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Mindfulness: How do I describe thee? Let me synthesise the ways

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Abstract

This editorial perspective responds to the need for greater clarity regarding mindfulness as a construct given its ubiquity across many contexts by proposing a Conceptual Framework of Mindfulness. In particular, the need for clarity is important in understanding mindfulness interventions targeted at children and in schools. Developed systematically using concept analysis techniques, the framework draws from existing definitions and models, delineating three common domains of mindfulness: cognition, attitude and ontology, and their underlying factors. The framework provides greater conceptual clarity regarding mindfulness and a vehicle through which theory, interventions and measures of mindfulness can be understood and aligned.

Mindfulness based interventions (MBIs) are now common practice with children, ranging from universal programs in educational settings to more targeted clinical approaches. Building on promising findings in adult populations, it is suggested that mindfulness interventions can benefit children's learning via reducing difficulties related to attention and self-regulation in the classroom (Maynard, Solis, Miller & Brendel, 2016). However, the lack of consistent findings may reflect the limited conceptual clarity, a gap highlighted by Van Dam et al, who found that many studies of MBIs fail to adequately define or conceptualise mindfulness at the outset (Van Dam et al., 2017). Mindfulness is commonly defined as *present moment awareness with an attitude of openness and acceptance* (Kabat-Zinn, 2013) with its purist origins beginning in Buddhist philosophy. Nonetheless, many disparate models, definitions and measures

have been put forward in the literature. Discrepancies also exist 'within' interventions, whereby the conceptual notion of mindfulness underpinning some interventions does not align with the activities and practices contained within the intervention. By establishing the parameters of mindfulness, the proposed theory of change towards outcomes can be clarified guiding the intervention itself and the measurement of intervention outcomes.

Definitions of mindfulness can differ in the composition of the underlying factors describing the construct. Descriptions of mindfulness cite a range of psychological, philosophical, and attitudinal factors with attention, awareness, openness and self-compassion commonly cited. Nuanced differences between definitions in the literature reflect the position of the practitioner as well as the context in which it is being applied. For example, clinically based applications of mindfulness in adolescents regularly emphasise being aware in an open and non-judgmental way (Kabat-Zinn, 2013). In contrast, characterisations of mindfulness in non-clinical environments, such as education, focus on the capacity to perceive novel distinction or consider previously experienced information in new ways and to process this information in a cognitively flexible way by considering new alternatives or solutions (Langer, 1989). For example, solving an intellectual problem. Therefore, mindfulness is a construct originating from several theoretical viewpoints hence 'one definition to rule them all' may not be a realistic goal initially. Nonetheless, it remains problematic to have differing conceptions of mindfulness from both a research and practice point of view. Amongst other things, a lack of consensus can result in complexities with respect to measurement and establishing construct validity, a heterogeneous set of practices that may not represent a common understanding of mindfulness and difficulty in interpreting and aggregating findings from studies involving mindfulness. Instead, we proposed a solution to the *what is mindfulness?* Problem, not by trying to capture it, but by providing a broader framework to accommodate a range of perspectives and theoretical underpinnings. This approach of an overarching framework housing theories is gaining popularity in implementation science as a tool to guide intervention development and outcomes measurement.

A proposed Conceptual Framework of Mindfulness

Using a concept analysis approach, we identified 14 theoretical models of mindfulness to synthesise in the Conceptual Framework of Mindfulness (CFM), bringing together a broad but common consensus amongst the research field. Visual conceptualization of the model is presented in Appendix S1. Extraction of the definitions of underlying factors within each theoretical model facilitated the combining of conceptually 'like' constructs to reveal a set of three distinct theoretical domains comprising: Cognition, Attitude and Ontology. Not all 14 models are represented in each domain, reflecting an expansive rather than a deductive framework.

Cognition: The cognition domain comprised 3 inter-related constructs: attention, awareness and executive functions. Attention and awareness were prevalent across 13 of the 14 models. Awareness is a form of consciousness and is the capacity to engage with things in the perceptual space whereas attention refers to the focus on a particular object, feeling or sensation within the perceptual space with the two often conflated. Theoretical accounts, populist ideas and therapeutic interventions all consider

mindfulness as containing a combination of these two constructs. The most widely cited definition of mindfulness by Kabat-Zinn (2013) houses both attention and awareness. Yet, even where the theoretical foundation is distinct from this traditional understanding of mindfulness, these domains were present. For example, Langer (1989) developed the notion of mindfulness independent of any Eastern philosophy or therapeutic basis yet refers to it as a construct of *engagement* in the perceptual experience as opposed to being mindless.

In addition to attention and awareness, a third construct labelled executive function was present in 3 models. This domain is represented by regulatory mechanisms for attention and awareness and included concepts such as metacognition and volition, which were seen as process monitors, inhibiting or elaborating cues to maintain mindfulness. For example, an inhibitory process may be the prevention of elaborative processing of thoughts and feelings with emotional valence. In summary, the Cognition domain within the framework houses constructs considered central to mindfulness (attention and awareness) scaffolded by broader executive functions that seek to regulate these central constructs.

Attitude: Constructs from 11 models comprised the attitude domain. All were semantically linked and concerned with acceptance of experience, curiosity and non-judgment as well as the absence or inhibition of elaborative processing of negative thoughts, similar to that identified in the Cognition domain but facilitated there by executive functions. Therapeutically, attitude works to break the nexus between negative and resistant cognitive schemas by separating the individual from these schemas and allowing them to be processed in a detached and novel manner. This was particularly evident in Kabat-Zinn's MBSR (2013) and Bishop et al. (2004) respective factors: non-judgment and openness to experience. Openness and non-judgment is characteristic of both eastern and western conceptions of mindfulness. Eastern philosophy suggests that reduction in pain and suffering that is universal to human existence comes from a constellation of factors working together including attitudinal aspects which contain ethical dimensions such as practicing kindness to others or resisting engagement in anti-social behaviours such as lying and are more than just a state of consciousness (Bodhi, 2011).

Like attention and awareness within the cognition domain, the attitude domain is considered a central component within the framework, represented across the 14 synthesized models. Attitude is also a domain that is more abstract in its instruction with children when compared to constructs like attention. Nonetheless it can be taught through better understanding of the functions of thoughts and emotions and the individual's response to them.

Ontology: The four constructs within this domain exhibited a common conceptual core aligned with the notion of the meaning of being and were hence categorized under the domain name of ontology. This domain is more reflective of Eastern notions of mindfulness, which advocate ideas regarding ethical living and prosociality. It should be noted that ethics were also featured in the Attitudinal domain but distinguished here in terms of the relationship between ethics and existential understanding. Nonetheless, *novelty production* from Langer's model (1989) was also included in this domain under meaning and understanding based on its definition as the generation of novel information to make sense of the environment. For example, "a novelty producing person" may use information in their lived

experience to expand the possibilities of interpretation, which facilitates understanding of the meaning of that experience as it relates to themselves or their relationship with others.

The CFM is a first step in disentangling the different but overlapping ideas of mindfulness in the literature. Based on the models represented in the framework, we argue that cognition and attitude reflect two core domains common to most models of mindfulness. Ontology is considered a domain less broadly represented but significant to particular theoretical understandings of mindfulness such as those originating from a non-secular standpoint.

Applying the framework to MBIs with children

Whilst the framework has universal relevance, it is developed with the intent to apply it to interventions with children. In so doing, the CFM responds to the concern that multiple definitions of mindfulness increase the difficulty in understanding the mechanisms of change in MBIs in children. It provides an overarching and inclusive framework around which theory, intervention and outcomes can be aligned.

It is conceptually similar to the Theoretical Domains Framework (TDF), which has developed over time, a taxonomy of behaviour change techniques that can be used both in the development of interventions as well as the clarification of intervention outcomes (Michie, et al., 2005). For example, Little, Pesseau & Eccles (2015) used the TDF to retrospectively code interventions and then to compare the interventions effect sizes with the domains targeted, in this case they considered the number of domains targeted. The outcome of this study was the identification of several determinants in health behaviour that had not been measured in intervention studies (Little, et al., 2015). This theory-based analysis of interventions using the TDF has relevance to the CFM and its utility. The next phase of development for the CFM will be to retrospectively analyse MBIs with children using a theory-based approach to understand the gaps between theory and intervention and how these gaps may be hindering effective outcomes. In addition to analysis of interventions, the framework has applicability to measurement scales for children through mapping of underlying factors within each scale based on factory analytic validation work. In bringing the intervention and measurement analysis through the framework together, greater synergy can be achieved between the two such that the measurement scale is measuring what it is supposed to measure according to the theory.

Considerations for the current iteration

In the proposed framework, although the domains have been conceptually separated for identification, it is expected that relationships between the domains exist. For example, descriptions of the attitude domain often described it against attention or awareness as the quality or valence of these cognitive processes. Bishop et al. (2004) defined openness to experience as 'an attitude of openness and receptivity to whatever happens to occur in the field of awareness.' The CFM identifies the salient facets of mindfulness to enable interventions to be mapped from theory through to intervention activities and across to outcomes. Relationships *between* those factors can then be determined through the examination of the intervention and outcomes. Aligned with this, the CFM does not consider individual

weighting of facets within each model. Again, this can be determined through the analysis of the intervention.

Finally, some ambiguity was observed *within* domains. For example, attention and awareness conceptually overlapped, echoing the mindfulness literature more generally where attention and awareness are often conflated. A pragmatic explanation for this may be that mindfulness practitioners and researchers distinguish two types of practice: focused attention and open monitoring. Focused attention is often taught to novice meditators using body awareness such as the breath as an anchor point. Open monitoring refers more to a meta-awareness, whereby attention turns to an overarching monitoring process without explicit focus. Both types serve the function of allowing the individual to be present, which in turn assists in obstructing rumination and elaborative processing of thoughts. From a developmental perspective, focused attention may be more suitable to younger children or youth in early stages of learning mindfulness with open monitoring reserved for older youth or more experienced mindfulness practitioners.

The CFM is a first step towards better understanding mindfulness as it relates to interventions with children. Its utility is presented in terms of providing a structured approach to theory-based analysis of interventions and measurement scales with children with the express intent to unravel the mechanisms of change within interventions and the extent to which theory, intervention and outcomes are aligned.

Supporting information

Additional supporting information may be found in the online version of this article:

Appendix S1. Conceptual Framework of Mindfulness (CFM).

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