Open Peer Commentaries

on Sebastián Medeiros et al.'s "Assessing Subjective Processes and Vulnerability in Mindfulness-based Interventions"

What Changes in the Face of Aversive Experience following Mindfulness Practice?

Corina Aguilar-Raab
Heidelberg University, Germany
corina.aguilar-raab/at/med.uni-heidelberg.de

> Abstract • I focus on the impact of mindfulness practice in the face of aversive experience and argue that it is more than merely changing one's cognitive strategy. Shifting perspective instead may be rooted in an emergent qualitatively different subjective awareness of self and phenomena – leading to a different way of relating to any kind of experience.

« 1 » With their exploratory study, Sebastián Medeiros et al. bring together various significant aspects in the field of contemplative research on mindfulness in the clinical context. The appropriate use of a mixed methods approach of quantitative and qualitative data, and a longitudinal design, as well as the authors' effective use of different data sources for first- and third-person perspectives are worth noting besides the effective adoption of self-report measures and a micro-phenomenological interview technique for the first-person experience. An additional strength is the inclusion of the third-person perspective through a psychobiological marker of the autonomic nervous system, i.e., heart rate variability data – a marker that is widely debated[1] but nevertheless considered suitable for the interpretation of psychophysiological-regulatory dynamics.

1| E.g., on https://www.researchgate.net/project/Examining-Porges-Polyvagal-suppositions

Self-regulation and facets of mindfulness

« 2 » The central aspect of the study and common denominator of the different methodological approaches is self-regulation. As mindfulness research has increasingly turned away from efficacy studies towards evidence of mechanisms and factors of action, different nuances of self-regulation deserve inquiry (Hölzel et al. 2011). Mindfulness implies, above all, a life attitude accompanied by a control of attention that includes a focus on present experience and the inhibition of distractors in the sense of focusing on what was not intended (Tang, Hölzel & Posner 2015). Further, "dereification" as a way to relativize is an additional key component of mindfulness practice, which describes distancing from the assumption of mental content (Lutz et al. 2015). Moreover, a crucial process during mindfulness practice is that inner experiences are viewed from an observer's perspective. In this sense, it is not a matter of dealing with the contents of mental experiences, but of observing and monitoring these contents in their respective dynamics and fluctuations without intervening – not even forming any associations attached to them. This ability is called meta-awareness, or meta-cognition, and is linked to interoceptive awareness (Hanley, Mehling & Garland 2017). All these different facets of mindfulness are embedded in the cultivation of an attitude of warm-heartedness and acceptance (Lindsay & Creswell 2017). These nuances of mindfulness are associated with positive psychological outcomes such as reduced ruminative tendencies, experiential avoidance, and cognitive and emotional reactivity (Parsons et al. 2019).

« 3 » In the clinical context, as is the case of the target article, self-regulatory skills or impairments become evident in virtually all forms of mental disorders (Fernandez, Jazaieri & Gross 2016). The adequate or functional handling of difficult situations, internal or external stressors and of negative and aversive feelings and cognitions seems to be impaired in all disorders. In depression, negative-emotional stimuli are triggers for a cognitive-emotional downward spiral. This includes the inability to detach from negative stimuli and to attend to positive stimuli. This fixation on negatively valenced information is associated with dysfunctional emotion-regulation strategies and may be instrumental in maintaining impaired mood (Joormann & D'Avanzato 2010).

Personality functioning

« 4 » The extent to which a person is able to self-regulate depends to a considerable extent on her personality functioning, i.e., how basic psychological functions of the self are developed, organized, and applied. In the context of this study, the authors innovate by drawing from a psychodynamic conceptualization of a dimensional operationalization of personality functioning (§10). These capacities are adaptive and malleable, depending on early formative relational experiences. Individuals can avail themselves of these resources to promote resilience in the face of adversities or to foster balance, in the sense of a dynamic equilibrium, while developing capacities for action, degrees of freedom and contexts of meaning (Cicchetti 2016; Darling Rasmussen et al. 2019).

« 5 » Against the background of a psychodynamic perspective and the clinical sample under analysis, vulnerabilities gain salience due to threat sensitivity stemming from repeated negative, difficult relationship experiences: Medeiros et al. (§10 and, especially, §12) introduce the topic of trauma, which is here used as a very elastic

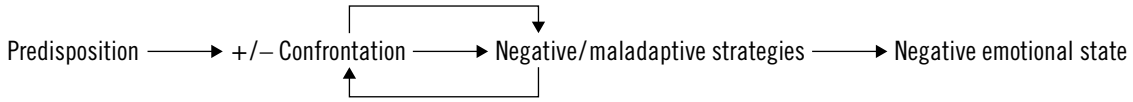

Figure 1 • The generic diachronic structure of the *pre-intervention* process begins with a positive/negative predisposition, followed by the evocation of an emotional conflict and its later development depends on the degree of confrontation (which is based on the intensity of evocation). Negative or maladaptive strategies may be applied – such as rumination – which may reinforce the degree of (+/–) confrontation and in turn lead to a negative emotional state.

term meant to describe any kind of difficult experience (Kilpatrick, Badour & Resnick 2017). However, to characterize participants with a history of trauma does not accurately outline what is at stake in the individual developmental trajectories of the participants included in this study. Therefore, it remains open what exactly the included participants experienced or what might have led to possible psychological impairments in self- and personality organization.

« 6 » Since particularly stressed individuals who are low in personality functioning probably tend to avoid or even repress negative experiences and to circumvent various defense mechanisms (Granieri et al. 2017), one might wonder how valid the method of the micro-phenomenological approach Medeiros et al. have chosen is for evoking a difficult emotional situation. For instance, did Medeiros et al. check whether participants in this study were less willing to evoke or less efficient in evoking a difficult situation? Q1 The same is possible in the case of the self-rating of personality functioning: vulnerable patients might have been more biased towards recalling questioned aspects while answering the questionnaire.

What does the mindfulness practice change?

« 7 » When assessing the changes achieved as a result of mindfulness practices, an ongoing problem ensues: if the basic functioning principles of mental regulatory units change as a result of the practice – as detailed by Antoine Lutz et al. (2015) – how can one assess whether the strategy for dealing with difficult emotional situations has itself changed (§30), as opposed to the participants' understanding of the difficult situations themselves? The simplest example in this context is the question about inner calmness and focus: If a non-meditator is asked about the calmness and focus (degree of distraction or distractibility) in her mind, this person will usually answer that she has everything under control and is not distracted. A beginner in mindfulness meditation will quickly answer that, after initial practice, she can quickly notice how much the mind tends to drift, to lose the chosen object, even to forget it. Evidently, the person is not in control of the mind in the sense of directed, intentional attention control. The depth and density of the experiential practice thus play a crucial role (see Davidson & Kaszniak 2015). However, as readers, we learn little about the degree of practice or former meditation experience of the participants (see Parsons et al. 2017): How long did they practice between sessions? To what extent did they adhere to the requested practices? Q2 It is not clear what the experienced level of effort was to engage in practice, although different regulatory mechanisms may result. However, this is particularly important for assessing revealed adaptive strategy gains in the face of negative experiences.

« 8 » In the model of change referred to by Medeiros et al. (Results section, in particular §§30–32), which is based on first-person experience of mindfulness practice, which are the causes and contributing factors that are critically responsible for the change in how negative experiences are handled? What are the critical factors for the increased capacity to be and live mindfully and what are the effects of this? Q3

« 9 » Recognized changes subsequent to mindfulness practice could also be due to the following, rather than altered cognitive strategies: The selection of different negative experiences before and after the intervention could vary to an extent that the differently revealed strategies may not be a function of changed self-regulatory abilities but due to the level to which the participant could engage in emotional confrontation in relation to how strongly the state of evocation worked.

« 10 » In Figure 2, Medeiros et al. compare the results of the generic diachronic and synchronic structure of first-person experience during the pre- and post-intervention interviews. Interestingly, the pre-intervention diachronic model lists rumination in parallel with confrontation. There is some literature that speaks instead of maladaptive vs. adaptive strategies, the former of which may include rumination (Aldao, Sheppes & Gross 2015). Alternatively, I suggest a schema in which maladaptive strategies such as rumination lead to prospects of confronting oneself with aversive experience (Figure 1).

« 11 » In the face of a psychodynamic approach, where one can speak of the functionality of symptoms or dysfunctional mechanisms, rumination can be understood as a variant of a maladaptive strategy, which possibly developed in the life course as a helpful survival, albeit maladaptive strategy.

« 12 » In §31, the authors of the target article state that after the intervention, the participants developed a better discrimination ability related to the different emotions. This is an important regulatory antecedent because without affect-perception and -differentiation the application of an emotion regulation strategy will not be purposefully possible (see also operationalized psychodynamic diagnostic system, OPD Task Force 2008). It is further explained that the participants now – instead of avoiding, rather approached the difficult experience and self-soothed, e.g., by deep breathing, etc. (§32). Only two subjects described how they could observe the natural coming and disappearing of negative sensation by merely being able to patiently hold on to them (§32). This obviously raises another question: Does the mindfulness practice lead to the participants

being able to expose themselves more to the negative experience and if so, is this because they can now calm themselves down better or because they can then hold the negative experience and observe it without intervening? Q4 Here, it is worth noting that mindfulness, by definition, does not belong to relaxation techniques. Mindfulness practice is not about actively relaxing or calming down by using a particular strategy, for example. Relaxation in body and mind might be a result of applying mindfulness practice in depth, in the mid and long term. However, key elements of mindfulness are more a shift in attitude and perspective in relation to negative experiences via meta-awareness, relativity, and de-identification (see Lutz et al. 2015). In other words, a crucial underlying mechanism is distress or affect tolerance itself (Nila et al. 2016; O'Bryan et al. 2018), but by what means? One possibility is that it is about first-person experience based on connectedness with the meta-level itself: on the one hand, the perception of the transience or change of mental contents on an emotional, cognitive and bodily-sensory level and, on the other hand, the stepping out of one's own ego-identity and thus the expansion of one's perspective in terms of flexibilization and relativization could both be crucial in the change process of a regular, in-depth mindfulness practice. Future research will have to shed more light on these issues.

« 13 » In general, in the context of health and well-being research, great value is placed on psychological flexibility in the use of various regulatory strategies (Aldao, Sheppes & Gross 2015; Kobylińska & Kusev 2019). Since Medeiros et al. have picked up a very important aspect in their study, i.e., with which psychological initial conditions related to the structure and functional level of the self someone takes up a mindfulness practice, it remains to be seen how, in the case of limitations of personality functioning, this flexibility can possibly be enhanced by mindfulness.

Conclusion

« 14 » The study has brought together important aspects from a methodological and transdisciplinary point aligned with Francisco Varela's enactive approach via a multi-level framework.

« 15 » Since Medeiros et al. have added the psychodynamic perspective, further research is needed to establish to what extent the effects of unconscious up to conscious motivational regulatory systems on health and well-being might be transformed through contemplative practice. At the starting point, the horizon of experience itself is changed through mindfulness.

« 16 » It is likely that an intensive, regular adoption of mindfulness does not merely lead to a change in (coping) strategy. Some indications suggest that the very mode of mental functioning itself changes, which can be referred to as an emergent phenomenon of a qualitatively different mode of mind-body functioning and experience. The change is produced by relating in a totally different way to experience because the first-person account has altered. It is related to questions of identity: "Who am I, and how do I refer to an ever-changing nature of inner mind–body experiences? Might mindfulness imply less solid I-centered perceptions, cognitions and emotions?" How personality functioning needs to be specifically addressed in terms of self/other perception, regulation, communication, and attachment stays therefore open to the analysis of moderating or even mediating processes in contemplative practice and research. Medeiros et al. have set, in a particular way, a very strong basis for further investigations.

Funding

The author received no funding for this publication.

Competing interests

The author declares that she has no competing interests.

References

Aldao A., Sheppes G. & Gross J. J. (2015) Emotion regulation flexibility. Cognitive Therapy and Research 39: 263–278.

Cicchetti D. (2016) Developmental psychopathology. Wiley, Hoboken NJ.

Darling Rasmussen P., Storebø O. J., Løkkeholt T., Voss L. G., Shmueli-Goetz Y., Bojesen A. B., Simonsen E. & Bilenberg N. (2019) Attachment as a core feature of resilience: A systematic review and meta-analysis. Psychological Reports 122: 1259–1296.

Davidson R. J. & Kaszniak A. W. (2015) Conceptual and methodological issues in research on mindfulness and meditation. The American Psychologist 70: 581–592.

Fernandez K. C., Jazaieri H. & Gross J. J. (2016) Emotion regulation: A transdiagnostic perspective on a new RDoC domain. Cognitive Therapy and Research 40: 426–440.

Granieri A., La Marca L., Mannino G., Giunta S., Guglielmucci F. & Schimmenti A. (2017) The relationship between defense patterns and DSM-5 maladaptive personality domains. Frontiers in Psychology 8: 1926.

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.

Hölzel B. K., Lazar S. W., Gard T., Schuman-Olivier Z., Vago D. R. & Ott U. (2011) How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on Psychological Science 6: 537–559.

Joormann J. & D'Avanzato C. (2010) Emotion regulation in depression: Examining the role of cognitive processes. Cognition and Emotion 24: 913–939.

Kilpatrick D. G., Badour C. L. & Resnick H. S. (2017) Trauma and posttraumatic stress disorder prevalence and sociodemographic characteristics. In: APA handbook of trauma psychology: Foundations in knowledge. Volume 1. American Psychological Association, Washington DC: 63–85.

Kobylińska D. & Kusev P. (2019) Flexible emotion regulation: How situational demands and individual differences influence the effectiveness of regulatory strategies. Frontiers in Psychology 10: 72. https://psycnet.apa.org/doi/10.3389/fpsyg.2019.00072

Lindsay E. K. & Creswell J. D. (2017) Mechanisms of mindfulness training: Monitor and acceptance theory (MAT). Clinical Psychology Review 51: 48–59.

Lutz A., Jha A. P., Dunne J. D. & Saron C. D. (2015) Investigating the phenomenological matrix of mindfulness-related practices from a neurocognitive perspective. The American Psychologist 70: 632–658.

Nila K., Holt D. V., Ditzen B. & Aguilar-Raab C. (2016) Mindfulness-based stress reduction (MBSR) enhances distress tolerance and resilience through changes in mindfulness. Mental Health & Prevention 4: 36–41.

OPD Task Force (2008) Operationalized psychodynamic diagnosis OPD-2: Manual of diagnosis and treatment planning. Hogrefe & Huber, Kirkland.

O'Bryan E. M., Luberto C. M., Kraemer K. M. & McLeish A. C. (2018) An examination of mindfulness skills in terms of affect tolerance among individuals with elevated levels of health anxiety. Anxiety, Stress & Coping 31: 702–713.

Parsons C. E., Crane C., Parsons L. J., Fjorback L. O. & Kuyken W. (2017) Home practice in mindfulness-based cognitive therapy and mindfulness-based stress reduction: A systematic review and meta-analysis of participants' mindfulness practice and its association with outcomes. Behavior Research Therapy 95: 29–41.

Parsons E. M., Dreyer-Oren S. E., Magee J. C. & Clerkin E. M. (2019) Evaluating the indirect effects of trait mindfulness facets on state tripartite components through state rumination and state experiential avoidance. The Journal of Nervous and Mental Disease 207(6): 440–450.

Tang Y. Y., Hölzel B. K. & Posner M. I. (2015) The neuroscience of mindfulness meditation. Nature Review Neuroscience 16: 213–225.

Corina Aguilar-Raab is a psychotherapist, Senior Compassion Trainer (CBCT®), and Senior Researcher at the Institute of Medical Psychology, Heidelberg University, Germany. Her research interests are the investigation of the impact of contemplative practices on social interaction and mental health, social cognition processes and the evaluation of psychotherapeutic interventions utilizing biomarkers. She has a particular interest in linking contemplative traditions with dynamic systems theory and constructivist approaches. She has twice received the Francisco J. Varela Award from the Mind and Life Organization.

Received: 9 March 2021
Revised: 12 March 2021
Accepted: 16 March 2021

Taking Care of Emotions – from Within, from Without

Simón Guendelman
Humboldt University of Berlin, Germany • simon.guendelman/at/hu-berlin.de

Marisa Przyrembel
Akkon University of Applied Sciences for Human Sciences, Berlin, Germany • marisa.przyrembel/at/akkon-hochschule.de

> Abstract • Understanding subjective processes in mindfulness-based interventions and during contemplative learning is the goal pursued by Medeiros et al. in the present target article. Implicitly, they touch on the field of emotion regulation. We comment on the perspectives related to emotion regulation from micro-phenomenology and emotion science.

« 1 » Subjective processes and vulnerability in mindfulness-based interventions (MBIs) are the topic in the target article presented by Sebastián Medeiros et al. Emotions and how they are "handled" play an important role here, since throughout these interventions subjects learn to experience their (difficult) emotions through the lens of contemplative practices. In general, how we take care of and regulate our emotions implies both an orchestration of subjectively instantiated self-modulation *acts* and physiological processes. Here Medeiros et al. offer a novel mixed methods view on how to investigate emotions and emotion regulation (ER) from *within and without*.

« 2 » Epistemologically, emotion science has taken care of emotions, focusing almost purely on the behavioral and physiological point of view. For the acquisition of first-person data, subjects usually fill out ready-made questionnaires and self-report ratings with closed-answer formats selected by the researcher (e.g., the PANAS; Watson, Clark & Tellegen 1988). Beyond the limitations of only relying on third-person perspective measurements, the contemporary theory of constructed emotions conceives of ER as the engagement (bi-directional interactions) of internal models (e.g., predictions from valence processing regions) with sensory and motor facets of experienced emotions in the context of an embedded and situated subject (Barrett 2016). Current empirical embodied approaches lend themselves to using computational models as a way of (mathematically) formalizing and estimating complex dynamic top-down (e.g., predictions) and bottom-up (e.g., sensory) interactions not only within the brain but within the whole body (Allen & Friston 2018). From the perspective of constructed emotions, emotion generation and ER are two sides of the same holistic and complex process (Gross & Barrett 2011). Nevertheless, how these processes are phenomenologically, computationally and neuro-physiologically instantiated is still unknown.

« 3 » Lately, ER has been considered a core mechanism of MBIs (Guendelman, Medeiros & Rampes 2017). Variant types of MBIs have differential experiential and physiological fingerprints (Singer & Engert 2019), not all of them associated with pleasant affective states (Lindahl et al. 2017). For example, compassion-based techniques can be experienced as emotional challenge (Boellinghaus, Jones & Hutton 2014; Gilbert 2009; Przyrembel et al. 2019; see also §12). Medeiros et al. report no such thing as adverse effects during the MBCT (§26). Still, the authors have explicitly acknowledged vulnerabilities in their approach. In §42, they sketch potential "dysregulation […] during formal practices" and corresponding strategies, such as the trauma-sensitive approach suggested by David Treleaven (2018). Such techniques can alter painful affective situations evoked by MBIs: when adequately supported by the therapists, psychological transformations can take place. Guendelman, Medeiros and Hagen Rampes (2017) have presented an embodied model of ER that highlights differential ways of engaging with and regulating emotions, showing how bottom-up (e.g., interoceptive) and top-down (e.g., cognitive) processes can be "trained" with MBIs. This account conceives of experiential explorations of emotions and feelings as "the way through" to (and the mechanism of) *mindfully* relating with emotions.

« 4 » Interestingly and in line with this account, the target article shows a change in emotional experience resulting from an