

A Mindful Body Awareness Questionnaire for Youth

Development of a short body awareness questionnaire tailored to a population of adolescents and young adults

Marbella Pérez-Peña, Katleen Van der Gucht, & Pierre Philippot



Introduction

Body awareness (BA)



Attending to and being aware of internal body sensations

Multi-faceted

Detection

Attentional style

Interpretation

Response

Cioffi (1991); Mehling et al. (2009); Mehling et al. (2016); Seth (2013)



Why is it important to study body awareness in youth?



Positive links to mental health

Research in adults shows BA is linked with increased subjective well-being, pain attenuation, reduced PTSD symptoms, increased emotional awareness

Ferentzi et al. (2019); Gard et al. (2012); Hölzel et al., 2011; Lizabeth et al. (2018)



Therapeutic utility

Adult research shows deficiencies in BA in various psychological disorders. BA is also important for psychological treatment (e.g., somatic experiencing, mindfulness-based approaches).

De Jong et al. (2016); Khalsa & Lapidus. (2016); Payne et al. (2015)



Important developmental period

Adolescence and young adulthood are key stages for BA development and prevention of mental health problems. Adult research may not be translatable to this age group.

Dahl et al. (2018); Dunn & Goodyer, 2006; Li et al. (2017)



... currently no multi-dimensional BA questionnaire developed specifically for youth

Issues with existing questionnaires (i.e., MAIA for youth)

Jones et al. (2020)

- ☐ Adapted from adult questionnaire
- ☐ Not developed specifically for youth
- ☐ Long and complex
- ☐ Does not incorporate youth's experience of BA

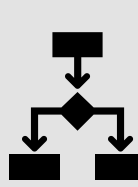


Goal: develop a short BA self-report measure tailored to a population of young people between the ages of 14 and 24

Methodology

Questionnaire development process

Following recommendations from: Tsang et al. (2017)



Identified construct to be assessed

Multidimensional body awareness



Literature review

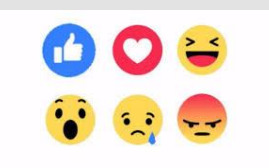
Conducted literature review on existing questionnaires and their validation



Identified dimensionality of construct

6 focus groups and 1 interview

- 4 focus groups with youth aged 14-24
- 2 focus groups & 1 interview with psychologists who work with youth
- Data analyzed with thematic analysis
- 3 main themes revealed: attention, relationship and reaction to body sensations, and regulatory aspects



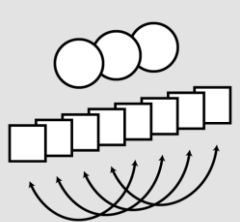
Developed and revised items

- Items based on focus group content and inspired by existing questionnaires
- Items reviewed and revised by research team and experts in the domains of interoception, mindfulness, and adolescence
- Pool of 51 items



Tested items for item comprehension

- Online questionnaire administration & cognitive interview testing
- $N = 30$; mean age 17.2 ($SD = 2.44$)
- Items rated generally easy to understand
- Difficult items removed ($n = 3$), language, and content modified.



Pilot test with Exploratory Factor Analysis

- $N = 454$; mean age 20.83 ($SD = 1.98$)
- Item analysis: removed 5 items that did poorly on item difficulty and variability
- Factor extraction criteria indicated 3 or 4 factors
- EFA with 3 & 4 factors with oblimin rotation
- Chose model with best interpretability

Note: Items developed and tested in French

Results

Equanimity <i>Relationship of non-judgment, non-reactivity, and openness towards unpleasant body sensations.</i>	Listening <i>Positive approach to emotion and non-emotion related body sensations because they are considered an important and helpful source of information.</i>	Non-avoidance <i>Facing (not ignoring or suppressing) unpleasant body sensations.</i>
I can stay calm and not worry when I have feelings of discomfort or pain.	The sensations in my body help me understand what I feel.	I ignore unpleasant sensations in my body until they become very strong.*
When I have unpleasant feelings in my body I cannot stop thinking about them.*	When I feel overwhelmed or carried away by an emotion, I concentrate on my body sensations to calm down.	I ignore sensations in the body that I don't like.*
I get very worried if I feel pain or if I feel uncomfortable in my body.*	I am confident that my bodily sensations will let me know what is good for me.	When I feel strong emotions in my body, I ignore them because I don't know how to face them.*
When I notice an unpleasant feeling in my body I don't worry about it.	When I feel bad, but I don't know why, I pay attention to my body sensations to understand.	I try to not feel body sensations that I find useless.*
Certain body sensations I feel don't seem normal to me.*	I focus on my body several times per day to pay attention to my body sensations.	I tend to notice feelings of physical tension or discomfort only when they become very intense.*
When I feel pain in my body, I become upset.*	I listen to my body to help me choose what I need.	I prefer not to pay attention to the sensations in my body.*
Certain unpleasant body sensations scare me.*	When I feel an intense emotion, paying attention to my body helps me realize what I need in that moment.	
Unpleasant sensations in my body grab my attention very quickly.*	I am attentive to my body sensations when I feel an emotion.	

Note: * means reverse scored

Conclusions

MBAQ



Short (22 items)



Adequate internal consistency of scales



Incorporates youth's subjective experience of BA

Future Plans



Validation with multi-group CFA

Assess factor structure per age group and gender, assess validity and reliability



Use it to assess mechanisms of a mindfulness training in youth

Is BA an outcome and mechanism of a mindfulness training in youth?

References

- Cioffi, D. (1991). Beyond attentional strategies: A cognitive-perceptual model of somatic interpretation. *Psychological Bulletin*, 109(1), 25–41. <https://doi.org/10.1037/0033-2909.109.1.25>
- Dahl, R. E., Allen, N. B., Wilbrecht, L., & Suleiman, A. B. (2018). Importance of investing in adolescence from a developmental science perspective. *Nature*, 554(7693), 441–450. <https://doi.org/10.1038/nature25770>
- De Jong, M., Lazar, S. W., Hug, K., Mehling, W. E., Hölzel, B. K., Sack, A. T., Peeters, F., Ashih, H., Mischoulon, D., & Gard, T. (2016). Effects of Mindfulness-Based Cognitive Therapy on Body Awareness in Patients with Chronic Pain and Comorbid Depression. *Frontiers in Psychology*, 7(967). <https://doi.org/10.3389/fpsyg.2016.00967>
- Dunn, V., & Goodyer, I. M. (2006). Longitudinal investigation into childhood- and adolescence-onset depression: Psychiatric outcome in early adulthood. *British Journal of Psychiatry*, 188, 216–222. <https://doi.org/10.1192/bjp.188.3.216>
- Ferentzi, E., Horváth, Á., & Koteles, F. (2019). Do body-related sensations make feel us better? Subjective well-being is associated only with the subjective aspect of interoception. *Psychophysiology*, 56(4), 1–12. <https://doi.org/10.1111/psyp.13319>
- Gard, T., Ho, B. K., Sack, A. T., Hempel, H., Lazar, S. W., Vaitl, D., & Ott, U. (2012). Pain Attenuation through Mindfulness is Associated with Decreased Cognitive Control and Increased Sensory Processing in the Brain. *Cerebral Cortex*, 22(11), 2692–2702. <https://doi.org/10.1093/cercor/hhr352>
- Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-olivier, Z., Vago, D. R., Ott, U., Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-olivier, Z., Vago, D. R., & Ott, U. (2011). Conceptual and Neural Perspective How Does Mindfulness Meditation Work? Conceptual and Neural Perspective. *Perspectives on Psychological Science*, 6(6), 537–559.
- Jones, A., Silas, J., Todd, J., Stewart, A., Acree, M., Coulson, M., & Mehling, W. E. (2020). Exploring the Multidimensional Assessment of Interoceptive Awareness in youth aged 7–17 years. *Journal of Clinical Psychology*, September 2020, 661–682. <https://doi.org/10.1002/clp.23067>
- Khalsa, S. S., & Lapidus, R. C. (2016). Can interoception improve the pragmatic search for biomarkers in psychiatry? *Frontiers in Psychiatry*, 7(JUL), 1–19. <https://doi.org/10.3389/fpsyg.2016.00121>
- Li, D., Zucker, N. L., Kragel, P. A., Covington, V. E., & LaBar, K. S. (2017). Adolescent development of insula-dependent interoceptive regulation. *Dev Sci*, 20(5). <https://doi.org/10.1111/desc.12438>
- Lizabeth, A., Wolf, E., & Thomas, J. (2018). Veterans Group Exercise: A randomized pilot trial of an Integrative Exercise program for veterans with posttraumatic stress. *Journal of Affective Disorders*, 227, 345–352. <https://doi.org/10.1016/j.jad.2017.11.002>
- Mehling, W. (2016). Differentiating attention styles and regulatory aspects of self-reported interoceptive sensibility. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1708). <https://doi.org/10.1098/rstb.2016.0013>
- Mehling, W. E., Gopisetty, V., Daubenmier, J., Price, C. J., Frederick, M., & Stewart, A. (2009). Body Awareness: Construct and Self-Report Measures. *PLoS ONE*, 4(5), e5614. <https://doi.org/10.1371/journal.pone.0005614>
- Payne, P., Levine, P. A., & Crane-Godreau, M. A. (2015). Somatic experiencing: Using interoception and proprioception as core elements of trauma therapy. *Frontiers in Psychology*, 6(FEB), 1–18. <https://doi.org/10.3389/fpsyg.2015.00093>
- Seth, A. K. (2013). Interoceptive inference, emotion, and the embodied self. *Trends in Cognitive Sciences*, 17(11), 565–573. <https://doi.org/10.1016/j.tics.2013.09.007>
- Tsang, S., Royse, C. F., & Terkawi, A. S. (2017). Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. *Saudi Journal of Anesthesia*, 11(5), 80–89. <https://doi.org/10.4103/sja.SJA>

For more information contact:



marbella.perezpena@uclouvain.be