, Peru; aserpab@unmsm.edu.pe

<sup>3</sup> Faculty of Health Sciences, Universidad Señor de Sipán, Chiclayo 14001, Peru; oblitasg@uss.edu.pe (S.M.O.-G.); ccubassandrapao@uss.edu.pe (S.P.C.-C.)

\* Correspondence: jacksaintsaintila@gmail.com

† These authors contributed equally to this work.

**Abstract:** Interoceptive awareness is currently gaining considerable attention and is in an active phase of research, supported by a growing body of empirical evidence from diverse fields such as neurophysiology, cognitive neuroscience, mind–body therapies, psychiatry, and psychometrics. The aim of this study was to examine the relationship between interoceptive awareness, anxiety, and depression in Peruvian adults. A total of 414 participants residing in Lima, Peru, were included, with 85% being young adults aged 18–27 years (252 women = 61%; 162 men = 39%; age range = 18–64; M age = 23.4). The results indicated that the indirect effect of interoceptive awareness on depression through anxiety accounted for 61.7% of the mediation, while the direct effect of interoceptive awareness on depression accounted for 38.3%. In conclusion, the hypothesis that anxiety negatively mediates the relationship between interoceptive awareness and depression in Peruvian adults was confirmed. This research may have implications in clinical settings, particularly for the prevention and psychotherapeutic intervention of anxiety and depression, through the promotion of adaptive interoceptive awareness.



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## 1. Introduction

Definitions of interoception have remained consistent since 2000, although the construct has gained greater precision due to advances in neurophysiological research. Khalsa et al. [1] described interoception as the process by which the nervous system detects, represents, interprets, stores, and integrates sensations, whether conscious or unconscious, of the current state of the body. This refers to a constant mapping of the individual's internal landscape, including aspects such as hunger, thirst, body temperature, and muscle pain [2,3].

The interoceptive process involves sensory information transmitted through the lamina I spinothalamocortical system, originating from visceral organs and body tissues, including the skin and smooth and skeletal muscles [2,4]. Currently, the term interoception is distinguished from viscerosensation [1]. Viscerosensation specifically refers to the perception of sensations from various organ systems, such as the respiratory, cardiovascular, gastrointestinal, urinary, and pancreatic systems, as well as blood vessels [5].

The concept of interoceptive awareness was first introduced in the Eating Disorder Inventory (EDI) questionnaire to describe the Interoceptive Awareness dimension. This term referred to a lack of confidence in accurately recognizing sensations and emotions related to hunger and satiety [6]. Since the research by Critchley et al. [7], the term interoceptive awareness has evolved to refer to sensations derived from interoception that are

consciously experienced and can be reported by the individual [1]. This conceptualization allows for a deeper understanding of how individuals perceive and report their internal sensations, which is fundamental to various research and clinical applications.

Mehling et al. [8] defined interoceptive awareness as the various dimensions of conscious interoception measurable through self-report; this involves intentional attention to bodily sensations [9], which is influenced by elements such as thoughts, beliefs, attitudes, and emotions [10]. This definition emphasizes the multidimensional nature of interoceptive awareness and the interaction between cognition and emotion in its experience. There are two types of attention directed toward bodily sensations: one characterized by mindfulness (adaptive interoceptive awareness) and the other by anxiety (maladaptive interoceptive awareness) [11]. In this framework, mindfulness fosters an adaptive and healthy relationship with bodily sensations, while anxiety can result in a maladaptive relationship, potentially perpetuating negative emotional states or stress.

Interoceptive awareness has significant implications in clinical and therapeutic settings [12,13], as it influences both physical and psychological health [12–14]. In this context, interoceptive awareness emerges as a key component in several interventions known as mind–body or manual therapies [14]. These interventions incorporate meditation practices or body movements (e.g., Mindfulness-Based Stress Reduction [MBSR], mindfulness, yoga, tai chi, breathing therapy, or the Alexander Technique) [1]. They have been investigated for their effects on various painful conditions and psychological disorders, including chronic low back pain, fibromyalgia, eating disorders, anxiety, and depression [11,15]. The practices integrated into these therapies aim to enhance awareness and understanding of bodily sensations, contributing to better emotional regulation and management of pain or stress. By fostering a more harmonious relationship between mind and body, these therapies offer valuable tools for improving physical and psychological well-being.

Alterations in interoception may significantly contribute to the development of psychological disorders, including anxiety and depressive disorders [16]. Many psychological disorders involve interoceptive irregularities, often presenting through somatization [1,17]. For example, individuals with generalized anxiety disorder report symptoms such as headaches, gastrointestinal discomfort, muscle tension, and fatigue, while those with depression often experience fatigue, sleepiness, and changes in appetite, either increased or decreased [1]. Anxiety and mood disorders are the most prevalent psychopathological categories in the general population [18]. Nearly half of individuals with major depressive disorder (MDD) also suffer from one or more anxiety disorders [19], highlighting the close association between depression and anxiety [20].

Recent empirical evidence suggests that interoceptive awareness is directly linked to psychological well-being [21] and mindfulness [10,11,21–23], and in turn, mindfulness positively influences psychological health [24]. Interoceptive awareness is negatively associated with anxiety [10,11,22,25], depression [26,27], suicidal ideation, and non-suicidal self-injury [28]. In addition, interoceptive awareness appears to be a central aspect in the treatment of multiple sclerosis [29], post-traumatic stress disorder [30], depression [27,31], and anxiety [32].

Several mediation and moderation analyses of interoceptive awareness have been conducted [27,32–37], offering insights into potentially more effective treatments for various diseases and psychological disorders involving interoceptive disturbances. Some of these analyses indicated that gender moderated the relationship between interoceptive awareness and individual treatment responses for MDD [27]; interoceptive awareness partially mediated the reduction in somatic symptoms related to MDD treatment outcomes [27]; both alexithymia and emotional dysregulation mediated the impact of interoceptive awareness on depression [34]; central sensitization fully mediated the relationship between interoceptive awareness and pain intensity [35]; and interoceptive awareness mediated the connection between mindfulness treatment and anxiety levels [32].

To date, there is no record of any analysis that has explored the interrelationship between interoceptive awareness, depression, and anxiety. Based on the existing literature, we

hypothesize that anxiety acts as a negative mediator in the relationship between interoceptive awareness and depression, meaning that an increase in interoceptive awareness would reduce anxiety, which, in turn, would decrease depression. The aim of this research was to investigate the relationship between interoceptive awareness, anxiety, and depression in Peruvian adults.

## 2. Materials and Methods

### 2.1. Participants

In this study, 491 individuals participated: 128 virtually and 363 face-to-face, between 2 February and 27 May 2023. However, 77 participants were excluded for various reasons: 31 for residing outside Lima, 14 for being of Venezuelan nationality, 12 for being under 18 years old, 8 for missing sociodemographic data such as weight and sex, 7 for not providing informed consent, and 5 for having incomplete protocols with at least 5 missing responses in the questionnaires. A non-probabilistic “snowball” sampling method was used. We included cases with 1 to 4 missing data points by calculating the mean for each missing item. As a result, we analyzed data from 414 Peruvian individuals residing in Lima. Participants’ ages ranged from 18 to 64 years ( $M$  age = 23.4), with most (85%) being young adults aged 18–27 years. Women represented 61% of the sample. Regarding educational level, 71% reported incomplete higher education. The average reported weight was 65 kg, and the average height was 1.63 m (Table 1).

**Table 1.** Sociodemographic characteristics of the participants.

Characteristics	n/M	%/SD
Sex		
Male	162	39
Female	252	61
Age		
18–27	351	85
28–37	42	10
38–47	8	2
48–57	7	2
58–64	6	1
Level of education		
High school completed	43	10
Superior incomplete	294	71
Superior complete	77	19
Weight (kg)	65	13
Height (m)	1.63	0.09
BMI	24.4	3.4

Note. n: frequencies; BMI: body mass index; kg: kilograms; m: meters; M: arithmetic mean.

### 2.2. Instruments

#### 2.2.1. Multidimensional Assessment of Interoceptive Awareness, Version 2 (MAIA-2)

This is a self-report questionnaire developed by Mehling et al. [8] designed for the following purposes: measuring interoceptive awareness and distinguishing different modes of attention to bodily sensations. One of these modes is characterized by mindfulness, referred to as adaptive interoceptive awareness, and the other by anxiety, referred to as maladaptive interoceptive awareness. Additionally, this questionnaire is used to assess mind–body therapies by analyzing mind–body interaction processes, detecting changes in interoceptive awareness associated with these therapies, and evaluating the appropriateness of the applied therapies [11].

The MAIA-2 consists of eight dimensions and 37 items that sequentially represent increasing levels of interoceptive awareness: noticing (4 items), not distracting (6 reverse-scored items), not worrying (5 items, 3 of which are reverse-scored), attention regulation (7 items), emotional awareness (5 items), self-regulation (4 items), body listening (3 items),

and trusting (3 items) [8]. The scale is ordinal with six Likert-type response options ranging from never (0) to always (5) [31,38]. The eight factors demonstrated internal consistency values of  $\alpha = 0.64\text{--}0.83$  [8];  $\omega = 0.82\text{--}0.93$  [39].

#### 2.2.2. Patient Health Questionnaire-9 (PHQ-9)

It is a self-report measure created by Kroenke et al. [40], designed for the screening of MDD based on the measurement of the severity of symptoms present during the last two weeks [41]. The symptoms include depressed mood, loss of interest in activities, changes in appetite, sleep disturbances, psychomotor changes, fatigue, feelings of guilt, difficulty concentrating, and suicidal ideation [42], based on the diagnostic criteria for MDD from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) of the American Psychiatric Association [43]. The measure consists of nine items with four response options: not at all (0), several days (1), more than half the days (2), and almost every day (3). The internal consistency reliability was  $\alpha = 0.81$  [42] and  $\alpha = 0.87$  [41].

#### 2.2.3. Generalized Anxiety Disorder 7-Item (GAD-7)

It is a self-report measure developed by Spitzer et al. [44] to screen for generalized anxiety disorder (GAD) by assessing the severity of symptoms experienced over the past two weeks [44]. The symptoms include nervousness, inability to stop worrying, excessive worry, restlessness, difficulty relaxing, irritability, and fear that something terrible might happen [45], based on DSM-IV diagnostic criteria A, B, and C for GAD [43]. The measure consists of seven items with four response options: not at all (0), several days (1), more than half the days (2), and almost every day (3) [44]. The internal consistency reliability presented an  $\alpha = 0.89$  [45].

#### 2.2.4. Sociodemographic Data Registration Form

A registration form was designed to collect information on various sociodemographic variables, including sex (categorized as men and women), age (grouped into ranges of 18–27, 28–37, 38–47, 48–57, and 58–64), weight in kilograms (kg), height in meters (m), nationality, current department or province of residence, and education level (classified as high school completed, higher education complete, and higher education incomplete).

#### 2.2.5. Procedures

This study was part of a broader instrumental research project aimed at translating and obtaining evidence of validity, reliability, and fairness for the MAIA-2 in Peruvian adults. A newly translated version of the MAIA-2, specifically adapted for the Peruvian context, was used in this study. Before initiating the translation and adaptation process, permission was obtained from the original author of the instrument, ensuring adherence to the intended structure and content of the MAIA-2.

The translation followed an iterative adaptation process, beginning with a dialogue between the lead author and a bilingual native Spanish speaker to achieve a culturally relevant translation. Expert assessments and cognitive interviews were then conducted to refine language clarity and contextual accuracy. After these steps, the final version was reviewed and adjusted in a collaborative discussion between the lead author and co-author.

Additional adaptations were made to improve usability and comprehension in the Peruvian context: coding in the translated version was modified, and the frequency options for the response format were updated (never = 1; almost never = 2; sometimes = 3; frequently = 4; almost always = 5; always = 6). These changes also led to modifications in the instructions for calculating reverse-scored items ( $7 - x$ ). The completed version thus provided a linguistically and culturally adapted measure to assess interoceptive awareness in Peruvian adults.

The virtual survey was designed using the Google Forms application and included the following sections: informed consent, sociodemographic data, and instruments (GAD-7, PHQ-9, and MAIA-2). The informed consent section provided details on the duration of

the survey and participation procedure, the purpose of the research, the right to refuse or discontinue participation after starting, the absence of consequences for refusal or withdrawal, the lack of direct benefits from participation, and the guarantee of confidentiality and anonymity. It also included the contact information of the lead author for any questions regarding the research. Additionally, a protocol for face-to-face administration was developed, containing the same content as the virtual survey, with approximately 370 printed copies. The survey was disseminated via WhatsApp and Facebook, as well as through face-to-face administration. Anonymity, privacy, and confidentiality were ensured throughout the data collection and research process.

The research protocol was reviewed and approved by the Research Ethics Committee of Cesar Vallejo University. Additionally, the guidelines for the use of tests and other assessment instruments for research purposes were followed [46]. The Ethical Principles of Psychologists and the Code of Conduct were adhered to, with particular emphasis on Ethical Standards in research and publication, informed consent for research, and plagiarism [47]. Articles 24, 25, and 26 of Chapter III (research) of the Code of Ethics and Deontology were also followed, covering informed consent, the protection of individual well-being and dignity, and the rejection of falsification and plagiarism [48].

#### 2.2.6. Data Analysis

A descriptive statistical analysis of the sociodemographic information was conducted, using measures such as frequencies, percentages, and the arithmetic mean. The indirect mediation model of interoceptive awareness in depression was derived and interpreted based on the indirect, direct, and total effects [49]. A bootstrap procedure (10,000 replicates) was applied to calculate mediation and trajectory estimates, along with the estimation plot. Effect sizes were categorized as minimal ( $\beta = 0.20$ ), moderate ( $\beta = 0.50$ ), and strong ( $\beta = 0.80$ ), with practical significance in social research [50] and statistical significance set at  $p < 0.05$ . [51].

The Jamovi software (version 2.3) of the Jamovi project [52] was used to carry out the descriptive statistical analysis of the sociodemographic information. On the other hand, IBM SPSS Amos (version 24.0) was used to develop the mediation model. In addition, Jamovi (version 2.2) of the Jamovi project [52] was used to obtain the mediation estimates, the trajectories, and the estimation graph, using the bootstrap method with 10,000 replicates.

### 3. Results

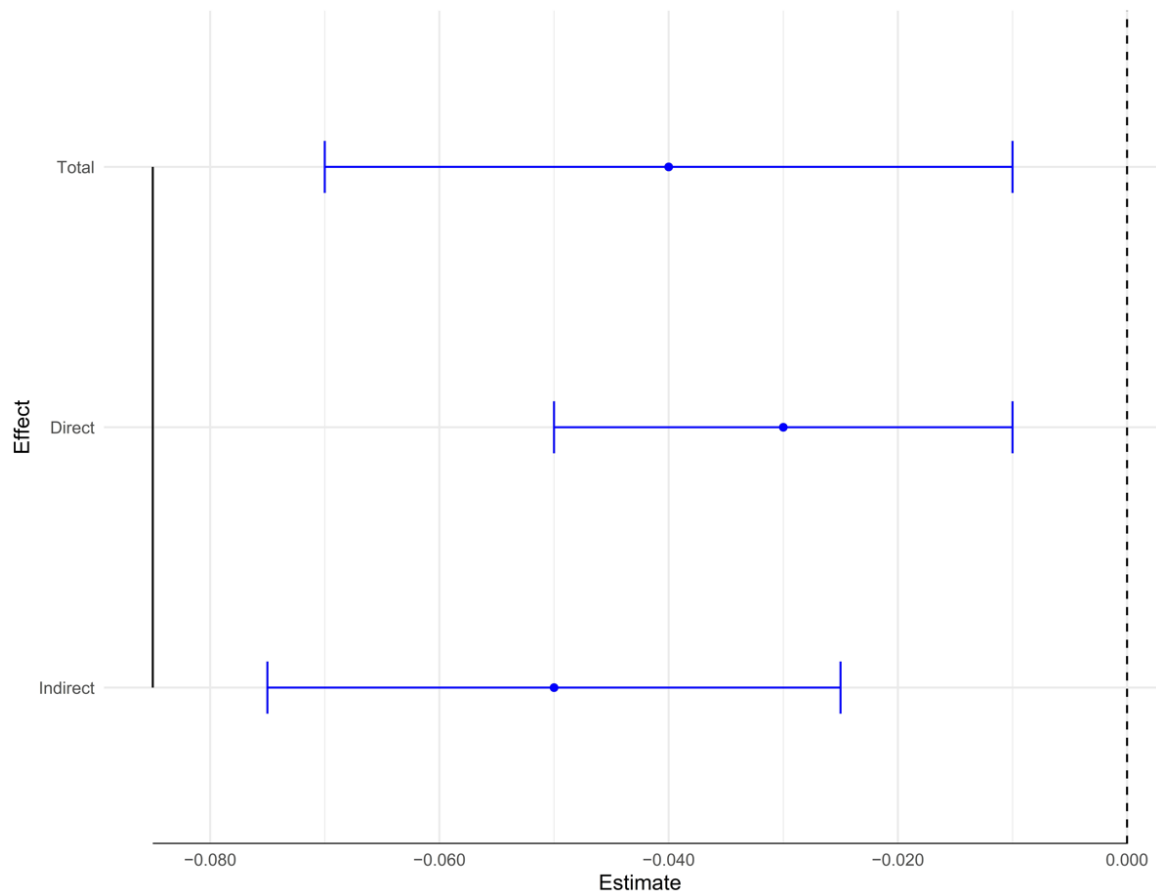
Based on existing studies on interoceptive awareness, we hypothesized that anxiety negatively mediates the relationship between interoceptive awareness and depression. In other words, we propose that an increase in interoceptive awareness leads to a reduction in anxiety, which subsequently decreases depression. The following section details the findings related to this theoretical model.

The indirect effect showed an estimate of  $-0.036$  ( $\beta = -0.117$ ;  $p = 0.002$ ), accounting for 61.7% of the mediation. For the components of the indirect effect, the direct relationship between interoceptive awareness and anxiety had an estimate of  $-0.036$  ( $\beta = -0.153$ ;  $p = 0.002$ ), and the relationship between anxiety and depression showed an estimate of  $0.985$  ( $\beta = 0.768$ ;  $p < 0.001$ ). The total effect of interoceptive awareness on depression showed an estimate of  $-0.058$  ( $\beta = -0.190$ ;  $p < 0.001$ ), representing 100% mediation (see Table 2 and Figure 1). The direct effect of interoceptive awareness on depression had an estimate of  $-0.022$  ( $\beta = -0.073$ ;  $p = 0.019$ ), representing 38.3% of the mediation (Figure 2).

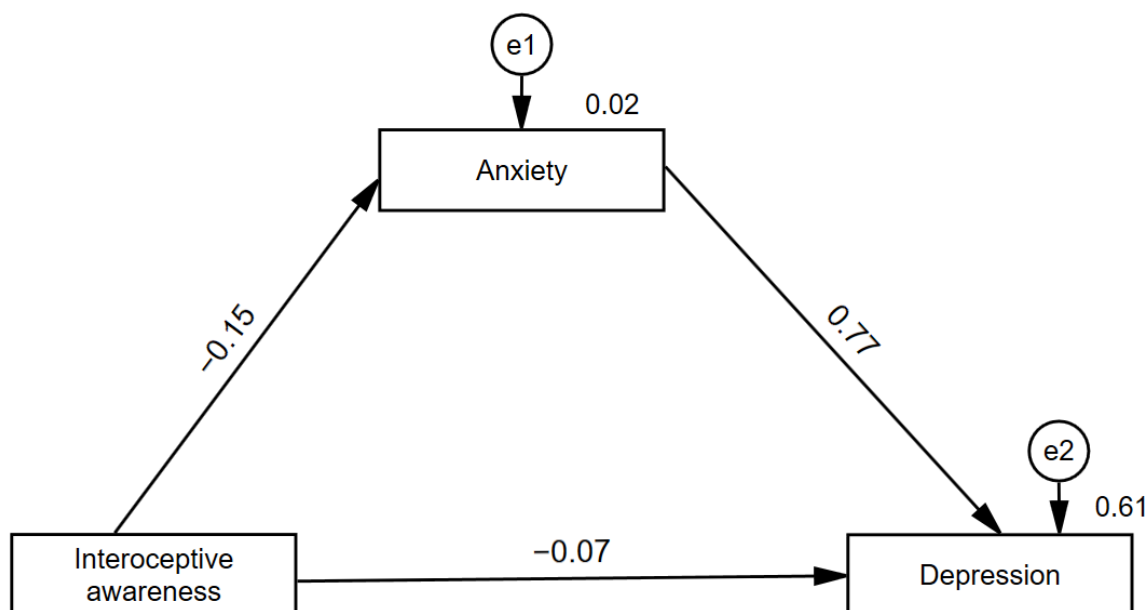
**Table 2.** Indirect mediation and total effect of interoceptive awareness on depression.

Type	Effect	Estimate	SD	95% CI		$\beta$	Z	p	% Mediation
				Lower	Upper				
Indirect Component	MAIA $\Rightarrow$ Anxiety $\Rightarrow$ Depression	-0.036	0.011	-0.058	-0.013	-0.117	-3.120	0.002	61.7
	MAIA $\Rightarrow$ Anxiety Anxiety $\Rightarrow$ Depression	-0.036	0.011	-0.059	-0.014	-0.153	-3.140	0.002	
Direct	MAIA $\Rightarrow$ Depression	0.985	0.040	0.907	1.063	0.768	24.800	<0.001	38.3
Total	MAIA $\Rightarrow$ Depression	-0.022	0.009	-0.040	-0.004	-0.073	-2.350	0.019	100

Note. MAIA: interoceptive awareness; CI, confidence interval; SD, standard deviation;  $\beta$ : standardized regression coefficient (effect size measure); Z: Z scores; p: p values; bootstrap application (10,000 replicates).



**Figure 1.** Estimating the effect of interoceptive awareness on depression. Note: Application of bootstrap (10,000 replicates).



**Figure 2.** Indirect mediation model of interoceptive awareness in depression.

#### 4. Discussion

Interoceptive awareness has become an increasing focus of interest in contemporary research, with its relevance supported by findings from diverse fields such as neurophysiology, cognitive neuroscience, mind–body therapies, psychiatry, and psychometrics. This research highlights the critical importance of interoceptive awareness for both physical health and psychological well-being. The aim of this study was to explore the interrelationship between interoceptive awareness, anxiety, and depression in a group of adults in Peru. The results confirmed the initial hypothesis, showing that anxiety mediates the relationship between interoceptive awareness and depression.

In previous research, factors such as alexithymia and emotional dysregulation were found to influence the relationship between interoceptive awareness and depression, accounting for approximately 31% of the mediation [34]. However, the current findings emphasize the prominence of anxiety as a key mediator in this dynamic. The indirect effect of interoceptive awareness on depression, through anxiety, was statistically significant, accounting for an impressive 61.7% of the total mediation. This contrasts sharply with the less prominent role that alexithymia and emotional dysregulation played in earlier studies. Additionally, the direct effect of interoceptive awareness on depression alone accounted for 38.3% of the mediation, exceeding the percentage previously reported by Desdentado et al. [34].

The mediation analysis in this study suggests that greater adaptive interoceptive awareness reduces anxiety, which in turn decreases depression. The role of interoceptive awareness in psychological well-being is undeniable, as evidenced by the findings of this research and previous studies [21]. These results emphasize how an accurate and adaptive understanding of the body’s internal signals can significantly influence the regulation of emotions such as anxiety, thereby affecting the onset and severity of depression. The consistency of these findings with the MAIA conceptual framework reinforces the validity of the MAIA model and provides a solid foundation for understanding how interoception can be utilized as a therapeutic tool. A clear example of this is the study by Lima-Araujo et al. [32], which demonstrates how interventions based on interoceptive awareness, such as mindfulness practices, can effectively improve mental health. These practices not only enhance interoception but also alleviate symptoms associated with disorders like anxiety. The therapeutic potential of interoceptive awareness goes beyond simple self-awareness; by understanding and appropriately responding to the body’s internal signals, more effective

emotional regulation can be achieved. This underscores the need for continued research and the application of these techniques in clinical practice for individuals struggling with disorders such as anxiety and depression.

Interoception, or the ability to perceive and understand the body's internal signals, plays a crucial role in how individuals experience and regulate their emotions. Emotional disorders such as anxiety and depression are closely linked to dysfunctions in interoceptive perception, leading to emotional distress and difficulties in emotion regulation [53]. It is suggested that these interoceptive disturbances may be a defining feature of these disorders, providing an important perspective for understanding and addressing them [1]. On the other hand, two distinct ways in which individuals can tune into their bodily sensations have been identified [11]: (1) one, driven by anxiety, can lead to hyperawareness or negative interpretation of bodily sensations, resulting in "maladaptive interoceptive awareness" [11]; (2) a mindfulness-based approach fosters "adaptive interoceptive awareness", where attention to bodily sensations is more neutral or positive, allowing for more effective emotional regulation [11]. What is particularly promising is the idea that interoceptive awareness is not merely an innate trait but can be cultivated and enhanced. Through practices such as meditation and mindfulness, individuals can learn to observe their body's sensations with acceptance and curiosity rather than judgment or fear [21,24]. This shift in orientation toward the body can have significant benefits for mental and emotional health [21,24]. This suggests a great opportunity in the therapeutic field to integrate practices that promote adaptive interoceptive awareness in the treatment of anxiety and depression. By teaching individuals to connect more healthfully with their bodily signals, we could offer a powerful tool for improving emotional regulation and overall well-being.

#### 4.1. Cultural Considerations and Limitations

It is important to acknowledge the cultural context in which this study was conducted, as it focused specifically on a Peruvian population. Interoceptive awareness and its relationship with mental health outcomes, such as anxiety and depression, may be influenced by cultural factors [54]. Cultural norms, beliefs, and practices surrounding the perception and regulation of emotions, body awareness, and mental health vary significantly across different societies [55]. In Peru, cultural values related to emotional expression, body image, and coping mechanisms may differ from those in Western populations, where much of the existing research on interoceptive awareness has been conducted.

These cultural factors may have played a role in shaping the participants' interoceptive awareness and emotional regulation strategies. For example, in some cultures, there may be a greater focus on somatic symptoms as expressions of emotional distress, which could affect how individuals perceive and report their bodily sensations [55]. Furthermore, the emphasis on community and social support in Latin American cultures, such as Peru, may interact with interoceptive awareness and mental health outcomes in unique ways.

The current study had certain limitations. Given that this study was conducted exclusively with Peruvian adults, the findings may not be fully generalizable to populations from other cultural backgrounds. Future research should explore whether the relationships between interoceptive awareness, anxiety, and depression observed in this study hold true in other cultural contexts. Additionally, studies that compare diverse cultural groups could provide valuable insights into how cultural factors influence the development and application of interoceptive awareness-based interventions.

Additionally, the use of mixed methods, both virtual and face-to-face, for survey administration could have introduced variations in the accuracy of the data collected. In the virtual mode, although it facilitated access to a wider range of participants in a reduced time frame, it was not possible to fully control the environment in which respondents provided their answers. Elements such as distractions, misunderstandings of the questions without the possibility of immediate clarification, or even the temptation to seek additional information while answering could have influenced the answers. Additionally, one of the main limitations of this study is the use of a non-probability sampling method, specifi-



cally snowball sampling. This approach may introduce bias in the results and limits the representativeness of the findings, restricting the ability to generalize them to the broader Peruvian population. Given this sampling method, the results should be interpreted with caution and are applicable only to the specific group of individuals who participated in the study. It is not appropriate to assume that these findings are representative of all Peruvian adults or other populations. To advance this line of research, we recommend that future studies employ probability sampling methods to enhance representativeness and allow for broader generalization of the findings. It is suggested to continue to advance this line of research and to test more complex and refined models that build on both the existing literature on interoceptive awareness and the MAIA theoretical framework. Future studies could incorporate more variables related to psychopathology, such as insomnia or anorexia nervosa, and aspects of psychological well-being, such as mindfulness and self-compassion. These studies should cover both general populations and specific subgroups with subclinical or clinical conditions and consider the variability of cultural and geographic contexts. Such an approach will further enrich our understanding of interoceptive awareness and its interaction with various psychological and contextual variables. Furthermore, while this study focused on anxiety as a mediator in the relationship between interoceptive awareness and depression, other important variables such as emotion regulation and cognitive functioning were not included in the analysis. This may limit the breadth of the conclusions drawn. Future research should aim to investigate more complex models incorporating these additional mediators to provide a more comprehensive understanding of the mechanisms underlying the relationship between interoceptive awareness and mental health. Finally, the limited sample size in the older adult group in this study may restrict the generalizability of the findings to this population. Specific characteristics of older adults may not be adequately represented, suggesting that the results should be interpreted cautiously when applied to this group. Future studies should aim to increase the sample size in this subpopulation, enabling a more thorough evaluation of findings for older adults.

#### 4.2. Clinical Implications

This research could have clinical implications for the prevention and psychotherapeutic intervention of anxiety and depression in adults due to the finding that greater interoceptive awareness decreases anxiety, which then decreases depression. Patients with depression who present with anxiety symptoms, or a comorbid anxiety disorder could benefit from an intervention that includes adaptive interoceptive awareness as a central aspect to decrease anxiety, which would then decrease depression. Also, individuals with anxiety symptoms could benefit from an intervention based on adaptive interoceptive awareness to prevent the development of anxiety and depressive disorders, which is consistent with the findings of a previous study [32].

Mind-body therapies may be particularly effective for interoceptive awareness-based interventions in adults with anxiety and depression, as interoceptive awareness is a key component of these therapies. These interventions, which include practices such as meditation, yoga, and tai chi, largely originate from Eastern traditions. At their core, all these practices aim to create a deep connection between the mind and body through focused and conscious attention. A common denominator in these therapies is the idea of an integrated entity, where the mind and body are not seen as separate but as part of an interconnected system. This perspective is based on the concept of an “integrated self”, viewing the mind and body as an indivisible unit. Additionally, these therapies emphasize the human capacity for “embodiment”, the ability to feel and experience from within one’s own body. This concept, which refers to the intimate sense of being anchored and present in one’s own body, is key to understanding the effectiveness of these practices [15,56]. Adopting these practices can offer multiple benefits, including greater awareness of one’s emotions, sensations, and bodily states, contributing to overall well-being and helping manage stress, anxiety, and other emotional challenges.

A brief mindfulness treatment with a 30 min session format and a frequency of three consecutive days, which consisted of consciously attending to bodily sensations and breathing, showed effectiveness in increasing various aspects of interoceptive awareness and reducing anxiety symptoms [32]. Therefore, a mindfulness-based interoceptive awareness intervention could be an effective treatment to reduce symptoms of anxiety and depression in adults.

## 5. Conclusions

The results obtained in this cross-sectional investigation highlight the role of anxiety as a mediator in the connection between interoceptive awareness and depression. That is, the ability of individuals to be aware of and recognize internal sensations, known as interoceptive awareness, can influence anxiety levels, which, in turn, can affect susceptibility to depression. This finding underscores the relevance of understanding and fostering healthy interoceptive awareness, as it may offer an avenue for managing and potentially mitigating anxiety-related symptoms and, consequently, depression.

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**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data sets generated to support the findings of this study are not publicly available, but can be requested from the corresponding author.

**Conflicts of Interest:** The authors declare no conflicts of interest.

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