Title: Mindfulness 'in' Education as a form of Iatrogenesis

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Abstract

Mindfulness-based Interventions (MBIs) can result in positive 'side-effects', such as concentration and individual well-being, highly desirable to schools operating within a neoliberalist agenda emphasizing performativity. However, employing a critical literature review, we argue that adverse side-effects also occur, though under-researched. We engage critical and systems theories, within a broader complexity paradigm, to show how MBIs manifest as a form of 'iatrogenesis', whereby a 'sleight-of-hand' occurs, offsetting systemic fallibility as individual culpability. Iatrogenesis provides both 'cancer' and 'cure', the source of much stress and the means to cope, leaving systems under-critiqued whilst the individual is expected to adjust to this logic. Guised like this, MBIs may do more harm than good, obfuscating deeper transformation of self and society. We conclude by uniting with those who argue the need to embrace more authentic and holistic versions of mindfulness for individual and social transformation to occur.

Keywords: iatrogenesis, Mindfulness-based Interventions (MBIs), neoliberalism, McMindfulness

Introduction

The past decade has witnessed a surge in interest in mindfulness-based interventions (MBIs) applied within educational institutions, supported by empirical literature indicating the potential for transformative learning. In this article, we will discuss how the evidence for the benefits of mindfulness, applied instrumentally, is developed within a particular paradigm of thought, consistent with neoliberalism and hence the potential for individual and social transformation is subservient, and therefore compromised. As such, we argue that it is useful to synthesise the critique of MBIs, or 'McMindfulness' (Purser, 2019), with the concept of iatrogenesis (Illich, 1976) to more deeply understand how they are being used as interventions with hidden, and possibly dangerous, political and economic motivations. It is our main intention to contribute to the growing debate on critical mindfulness, pertinent to readers of this journal, by showing how a promising approach to individual transformation is subverted underneath neoliberal axioms, which actually thwarts deeper intra and inter-personal transformation.

We employ the methodology of a critical review of the literature, whereby we have classified meta-reviews of mindfulness effects alongside mindfulness and education research, published within the last 8 years (e.g. Ergas 2019a, Felver, Celis-de Hoyos, Tezanos & Singh 2016, Weare 2012, Zenner, Herrnleben-Kurz & Walach 2014) and used meta-critiques (e.g. Forbes 2019, Hyland 2016, Kristensen 2018, Ng 2016, Purser 2019, Reveley 2016, Walsh 2016, van Dam et al 2018) to analyse and group these effects. After introducing different modalities of mindfulness within education that aid our classification (Ergas 2019a, Sellman & Buttarazzi, 2020), we initially focus our critique on the most common, instrumental applications. We posit that the main effect of mindfulness is enhanced awareness, which can result in two classifications: positive and negative 'side-effects', when understood from a simplicity paradigm of linear and temporal causality, though positive side-effects are more frequently reported. In order to understand the deeper iatrogenic effects of mindfulness 'in' education as a third classification, we then outline how it is necessary to draw upon critical and systems theories. This enables MBIs to be understood within a complexity paradigm (Capra 1996), rather than the tendency existing in much educational and psychological research to focus on crude empirical outcomes. As the article proceeds, we will show how iatrogenesis, as an insidious type of side-effect, derives from an over-simplified implementation of mindfulness within schools, and a corresponding research-base, which impedes, even threatens, the potential of these practices for deeper self-understanding and social transformation. Although those who teach mindfulness practices presumably have the

best of intentions, we contend that the educational process as a whole, and human flourishing more broadly, will suffer should the potential of these practices be subverted into a technique for individuals to learn how to endure the exploitative conditions of a system largely based on a productive neoliberal logic rather than transform it, even when these initiatives are superficially guised as self-care. We offer two tables (Tables 3 & 4) sharing some of the iatrogenic effects that can be inferred from the literature.

Throughout the article we join the call for more authentic and holistic approaches to mindfulness. Our review underlines that it is only through mindfulness 'as education' rather than 'in education' that such an approach possesses more transformative potential for human flourishing (Ergas, 2019a; Sellman & Buttarazzi, 2020). Given the critical aim of this article, we do not have the scope to describe such approaches in detail but we identify authors who are beginning to scope the nature of more integral and critical forms of mindfulness within our conclusion.

Modalities of Mindfulness within education

Sellman & Buttarazzi (2020) articulate two modalities of mindfulness within educational settings. The first, mindfulness 'in' education is intervention-based, largely derived from psychology, and employs the practices as self-help techniques to assist individuals adjust and adapt to the pressures of schooling and/or other life circumstances. This is contrasted with mindfulness 'as' education, which emphasises a more holistic approach, where mindfulness, understood as deepened awareness permeates all aspects of the system, including relationships, curriculum and pedagogy. A similar categorization has been employed by Ergas (2019b), who adds mindfulness 'of' to 'in' and 'as' education. This third category, also discussed by Sellman & Buttarazzi (2020), but subsumed by mindfulness 'as' education, engages a more critical form of mindfulness to include understanding the nature of education and the education system, including its more covert functions such as conditioning and reproduction of wealth. In Ergas and Linor (2019) and Ergas (2019a), it's clear that mindfulness 'as' education is rare, and mindfulness 'of' education is rarer still, some university courses with social justice outlooks excepted (e.g. Rendon, 2009; Berila, 2016). Mindfulness 'in' education is the most typical modality, and the modality towards which we focus our critique.

Many have welcomed mindfulness 'in' education, as an inoffensive universalizing of East-Asian wisdom, particularly Buddhism, and as a means of superficially reducing the

suffering associated with western education and lifestyles, including inattention arising from hyper-stimulation, poor mental health arising from ruminative thinking and stress arising from performative agendas in education and the workplace. Yet, many others have criticized such an instrumental approach for overlooking the connection between mindfulness practices and deeper examination of self and society, and also their relationship to a more comprehensive, wholesome and ethically-oriented approach to being (e.g. Hyland, 2016, 2017; Simpson, 2017).

That mindfulness is effective is not the issue, it may be that it is too effective and this makes it susceptible to appropriation by agendas that have ulterior motives. Many welcome the introduction of mindfulness and recognize its potential to at least offer temporary respite from performative agendas (e.g. Ergas, 2019b; O'Donnell, 2016). Kabat-Zinn (2017) has defended such application as a universalization of Buddhist sensibilities ('spreading the Dharma'), claiming it matters more that suffering is reduced rather than how. However, those who critique mindfulness 'in' education more deeply highlight that it is framed as a self-soothing technique, oriented more broadly to improved performativity, framed by the broader logic of late capitalism and neoliberalism more specifically (Ergas, 2019b; Forbes, 2019; Hyland, 2017; Reveley, 2019, Scherer & Waistell, 2018). Subjected to this critique, mindfulness 'in' education is problematic because individuals are taught to cope with systems that may be, at least partially, responsible for their suffering, whereas deeper understanding of self and reality is undermined (Sellman & Buttarazzi, 2020).

In arenas outside of education, this instrumentalisation of mindfulness has been satirically called 'McMindfulness' (Forbes, 2019; Ergas, 2019a; Purser & Loy, 2013; Purser, 2019). Among the main characteristics of McMindfulness, pertinent to education, are: (1) A secularisation of the original Buddhist traditional teachings, which also re-contextualise and dissociate the practice from its ethical and spiritual foundations, and often with a degree of ignorance to this fact (Hyland, 2016). (2) An alignment of these interventions with a neoliberal socio-economic framework, which means that mindfulness interventions within school have as a substantive goal the improvement of academic performance and productivity, even if disguised as an individual well-being intervention (Reveley, 2016). (3) The transformation of these interventions into a very lucrative, commercial product that promises to be a panacea for almost any problem, from eating disorders to school effectiveness, claiming to be supported by 'hard' neuroscientific research (Purser, 2019). (4) The appearance of being an intervention for self-development and deep self-transformation,

when in actuality a high percentage of the 'product' is dedicated only to improving a narrow subset of skills and competencies (Forbes, 2019).

Applied to education, this has a focus on adapting pupils and teachers to an over-demanding system rather than fostering significant individual and social transformation (Brito, Joseph & Sellman, 2020a; Forbes, 2019; Sellman & Buttarazzi, 2020). Paradoxically, all of these features actually constitute mindfulness as a subtle but genuine threat to holistic and transformative education as well as human flourishing more broadly, at odds with its roots, which emphasise reducing suffering. For writers like Hyland (2016) this is because mindfulness, as a more advanced and individualised skill, has been abstracted from its ethical roots, mainly from the three Buddhist 'Cardinal Virtues' (non-attachment, benevolence and understanding) and the Noble Eightfold Path (right view, resolve, speech, conduct, livelihood, effort, concentration and mindfulness), which is more wholesome and socially oriented and less concerned with the transcendence and enlightenment of the individual alone (Keown, 2013; Loy, 2003). Hence, mindfulness 'in' education, as a version of McMindfulness, is dangerous not just because it thwarts genuine potential liberation, but also because it is used upon an audience that is 'captive' and whose agency is compromised. In this guise, mindfulness 'in' education could be understood as a more insidious form of conditioning as it focuses discourses of poor mental health on issues of individual culpability rather than institutional fallibility.

To understand this 'sleight of hand', we suggest it may be helpful to understand mindfulness 'in' education as a form of iatrogenesis. The word 'iatrogenesis' comes from the Greek ιατροζ (*iatros*, healer) and γενεσιζ (*genesis*, origin), meaning *brought forth by a healer*, regardless of whether the effect is perceived to be positive or negative. In a classic book about this concept, Illich (1976) distinguishes three different levels in which we can understand iatrogenesis as a phenomenon: (1) clinically, when a specific treatment causes some adverse or unwanted effect; (2) socially, when everyday life is medicalised by large-scale health organisations (e.g. pharmaceuticals) to generate both a delusional demand and a dependence on systems serving corporate or state capitalism; and (3) culturally, when modern medicines weaken and replace traditional forms to cope with illness, suffering and death. Alternatively, the American Psychological Association (APA, 2015) defines iatrogenesis as:

> a pathological condition that is inadvertently induced or aggravated in a patient by a
> health care provider. It may be due to the behaviour of the provider (e.g., the manner

in which he or she examined the patient) or be a result of the treatment he or she prescribed (p. 517).

In this sense, although the mainstream meaning of iatrogenesis derives from a medical and psychotherapeutic framework with an exclusive focus on individuals, Illich's (1976) expansion of the concept to include social and cultural structures offers useful critical tools for reflecting on education systemically and as a simultaneous creator of 'cancer and cure', without probing the actual cause of the cancer.

We argue hereon that it is useful to offer a critical literature review of mindfulness 'in' education, or McMindfulness, analysed against the concept of iatrogenesis to more fully understand how it is being utilised as an intervention with underhand political motivations. In order to do this, we need to understand the relationship between mindfulness and effects, be they simple, i.e. positive or adverse, or more complex, i.e. iatrogenic; recognising that the quantity of research on the nature of these effects reduces respectively. Hence, in order to fully understand iatrogenic effects, it is also necessary to build up a more complex theoretical model of the relationship between mindfulness and systemic effects. We later turn to critical and systems theories to help with this endeavour. This is a response to the empirically-driven research so often conducted with regard to mindfulness 'in' education that betrays its origins in East-Asian wisdom and how it draws upon a unity of subject and object, by focusing instead on interventions and crude outcomes. We have already said how Illich's (1976) concept of iatrogenesis will be useful in examining the critical literature on mindfulness within and in relation to systems. Other scholars that have written from a unity perspective and critique modernity and its features are useful in our analysis, most notably Heidegger (1977, 2006), who was particularly incisive in critiquing the logic of a 'technical-era' from a point of view that synthesises Eastern and Western philosophy. Bringing systems theory (Capra 1996, Varela, Thomson & Rosch 2016) to the endeavour helps our analysis furthermore by positioning mindfulness 'in' education within a complexity rather than simplicity paradigm, whereby phenomena are more intricately connected than positivist approaches would appreciate.

Side effects: positive, adverse, iatrogenic
A profound understanding of any phenomenon corresponds with a realisation that there are no such things as side effects, there are just effects. Whether these effects are positive,

adverse or even iatrogenic is a matter of perception, which in turn is culturally and historically framed. As shown in figure 1, the main effect of cultivating a mindful practice, such as meditation, is simply enhanced awareness, which if engaged with deeply can result in numerous insights about the nature of self and reality. It just so happens that when mindfulness is practised, even superficially, or for short but regular periods of time, effects perceived to be positive are common, and these are generally understood from a simplicity paradigm of direct and linear causation. There is only a small, but significant, literature on effects perceived to be negative and with the exception of inferences from critical discussion concerning the framing of mindfulness by neoliberal contexts and agendas, next to no literature discussing iatrogenic effects. In this article, we intend to initiate discussion of the potential iatrogenic effects of mindfulness 'in' education and how these can be more fully understood by building a systems model of mindfulness 'in' education and how it is framed (Figure 2) and then tabulating iatrogenic effects (Table 4). As a foreground for exploring these iatrogenic possibilities, let us first cover the literature on positive and adverse effects.

Figure 1: Effects of Mindfulness from a simplicity paradigm
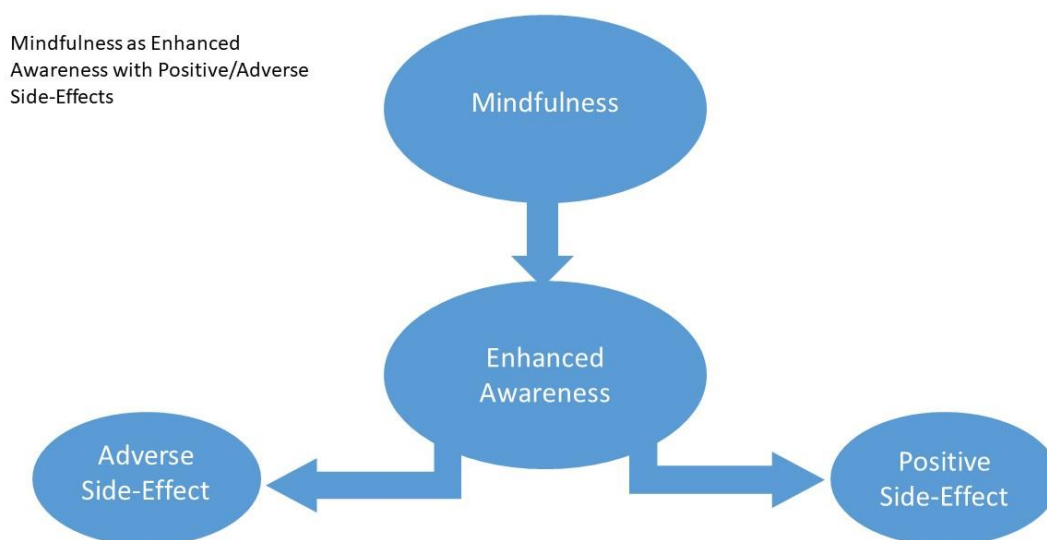
A substantial body of research into meditation and mindfulness exists, emphasising positive 'side-effects'. For example, internationally respected researchers like Siegel (2011, 2018), and Goleman and Davidson (2017), link the cultivation of mindfulness with an

extensive range of physiological and psychological benefits. However, much of this evidence base comes from the fields of clinical psychology and neuroscience (Purser et al., 2016), which has served as an impetus for its research and application to other domains such as education. The problem with this evidence base is that it is based on simplistic positivist research, and in many cases with experienced meditators, who often draw upon spiritual traditions providing an ontological and ethical worldview more holistic and integral than mere self-enhancement. Though, as explained by Bodhi (2016), "they [the mainstream proponents of mindfulness] will present it as a radical, pragmatic, existential therapy that does not require any belief commitments, as a 'Buddhism without beliefs' that does not ask for any more faith than a readiness to apply the method and see what one can get from it" (p. 9). Such critique contrasts with assertions made in the popular press and media that the positive benefits of mindfulness can apparently be felt with as little as ten minutes practice a day (Chaskalson & Reitz, 2018).

The introduction of MBIs within educational institutions has undoubtedly been fuelled by a growing multi-disciplinary evidence-base emphasising their positive side-effects, and studies concerning mindfulness in education have been keen to report these findings, also generally employing intervention based methodologies (Herrnleben-Kurz & Walach, 2014; Jennings, 2015; Weare, 2012; Zenner, 2014 all provide research summaries). In educational settings, the most frequently reported positive side-effects can be organised into three broad categories: cognitive (e.g. enhancing attention and concentration; reducing rumination and self-judgment), emotional (e.g. enhancing resilience, empathy and compassion for self and others; reducing reactivity and difficult emotions such as anxiety, depression and irritability) and social (e.g. enhancing empathy, kindness, conflict resolution and altruism) (Ergas, 2015; Felver et al., 2016; Jennings, 2015; Weare & Nind, 2011; Zenner et al., 2014) (see Table 1). Thus, it appears that a regular and well-intentioned practice can produce permanent modifications in physiology, personality and the manner in which people relate to themselves and their world, which Goleman and Davidson (2017) call 'altered traits'. Given that such practice can easily be commodified into schemes of work and object-oriented lessons, which school would not want to implement such a welcome 'elixir' to all life's ills? In contradistinction, writers like Ergas (2015) and Hyland (2016) argue that the genuine fruits of mindfulness practices can only flourish when rooted in a spiritual and ethical worldview, exemplified by the Buddhist Noble Eightfold Path introduced earlier, representing a more wholesome and embodied approach to life.

Table 1: Benefits of Mindfulness 'in' education

Author/year	Benefits for Teachers	Benefits for students
Weare, 2012		**Improvement of**: wellbeing, self-regulation, awareness, calm, sleep, cognitive performance, concentration. **Reduction of:** worries, anxiety, stress, reactivity, 'bad' behaviour.
Shapiro et al, 2016	**Improvement of**: self-care, self-awareness, attention, empathy, (self)compassion, emotion regulation, affect tolerance, presence. **Reduction of:** stress, burnout, emotional reactivity.	
Jennings, 2015		**Improvement of**: Resilience, creative thinking, perspective-taking, innovative problem-solving, caring, compassion, self-awareness and emotional self-regulation.
Flook et al, 2013	**Improvement of**: attention, effective teaching behaviour and self-compassion. **Reduction of**: psychological symptoms, burnout and attentional biases.	

Focusing on the United Kingdom (UK) as an example, following encouraging initial evidence about the positive side-effects of MBI's, their parliament has recommended further research and application in educational and health settings as well as the workplace and the criminal justice system (Mindfulness Initiative, 2015). Subsequently, the Oxford Mindfulness Research Centre's Myriad project has secured funding for a large randomised-controlled-trial (RCT). It will look at the impact of the '.b' curriculum for students aged 11-14 offered by the UK Mindfulness in Schools Project (MiSP) and its counterpart, 'paws.b' for younger children (7-11), both programs being adaptations of the pioneering Mindfulness-based Stress Reduction (MBSR) course created by Kabat-Zinn in 1979 (Simpson, 2017). As we will argue in this paper, these kinds of programs often promote individual well-being but there is also the possibility of adverse effects and the broader impact of self-pacification upon systemic functioning, including the possibility of iatrogenesis.

According to Farias and Wikholm (2016), there is a potential dark side to mindfulness, which has been under-reported and under-researched. Most advocates and some critics, tend to focus on positive and adverse effects from within a positivist paradigm (van Dam et al., 2018), meaning the effects of meditation on individuals are only investigated from a linear and materialistic perspective. Akin to a medical model, any unanticipated or unwanted outcomes are constructed as intervention side-effects. Noting we have already explained that all effects of Mindfulness, other than enhanced awareness, are actually side-effects, then these particular side-effects are most commonly reported in the literature as 'adverse effects' (van Dam et al., 2018) or 'unwanted effects' (Cebolla et al., 2017) and are based almost exclusively within clinical and psychotherapeutic contexts with adults and gleaned through self-reporting methods. There is, up until now, very little information concerning educational settings. Yet, a small number of research studies suggest that 25% of meditators have experienced some adverse effect, even if they tend to be transitory (Cebolla et al., 2017). According to Lindahl et al. (2019), these effects include heightened anxiety and fear, delusional thoughts/beliefs and changes in the sense of self (see Table 2). Such effects can be regarded negatively from a psychopathological approach (Lindahl et al., 2019) but can also be understood as temporary crises, as a challenging but important component of more holistic development, within a humanistic, transpersonal or spiritual paradigm (Grof & Grof, 1993).

Table 2: Adverse Effects of Meditation and Mindfulness

Author/year Publication	Adverse Effects
Van Dam et al, 2018	Dissociation, depersonalization, visual hallucinations, insomnia, changes in sense of self, altered perception of space and time, traumatic memory re-experiencing, panic, anxiety, suicidality.
Farías and Wikholm, 2016	Somatic, psychological, neurological, stress, depression.
Cebolla et al, 2017	Anxiety (fear and panic), pain (stomach, headache, muscular, nausea), depersonalization, derealisation, hypomania, depressive symptoms, emotional lability, visual focalization problems, dizziness.
Lindahl et al, 2019	Perceptual (hypersensitivity to light and sound, body sensations, derealization). Affective (euphoric/mania, increased reactivity, anxiety, depression, fear). Somatic (sleep, appetitive, thermal changes; pain, somatic energy, involuntary movements). Sense of Self (changes in narrative, agency over thoughts, emotions, sensations and actions; sense of boundaries self/world). Cognitive (impairments in executive functioning, delusional thought and beliefs).

Applying critical and systems theories to understand iatrogenesis

It is important to distinguish iatrogenic from adverse effects and this, we suggest, requires engagement with critical and systems theories. While adverse effects have been reported in the scientific literature, although infrequently, there is no systematic investigation concerning iatrogenic effects of mindfulness 'in' education, nor any other field. As previously discussed, both iatrogenic and adverse effects can be understood as side effects. However, these two
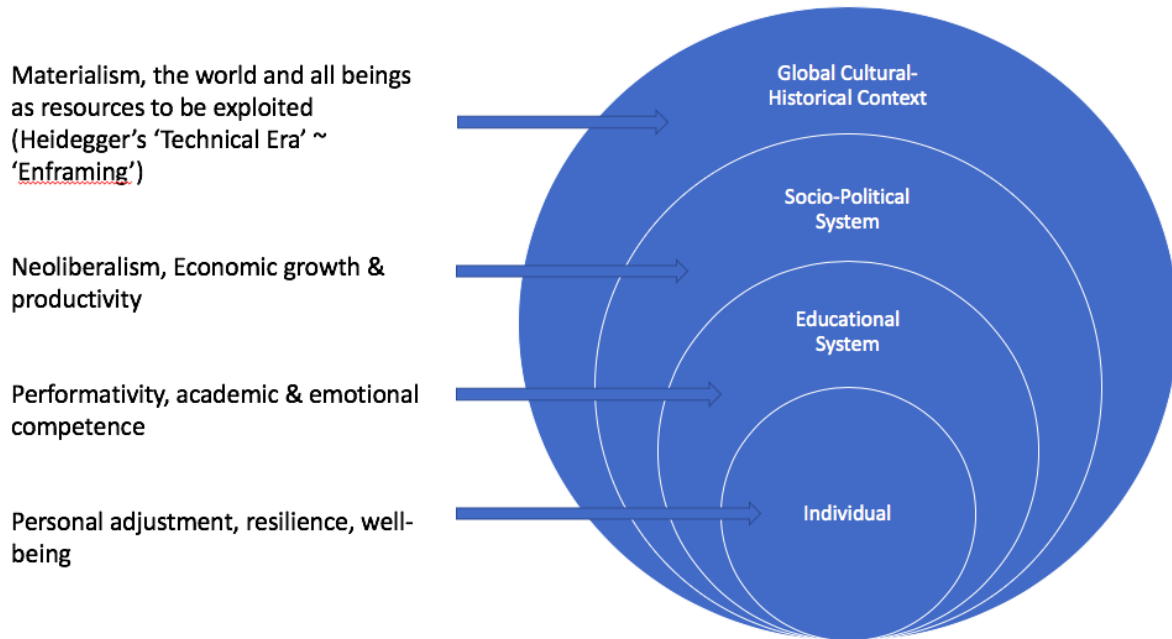
phenomena arise from different paradigms. Adverse effects are generally explained within a simplicity paradigm, which considers phenomena in a reductionist manner, subjected to linear causality (refer back to Figure 1). To understand the nature of iatrogenic effects it is necessary to observe phenomena from a complexity paradigm, which considers all phenomena as interconnected, emergent and contextual (Capra, 1996). Drawing upon critical and systems theories we have constructed Figure 2 to model these relationships. When mindfulness is 'operationalised' as a technology for self-adjustment rather than self-realisation, it reveals its nested connection within neoliberal framing socio-politically and within material views of reality epistemologically and ontologically (Sellman, 2020).

Analysis of this nesting of mindfulness within a broader neoliberal material reality is well-served by a number of critical theorists, though we suggest the philosophical contribution of Heidegger (1952/1977, 1997/2006) on the essence of modernity is particularly useful here as he suggests that the human being is subjugated in spiritual contemplation by the framing of his/her reality within a 'technical' era. Although individuals are a social species, living in communities, their 'interiority' stimulates a form of isolation and contemplation, which if unfettered can lead to experiential insight, yet most people are distracted from such pondering by subsistence and triviality, exacerbated by this 'technicity'. Heidegger (1954/1977) used this concept to demonstrate how each individual and their environment is 'enframed' by a tremendous machinery, in which beings are understood and manipulated as mere resources available exclusively for productive purposes (see Brito, 2018; Brito, Joseph & Sellman, 2020b for fuller discussion). Although the idea of iatrogenic effects emerges from a clinical paradigm, it is necessary to have a systemic approach to fully comprehend mindfulness 'in' education as a potential generator of iatrogenesis (see Table 4, next section).

Figure 2

Systemic effects of Mindfulness on the individual and education from a complexity paradigm.

Systemic Level Focus

Materialism, the world and all beings as resources to be exploited (Heidegger's 'Technical Era' ~ 'Enframing')

Neoliberalism, Economic growth & productivity

Performativity, academic & emotional competence

Personal adjustment, resilience, well-being

Global Cultural-Historical Context

Socio-Political System

Educational System

Individual

To understand how the iatrogenic effects of mindfulness 'in' education may work it is helpful to explore some key insights from systems theory, to underscore the utility of this conceptualisation. In the late first half of the twentieth century, emanating principally from biology and mathematics, the concept of first and second order cybernetics emerged to offer more complex explanations for interconnected phenomena such as living processes and, more interestingly, the role of the observer (consciousness) within epistemology (Capra, 1996). First order cybernetics introduced the crucial idea that understanding of any phenomenon necessitates consideration of the relationships between sub-systems and wholes, much like integral theory (Wilber, 2016). This radically undermines the positivist paradigm whereby phenomena must be isolated to be understood. As an alternative to such a reductionist, mechanistic and linear approach to understanding causality a systemic, or alternatively an integral, paradigm has developed to offer a view of reality as an organic unity (Lanza, 2009; Von Bertalanffy, 1975; Wilber, 2016; Wiener, 1948). In this sense, what happens at one systemic level influences every other level, sub and super, dynamically. Although structure

and predictability may be present, the degree of complexity requires, epistemologically, hitherto significant challenges to theoretical understanding to be included and embraced.

Developing understanding further, second order cybernetics introduced the fundamental variable of the observer into the interweaving of the nature of reality. According to Varela et al. (2016), reality is an interdependent co-construction process involving first-person experience and the environment, termed 'embodied' action. This interplay generates experience but it is always contextual. In this sense, every understanding of phenomena can aspire to a kind of objectivity called 'in parenthesis' by Maturana (1997), i.e., knowledge is valid only in specific domains of existence, shared by different observers through language. These conceptualisations, derived from biology and cognitive sciences, have similarities to the findings from quantum physic whereby reality emerges from potentiality only in the presence of a conscious agent (Görnitz, 2018; Lanza, 2009; Levy, 2018). Perception of reality is hence always co-constructed through biologically and psychologically conditioned filters and culturally conditioned values, beliefs, languages and thought-forms (Sellman, 2020). The challenge here is to understand mindfulness, in all its forms of implementation, through such multiple lenses.

Also coming from a complexity paradigm, Watzlawick et al. (2011) introduce to the field of clinical psychology a distinction between two different modalities of intervention-outcome. Change 'type-one' consists of an intervention-effect that produces an alteration that remains in the same systemic level but does not affect the wider interconnected systems. In the context of this piece of writing, mindfulness 'in' education is a perfect example insofar it can improve concentration or reduce anxiety in teachers and pupils without challenging the logic of the educational system as a whole and its subservience to a neoliberal socio-economic framework (Forbes, 2019; Reveley, 2016; Sellman & Buttarazzi, 2020, see also Figure 2). A deeper transformation would correspond with a change of 'type two', where the target is not just at the individual-level only but also the wider system. Educationally, this would include the purpose of education, what counts as knowledge, approaches to teaching, learning and assessment, the role of a teacher's presence, relational styles, intra and inter-personal relationships (e.g. Brito & Corthorn, 2018; Brito et al., 2020a, Ergas, 2015, Esbjörn-Hargens et al., 2010; Forbes, 2016; Miller, 1993; Sellman & Buttarazzi, 2020).

Being attentive to how mindfulness 'in' education may be framed by simplicity and complexity paradigms, first and second order cybernetics, type-one and type-two changes, there is a crucial difference between the scope and understanding of adverse and iatrogenic effects. Adverse effects focus the gaze on individuals and intervention outcomes, generally

standardised and transitory (short-term). Conversely, iatrogenesis focuses the gaze on systemic impact, which may be indirect, subtle, unpredictable, yet potentially more permanent (long-term). Mindfulness implemented with this broader impact as an aspiration has been called integral mindfulness (Forbes, 2016, Wilber 2016), mindfulness 'as' education (Ergas, 2019, Sellman & Buttarazzi, 2020) or simply mindful education (Brito & Corthorn, 2018), which offer greater scope for understanding the nature of self and reality as a prelude to more wholesome and ethical conduct, individually and collectively.

Iatrogenic effects of mindfulness 'in' education

As previously stated, maybe the problem with mindfulness is not that it is not effective rather that it is too effective, in terms of the positive side-effects so far introduced, and hence it is vulnerable to neoliberal appropriation. Hence, the 'dark-side' of mindfulness is not really a problem of mindfulness itself but an issue concerning how it is instrumentalised when implemented in contexts with hidden or undefined ethical goals, particularly within education. We continue to argue henceforth that it is useful to synthesise the critique of mindfulness 'in' education with the concept of iatrogenesis, informed by systems theory, to develop a deeper understanding of how neoliberal political motivations distort the nature and meaning of the practice.

Walsh's (2016) meta-critique of MBIs is helpful with this endeavour. He argues that 'McMindfulness', contrasted with critical mindfulness, is underpinned by ideological characteristics, not fully qualified by scientific evidence, which mobilise a world-view contradistinctive to its spiritual and philosophical origins. In Walsh's (2016) words, "secular and scientific communities have largely represented mindfulness as a value-free practice with universal benefit, which disguises how particular ideologies and values shape mindfulness to serve particular interests" (p. 154). It is important to be aware of the inevitable perspectivism inherent in any approach to phenomena and particularly concerning the complex relationship between mindfulness and education. We will now summarise Walsh's (2016) critique, adapting, interrogating and adding to some of the terminology and associated debate to construct two tables (3 & 4), highlighting the potential iatrogenic effects of mindfulness 'in' education.

Firstly, Walsh (2016) argues that MBIs attempt a form of *universalism*. MBSR, created by Kabat-Zinn (2005) and subsequent developments imply a transmission of the Buddhist spiritual and ethical teachings without spiritual references, what can be seen as the

'Trojan horse hypothesis' (Purser & Ng, 2015). As previously discussed, Kabat-Zinn (2017) defends this process as both a beneficial and necessary consequence of universalising Buddhist sensibilities to help those suffering from poor health who would not normally consider attending a meditation course. As Buddhism can be positioned as a philosophy, as well as a pragmatic approach to life, it can be argued that it matters more that suffering is reduced than a participant develops a 'spiritual' identity. However, universalism also reinforces a focus on the individual rather than the social and ecological (Figure 2), by abstracting mindfulness from its broader context and ethical orientation, failing to cultivate more holistic traits such as compassion, kindness, virtue and wholesome conduct (Ergas, 2015; Hyland, 2017; Purser, 2019; Simpson, 2017, see also Table 4).

Secondly, as previously discussed, many interpretations and implementations of mindfulness within education and health seem to be aligned with *neoliberalism* as a socio-economic framework, our dominant social order, which attempts to promote productivity on one hand whilst minimising any 'drain' on state resources through pseudo-individuation (Reveley, 2016). In this respect, MBIs promote a privatized view of well-being, which shifts narratives of responsibility, particularly with regard to mental health, exclusively upon individuals without due consideration of the institutional and structural conditions propagating suffering in the form of stress, burnout and depression (Ergas, 2019a; Purser, 2018; Saari, 2018; Sellman & Buttarazzi, 2020, see also Tables 3 & 4). Kristensen (2018) highlights this is utilising the same technology that made you ill to make you better. This 'anti-critical' narrative can even reinforce a sensibility whereby mindfulness cannot transform exploitative institutional conditions because they are preserved, localising the effects of mindfulness exclusively to matters of individual-enhancement (Ng, 2016). Ultimately mindfulness 'in' education is only valued and maintained if there is an academic or economic pay-off (Marx, 2015).

Thirdly, MBIs present meditation practices as a form of commodification at the service of any necessity, which Walsh (2016) refers to as *Mindfulness©*, a profitable product within a larger and lucrative well-being industry, which has augmented considerably over the last 20 years to market a variety of interventions to improve almost any challenging aspect of daily human life, including eating, educational attainment, career development, parenting and mental-health. In doing so, it colludes with the emphasis on the fallibility of the individual and encourages only very superficial intrapersonal and spiritual development (Forbes, 2016; Hyland, 2016, 2017; see also Tables 3 & 4). Consequently, rather than liberating the individual, they remain or become more dependent on external help and societal structures, as

the deeper work required for de-conditioning, healing from childhood trauma and transcendence are overlooked (Sellman, 2020).

Fourth, Walsh (2016) discusses 'critical mindfulness' as a potential way forward, which exposes a fourth limitation of mindfulness 'in' education, which we call *cosmeticism* (see Tables 3 & 4). Although mindfulness promotes the possibility of deep self-transformation, in actuality typical training focuses on specific competences that are at the service of a productive system, without questioning the nature and orientation of this service in broader terms. Mindfulness 'in' education currently remains a conditioning technology of the self, according to which the self is understood as something separate, whereas the origins of the practice in East-Asian wisdom emphasise the unity of reality. This is a perversion of the practice, subjecting the individual to the acquisition of mere cognitive and emotional competencies (Brito & Corthorn, 2018; Sellman & Buttarazzi, 2020), in which no real self-inquiry, self-knowledge and, even, self-deconstruction are possible. Hence, mindfulness 'in' education offers limited interior or ontological exploration (Ergas, 2019b; Forbes, 2018). Neither is there any encouragement to apply such approaches as observing thoughts to a broader critique of social justice (Simpson, 2017) or the qualities of 'attending out' (e.g. compassion, kindness, ethics, responsibility) (O'Donnell, 2016).

Table 3: Iatrogenic effects and their critical categories

Author/date	Implicit Iatrogenic Effect reported in the literature	Critical Category (Walsh, 2016)
Ergas, 2019a.	'The external perspective shows mindfulness *in* education as conforming with 'the system', supporting its functioning and improving performance and well-being *within* it' (p 6).	Neoliberalism
Ergas, 2019b	'The rational-economic orientation [McMindfulness] reflects an acknowledgement of economic needs and respects education's functional role, while the contemplative orientation [e. g., Integral Mindfulness] acknowledges the individual's interiority [self],	Cosmeticism

Table 3. (continued)

	and his/her need for meaning and purpose beyond mere survival' (p 257).	
Ergas, 2015	'Thus, it could be suggested that contemplative practices introduced as curricular 'interventions' geared toward instrumental aims—such as improving attention (Napoli *et al.,* 2005), enhancing executive functions (Flook *et al.*, 2010), and tending to teacher burnout and wellbeing (Roeser *et al.,* 2012)— might be eroding a much fuller ethical educational potential inherent in the origins of contemplative practices within wisdom-traditions' (p 204).	Universalism
Forbes, 2016	'[…] these forms of mindfulness interventions are easily accommodated to an individualistic, therapized, and commodified society that is itself a major generator of social suffering and distress' (p 1257).	Mindfulness©
	'Mindfulness unintentionally becomes part of the neoliberal tendency to psychologize difficult social and structural problems' (p 1264).	Neoliberalism
	'[Mindfulness] it is reduced to an over-simplified, superficial, or 'not-worked-through Metaphysics' and instead prefers 'affect management' and scientific reductionism to deep inquiry into the basic nature of the self and to a commitment to moral and social enactment' (p 1262).	Cosmeticism
Hyland, 2016	'The key weaknesses are that they [scales of mindfulness] decontextualize mindfulness from its ethical and attitudinal foundations' (p 109).	Mindfulness©
Hyland, 2017	'McMindfulness applications fail miserably when they separate something called 'present moment	Universalism

Table 3. (continued)

	awareness' (surrounded by a dangerous 'myth' exposed by Purser, 2014b) from moral principles such as compassion and loving-kindness' (p 345).	
Kristensen, 2018	'[…] mindfulness practices serve as a treatment for a problem, which is successively reinforced through that very same treatment. Thereby, mindfulness practices come to represent a productive break with a contradictory effect of retaining or aggravating the ill it was intended to cure' (p 185).	Neoliberalism
Marx, 2015	'Whether or not this is the primary reason for using mindful- ness, its use is unlikely to be sustained unless it can be justified as a cost-efficient way of enhancing performance and productivity. Another risk posed by focusing too much on the individual is that an understanding of suffering becomes individualised. Causes of organisational problems can come to be located in employees rather than in organisational or political structures' (p 1156).	Neoliberalism
Ng, 2016	'[…] using mindfulness for the 'emotional-regulation' of students leaves the discriminatory, inequitable, anti-critical, and depoliticizing structural arrangements in the education system unaddressed' (p 148).	Neoliberalism
O'Donnell, 2016	'[…] developing the habit of attention might help mindfulness programmes in schools to sustain a sense of openness in practice that remembers to also turn outward to beings other than oneself,	Cosmeticism

Table 3. (continued)

	helping to de-centre the self, and intensifying contact with reality through the practice of attending *to* rather than getting mired in the projections and fantasies of the self' (p 43).	
Purser, 2018	'Corporate mindfulness has become the new brand of capitalist spirituality, a disciplined but myopic self-help doctrine, that transfers the risk and responsibility for well-being onto the individual' (p 106)	Neoliberalism
Purser, 2019	'The products [mindfulness practices] are marketed as providing more fulfilling and sensual experiences, not the development of virtue, ethical behaviour, moral courage, and compassion' (p. 76).	Mindfulness©
Saari, 2018.	'Mindfulness practice can intensify the effects of individual responsibility and can obfuscate the role of wider social structures in work and personal life because mindfulness meditation ensures that the focus is always trained on one's own body and private emotional responses in the present moment' (p 147).	Neoliberalism
Sellman & Buttarazzi, 2020	'The instrumental application of mindfulness makes young people the subject of mental-health interventions, which is dangerous because it creates meta-narratives locating individuals rather than social-structures as the site of blame' (p 5). 'Hence, mindfulness within such structures cannot be about enlightenment but adjustment to these structures of oppression' (p 6).	Neoliberalism

Table 3. (continued)

Simpson, 2017	'[…] if the focus remains on technique, neglecting ethics and insight, students mainly get more mindful of themselves. In some ways, this is ironically disempowering. It reflects the requirements of a competitive market system, which places the emphasis on personal resilience, not on making society less destructive' (p 63).	Universalism
	'Unless mindfulness is differently framed, it indoctrinates students in neoliberal thinking' (p 64).	Neoliberalism
	'Similarly, dot-b's maxim that 'thoughts are not facts' could be expanded. Students learn that we worry because 'our minds are addicted to telling stories about what's happening to us' and 'many of these stories are fictions'. However, nothing is said about what this implies about identity [self]' (p 62).	Cosmeticism

Table 4: Iatrogenic Effects within Education and suggested counter-balances

Critical Category	Type of iatrogenetic effect within education	How an integral approach to mindfulness within education could counterbalance such an effect
Universalism	Reinforcement of an individualistic approach.	Cultivating an ethical orientation within the educational process (as with the Buddhist eightfold noble path).
Neoliberalism	Reinforcement of performance and productivity.	Cultivating and expanding an orientation to expanded consciousness, critical mindfulness and social transformation.
Mindfulness©	Reinforcement of mindfulness as a mere intervention at the service of market needs.	Cultivating a transversal, long-term and flexible implementation at the service of local and global needs.
Cosmeticism*	Reinforcement of superficiality and narcissism, limited skills/competencies subservient to institutional needs.	Cultivating a deep and systematic inquiry about the nature of the self, its highest possibilities, and its relationship with the world.

*This fourth category has been added by the authors to three other categories from Walsh (2016).

Conclusion

Mindfulness is commonly understood to be about transformational learning. It can be, but it isn't necessarily so. The argument substantiated here is that the prevalent implementation of mindfulness 'in' education, a form of McMindfulness, is too simplistic and can be understood as a menacing form of iatrogenesis. Here, learning at the individual level is not so much transformation but an adjustment to the logic and demands of neoliberalism rather than the deeper individual and collective transformation necessary for ethical and sustainable living. Given the origin of mindfulness in East-Asian wisdom, characterised by a broader set of attributes oriented to wholesome living including the reduction of suffering, it is paradoxically counter-productive that they have become overly-focused on individual enhancement and light on critique of the social and political conditions lying at the heart of much suffering. As such, while Buddhism is not primarily about social transformation, we have argued that through mindfulness practices and their ethical basis, people can come to greater awareness of themselves including what causes them to suffer. Liberating themselves from the societal conditioning, individuals may become more psychologically mature and authentic, which can consequently have a significant and transformational impact upon society by assuming responsibility for the connection between their values, choices and lifestyles. In this sense, mindfulness has the potential to be transformative as education, for individuals and collectively but this potential is not being fully realised as yet.

This argument does not intend to belittle the value of inner-work and observation of an individual's relationship with experience, quite the contrary, yet we feel it is dangerous to overlook many of the contributing factors to suffering if, as we think they are, they are within the reach of social justice movements if individuals are adequately motivated and mobilised. More critical and oft-ignored perspectives invite current educational mindfulness programmes such as MindUp and MiSP to clarify their ethical implications and broaden their ambition (Simpson, 2017; Jennings, 2015). Such a rally call is echoed by the words of Walsh (2016), who states, "in response to critiques of McMindfulness, the mindfulness movement should replace universal, asocial, and ahistorical views of mindfulness with critical, socially aware and engaged forms of mindfulness" (p. 163). As such, we add our voice to those authors calling for more integral and critical approaches to mindfulness, with Ergas (2015), Esbjörn-Hargens, Reams & Gunnlaugson (2010), Forbes (2016), Simpson (2017) and Wilber (2016) amongst those offering potential ways forward.

Finally, it is important to recognise that mindfulness has the potential to be both a vehicle for reducing human suffering and promoting human flourishing, by being a

contributing factor to more egalitarian and ecologically sustainable human systems. This is increasingly apparent when we witness the consequences of a world-view, latterly enshrined by neoliberalism, that emphasise separation, materialism and commodification with all their predictable consequences: individual existential malaise, social injustice and ecological degradation (Loy, 2003). As Jennings (2015) elucidates, this is a matter of transformation rather than reformation:

> This cultural tipping point has the potential to transform (as opposed to reform) education. To 'reform' means to change or improve the condition of an existing structure or form. In contrast, to 'transform' means to change the very nature of the structure or form itself -a metamorphosis (pp. 181–182).

Hence, it is crucial that mindfulness in/as education is not mobilised as yet another way of continuing a destructive paradigm, whereby individual transformation is simply about learning to cope with and adjust to oppressive systems, but as a vehicle for greater self-understanding, social harmony and environmental sustainability.

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