



Interoceptive Awareness, Decision-Making Styles, And Perceived Stress Among Young Adults

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Abstract: Interoceptive awareness refers to the ability to perceive and interpret internal bodily sensations such as heartbeat, breathing, and visceral feelings. Increasing evidence suggests that awareness of bodily signals plays an important role in emotional regulation and psychological well-being. The present study aimed to examine the relationship between interoceptive awareness and perceived stress among young adults. A quantitative correlational design was used with a sample of 120 participants aged between 18 and 25 years. Participants completed the Multidimensional Assessment of Interoceptive Awareness (MAIA) and the Perceived Stress Scale (PSS). Pearson's correlation analysis indicated a significant negative relationship between interoceptive awareness and perceived stress, suggesting that individuals with greater awareness of bodily sensations reported lower levels of stress. The findings highlight the importance of body awareness in psychological functioning and suggest that interventions that enhance interoceptive awareness may contribute to better stress management.

Keywords: *Interoceptive Awareness, Perceived Stress, Emotional Regulation, Young Adults*

1. Introduction

Young adulthood is a transitional developmental stage characterised by significant emotional, cognitive, and social demands. During this period, individuals frequently encounter

academic, career, and interpersonal challenges that require effective coping and decision-making abilities. The increasing pressures experienced during this stage often contribute to heightened levels of perceived stress, making it important to understand the psychological processes that influence how young adults regulate stress and make decisions.

One factor that may influence both decision-making and stress regulation is interoceptive awareness, defined as the ability to perceive and interpret internal bodily sensations such as changes in heart rate, breathing, and visceral feelings (Craig, 2009). Interoception plays a crucial role in emotional experience and self-regulation because bodily signals provide important information about an individual's internal state. Greater awareness of these internal signals has been associated with improved emotional regulation and adaptive coping strategies (Füstös et al., 2013; Bornemann & Singer, 2017). Research suggests that individuals who are more attuned to their bodily sensations may be better able to recognize emotional responses and manage stress effectively. Interoceptive awareness may also influence decision-making styles. Decision-making is commonly conceptualized through two primary styles: rational and intuitive. Rational decision-making involves deliberate analysis, logical reasoning, and systematic evaluation of information, whereas intuitive decision-making relies on instinct, feelings, and rapid judgments (Hamilton et al., 2016). In situations involving uncertainty or stress, bodily signals may provide important cues that guide decision processes. Therefore, individuals with higher interoceptive awareness may be more capable of integrating emotional and cognitive information, potentially supporting more adaptive decision-making.

The relationship between interoception and decision-making can be understood through Damasio's Somatic Marker Hypothesis, which proposes that bodily sensations function as "somatic markers" that guide behaviour and decision-making by attaching emotional significance to experiences (Damasio, 1996). According to this theory, internal bodily signals influence cognitive processes and help individuals evaluate potential outcomes, thereby shaping decision choices. In addition, the role of interoceptive awareness in stress regulation can be explained through Lazarus and Folkman's Transactional Model of Stress. This model conceptualizes stress as a dynamic interaction between individuals and their environment, where stress occurs when perceived demands exceed available coping resources (Lazarus & Folkman, 1984). Interoceptive awareness may contribute to this appraisal process by helping individuals detect physiological signs of stress and respond with adaptive coping strategies.

Despite growing interest in the role of interoception in emotional and cognitive functioning, relatively limited research has examined how interoceptive awareness simultaneously relates to decision-making styles and perceived stress among young adults. Understanding these

relationships may provide valuable insights into the mind–body mechanisms underlying emotional regulation and resilience during a critical developmental period. Therefore, the present study aims to examine the relationship between interoceptive awareness, decision-making styles (rational and intuitive), and perceived stress among young adults aged 18–25 years.

1.1 Hypotheses

The study was guided by the following hypotheses:

1. Interoceptive awareness will be positively associated with rational decision-making.
2. Interoceptive awareness will be negatively associated with perceived stress.
3. Interoceptive awareness will show a relationship with intuitive decision-making styles.

By examining these relationships, the study seeks to contribute to the growing literature on the role of body awareness in psychological functioning and its potential implications for stress management and adaptive decision-making in young adults.

2. Method

2.1 Sample

The study included 250 young adults aged between 18 and 25 years. Participants were recruited through convenience and snowball sampling methods using online platforms. The sample consisted of 145 females and 105 males.

In terms of educational status, 146 participants were undergraduate students and 62 were postgraduate students. Regarding occupational status, 174 participants were pursuing education, 35 were in full-time education, 25 were full-time working, 6 were part-time working, and 10 were neither working nor studying. Participants represented diverse residential backgrounds, including urban ($n = 145$), suburban ($n = 51$), and rural areas ($n = 54$).

2.2 Measures

Multidimensional Assessment of Interoceptive Awareness (MAIA): Interoceptive awareness was assessed using the Multidimensional Assessment of Interoceptive Awareness (MAIA) developed by Mehling et al. (2012). The scale consists of 32 items measuring multiple aspects of bodily awareness across eight subscales: Noticing, Not-Distracting, Not-Worrying, Attention Regulation, Emotional Awareness, Self-Regulation, Body Listening, and Trusting.

Participants respond using a 6-point Likert scale ranging from 0 (Never) to 5 (Always). Scores are calculated as the average of items within each subscale rather than a total score. The MAIA demonstrates adequate to good internal consistency, with reported Cronbach's alpha

values ranging from .66 to .87, and has shown good construct and convergent validity in previous research.

Decision Style Scale: Decision-making styles were measured using the Decision Style Scale developed by Hamilton, Shih, and Mohammed (2016). The instrument assesses two primary decision-making styles: rational (analytical) and intuitive. The scale contains 10 items, with 5 items measuring rational decision-making and 5 items measuring intuitive decision-making. Participants rate each item on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on each subscale indicate a stronger preference for the respective decision-making style. The scale demonstrates strong reliability, with Cronbach's alpha values of .86 for the rational subscale and .87 for the intuitive subscale, indicating excellent internal consistency. The scale has also shown good construct and discriminant validity in studies examining cognitive decision styles.

Perceived Stress Scale (PSS): Perceived stress was measured using the Perceived Stress Scale (PSS-10) developed by Cohen, Kamarck, and Mermelstein (1983). The scale consists of 10 items designed to assess the degree to which individuals perceive situations in their lives as stressful, unpredictable, or overwhelming. Participants rate items on a 5-point Likert scale ranging from 0 (never) to 4 (very often). Higher scores indicate greater levels of perceived stress. The PSS has demonstrated good reliability and validity across diverse populations and is widely used in psychological research.

2.3 Procedure

Participants were recruited through online platforms using convenience and snowball sampling methods. The survey link was distributed through social media platforms such as WhatsApp, Instagram, and email, targeting young adults aged 18–25 years.

Before beginning the survey, participants were presented with an informed consent form explaining the purpose of the study, the voluntary nature of participation, and assurances of confidentiality. Only participants who provided consent were able to proceed to the questionnaires.

The survey included demographic questions followed by the MAIA, Decision Style Scale, and Perceived Stress Scale. Data were collected anonymously through an online questionnaire format.

The study adhered to standard ethical principles for research involving human participants. Prior to participation, individuals were provided with an informed consent form that explained the purpose of the study, the voluntary nature of participation, and the

procedures involved. Participants were informed that they had the right to withdraw from the study at any time without any penalty.

To ensure confidentiality and anonymity, no personally identifying information such as names, contact details, or identifying demographic data was collected. All responses were recorded anonymously through an online survey platform, and the data were used solely for academic and research purposes.

Participants were also informed that their responses would remain confidential and securely stored, and that the information collected would be reported only in aggregated form. The study involved minimal psychological risk, as it consisted solely of self-report questionnaires related to bodily awareness, decision-making styles, and perceived stress.

The research procedures followed ethical principles consistent with the guidelines outlined by the American Psychological Association (APA, 2017) for conducting research with human participants.

3. Results

Presentation of Results

Table 1.1: *P-value of MAIA and PSS*

		PSS	MAIA
MAIA	Pearson's r	-0.226	—
	p-value	<.001	—

Table 1.2: *P-value of MAIA score and rational style*

		MAIA	Rational style
Rational style	Pearson's r	0.394	—
	p-value	<.001	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 1.3: *MAIA and Intuitive style*

		MAIA	Intuitive style
Intuitive style	Pearson's r	0.110	—
	p-value	0.082	—

Table 1.4: *P-value of the Rational style and PSS*

		Rational style	PSS
PSS	Pearson's r	0.084	—
	p-value	0.188	—

Table 1.5: *p-values of the PSS and intuitive style*

		PSS	Intuitive style
Intuitive style	Pearson's r	0.149	—
	p-value	0.018	—

Table 2.1: *Representing Linear Regression of PSS and MAIA*

Model	R	R ²
1	0.226	0.0511

Table 2.2: *Linear regression MAIA and Rational style*

Model	R	R ²
1	0.394	0.155

The present study examined the relationships among interoceptive awareness, decision-making styles (rational and intuitive), and perceived stress among young adults. Descriptive statistics were first analyzed to understand the distribution of stress scores in the sample. The results indicated that most participants reported moderate levels of perceived stress, with scores primarily ranging between 18 and 24 on the Perceived Stress Scale (PSS). The distribution was slightly right-skewed, suggesting that although some individuals experienced higher stress levels, extreme stress scores were relatively uncommon within the sample.

To examine relationships among the variables, Pearson's correlation analyses were conducted. A moderate, statistically significant positive correlation was found between interoceptive awareness and rational decision-making, $r(248) = .394$, $p < .001$. This indicates that participants with greater awareness of internal bodily sensations tended to rely more on logical and analytical decision-making strategies.

In contrast, the relationship between interoceptive awareness and intuitive decision-making was weak and non-significant, $r(248) = .110$, $p = .082$, suggesting that bodily awareness did not meaningfully influence intuitive decision tendencies. The analysis also

revealed a significant negative correlation between interoceptive awareness and perceived stress, $r(248) = -.226, p < .001$. This indicates that individuals with higher levels of interoceptive awareness reported lower levels of perceived stress.

A weak but statistically significant positive correlation was observed between intuitive decision-making and perceived stress, $r(248) = .149, p = .018$, indicating that greater reliance on intuitive decision-making was associated with slightly higher stress levels. However, the relationship between rational decision-making and perceived stress was weak and non-significant, $r(248) = .084, p = .188$.

To further examine predictive relationships, a multiple linear regression analysis was conducted to determine whether interoceptive awareness, rational decision-making, and intuitive decision-making predicted perceived stress. The overall regression model was statistically significant, $R = .338, R^2 = .114, \text{Adjusted } R^2 = .104, F(3, 246), p < .001$, indicating that the predictors explained approximately 11% of the variance in perceived stress. Regression coefficients revealed that interoceptive awareness significantly predicted lower perceived stress ($\beta = -.08, p < .001$). In contrast, intuitive decision-making ($\beta = .24, p = .006$) and rational decision-making ($\beta = .24, p = .003$) significantly predicted higher perceived stress levels. Overall, these findings suggest that greater interoceptive awareness is associated with increased rational decision-making and reduced stress, whereas stronger reliance on intuitive decision-making may be linked to slightly higher levels of perceived stress among young adults.

4. Discussion

The present study aimed to examine the relationship between interoceptive awareness, decision-making styles, and perceived stress among young adults. The findings provide important insights into how awareness of internal bodily sensations may influence cognitive processes and emotional experiences. Consistent with the first hypothesis, the results indicated a moderate positive relationship between interoceptive awareness and rational decision-making. This suggests that individuals who are more aware of their internal bodily signals may be more likely to engage in thoughtful and analytical decision processes. Awareness of physiological cues may allow individuals to better recognize emotional reactions and integrate them with cognitive evaluation when making decisions. These findings align with theoretical perspectives that emphasize the role of bodily feedback in cognitive functioning, particularly Damasio's Somatic Marker Hypothesis, which proposes that bodily signals guide decision-making by attaching emotional significance to experiences.

The study also found a significant negative relationship between interoceptive awareness and perceived stress, supporting the second hypothesis. Individuals with greater awareness of internal bodily states reported lower levels of perceived stress. One possible explanation is that greater bodily awareness may help individuals identify early physiological signs of stress and regulate their emotional responses more effectively. This finding is consistent with previous research suggesting that interoceptive awareness contributes to improved emotional regulation and psychological well-being.

In contrast, the relationship between interoceptive awareness and intuitive decision-making was weak and statistically non-significant. This suggests that intuitive decision-making may operate somewhat independently from conscious awareness of bodily sensations, or that other factors such as personality traits, experience, or situational context may play a stronger role in shaping intuitive decisions. The regression analysis further indicated that interoceptive awareness significantly predicted lower perceived stress, highlighting its potential importance as a psychological factor associated with stress regulation. These findings suggest that developing awareness of internal bodily signals may support adaptive coping strategies among young adults.

4.1 Implications of the Study

The findings of this study contribute to the growing body of literature emphasizing the importance of mind–body processes in psychological functioning. Interoceptive awareness appears to play a meaningful role in both cognitive and emotional domains, particularly in relation to stress regulation and rational decision-making.

These results also have practical implications for psychological interventions and mental health programs. Practices that enhance body awareness, such as mindfulness training, breathing exercises, and body-focused therapies, may help individuals develop greater awareness of internal states and potentially reduce stress levels. For young adults navigating academic and life transitions, strengthening interoceptive awareness may support better emotional regulation and decision-making.

4.2 Limitations and Future Research

Despite the contributions of the study, several limitations should be acknowledged. First, the study relied on self-report measures, which may be subject to response bias or social desirability effects. Future research could incorporate physiological measures of interoception, such as heartbeat detection tasks, to provide a more objective assessment of bodily awareness.

Second, the use of convenience and snowball sampling may limit the generalizability of the findings to broader populations. Future studies could employ more diverse and representative samples to enhance external validity.

Third, the cross-sectional design of the study prevents conclusions about causal relationships between the variables. Longitudinal research could help examine how interoceptive awareness influences stress and decision-making over time.

Future research may also explore additional psychological factors, such as emotional intelligence, coping styles, or personality traits, that may interact with interoceptive awareness in influencing decision-making and stress experiences.

4.3 Conclusion

The present study examined the relationships between interoceptive awareness, decision-making styles, and perceived stress among young adults. The findings indicated that higher levels of interoceptive awareness were associated with greater reliance on rational decision-making and lower levels of perceived stress. In contrast, the relationship between interoceptive awareness and intuitive decision-making was not statistically significant.

Overall, the results highlight the psychological importance of awareness of internal bodily sensations in cognitive and emotional functioning. By demonstrating the relationship between interoception, decision-making, and stress, the study contributes to a deeper understanding of the role of mind–body processes in young adult development. These findings underscore the potential value of approaches that enhance bodily awareness in supporting emotional regulation and well-being.

References

- (Bud) Craig, A. How do you feel — now? The anterior insula and human awareness. *Nat Rev Neurosci* 10, 59–70 (2009). <https://doi.org/10.1038/nrn2555>
- Füstös, J., Gramann, H., Herbert, B. M., & Pollatos, O. (2013). Interoceptive awareness modulates affective empathy and emotional regulation. *Cortex*, 49(9), 2375–2388. <https://doi.org/10.1016/j.cortex.2012.09.010>
- Cohen, S., Kamarck, T., & Mermelstein, R. "A global measure of perceived stress." *Journal of Health and Social Behavior*, 1983.
- Hamilton, K., Shih, S., & Mohammed, S. (2016). The development and validation of the rational and intuitive decision styles scale. *Journal of Personality Assessment*, DOI:10.1080/00223891.2015.1132426
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing.

- Mehling, W. E., Price, C., Daubenmier, J. J., Acree, M., Bartmess, E., & Stewart, A. (2012). The Multidimensional Assessment of Interoceptive Awareness (MAIA). *PLoS ONE*, 7(11), e48230. <https://doi.org/10.1371/journal.pone.0048230>
- Leech, K., Stapleton, P., & Patching, A. (2024). A roadmap to understanding interoceptive awareness and post-traumatic stress disorder: a scoping review. *Frontiers in Psychiatry*. <https://doi.org/10.3389/fpsyt.2024.1355442>
- Durán, P., Morales, J.-P., & Huepe, D. (2024). Interoceptive awareness in a clinical setting: the need to bring interoceptive perspectives into clinical evaluation. *Frontiers in Psychology*, 15. <https://doi.org/10.3389/fpsyg.2024.1244701>
- Wiersema, J. R., & Godefroid, E. (2018). Interoceptive awareness in attention deficit hyperactivity disorder. *PLOS ONE*, 13(10). <https://doi.org/10.1371/JOURNAL.PONE.0205221>
- Shen, H., Flouri, E., Cheng, Y., Li, Y., & Wei, G. (2024). Greenspace Use and Anxiety in Young Adults: The Role of Interoception. *Environmental Research*, 120232. <https://doi.org/10.1016/j.envres.2024.120232>.
- Cross, R., & John. (2022). *I feel, therefore, I do: Investigating self-reported interoceptive awareness and its relationships with health-promoting lifestyle behaviours in an adult sample [Preprint]*. OSF. <https://doi.org/10.31219/osf.io/9s2rn>
- Damasio Antonio R.1996. The somatic marker hypothesis and the possible functions of the prefrontal cortex *Phil. Trans. R. Soc. Lond.* B3511413–1420 <http://doi.org/10.1098/rstb.1996.0125>
- Critchley, H. D., & Harrison, N. A. (2013). Visceral influences on brain and behavior. *Neuron*, 77(4), 624-638. <https://doi.org/10.1016/j.neuron.2013.02.008> [ScienceDirect+1](#)
- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer Publishing Company. [Google Books+1](#)
- Schulz, A., & Vögele, C. (2015). Interoception and stress. *Frontiers in Psychology*, 6, Article 993. <https://doi.org/10.3389/fpsyg.2015.00993>
- Garfinkel, S. N., Seth, A. K., Barrett, A. B., Suzuki, K., & Critchley, H. D. (2015). Knowing your own heart: Distinguishing interoceptive accuracy from interoceptive awareness. *Psychological Science*, 26(11), 1-15. <https://doi.org/10.1177/0956797615596977>
- Khalsa, S. S., Lapidus, R. C., & ... (2018). Interoception and mental health: A roadmap. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 3(6), 501-513. <https://doi.org/10.1016/j.bpsc.2017.12.004>

- Hanley, A. W., Mehling, W. E., & Garland, E. L. (2017). Holding the body in mind: Interoceptive awareness, dispositional mindfulness, and psychological well-being. *Journal of Psychosomatic Research*, 99, 13-20. <https://doi.org/10.1016/j.jpsychores.2017.05.015>
- Yilmaz, S., & Kafadar, H. (2022). Investigating the moderating effect of personality traits on the relationship between work stress and decision-making. *Frontiers in Health Informatics*, 13(4). <https://www.healthinformaticsjournal.com/index.php/IJMI/article/view/1698>