Is it Permissible to Teach Buddhist Mindfulness Meditation in a Critical Thinking Course?

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Abstract: This essay argues for the permissibility of teaching Buddhist mindfulness meditation in a critical thinking course. One might object that Buddhist mindfulness meditation is part of a religion, and religions are thought to be dogmatic and uncritical, and thus inappropriate for a critical thinking course. However, I argue that there is a pathway from the importance of self-regulation for good critical thinking to the permissibility of including mindfulness meditation in a critical thinking course. I offer three arguments for the permissibility of inclusion: the self-regulation argument, the expansion by way of cognitive science argument, and the persistence through emotional volatility argument. I then defend mindfulness meditation as an appropriate form of meditation to include in a critical thinking course.

Résumé: Cet essai avance qu'il est permissible d'enseigner la méditation bouddhiste de pleine conscience dans un cours de pensée critique. On pourrait objecter que la méditation de pleine conscience bouddhiste fait partie d'une religion que l'on pense être dogmatique et non critique. Cependant, je soutiens qu'il existe un chemin entre l'importance de l'autorégulation pour développer une bonne pensée critique et la permission d'inclure la méditation. Je propose trois arguments en faveur de de permettre cette inclusion: l'argument d'autorégulation, l'argument d'expansion par le biais des sciences cognitives et l'argument de la persistance à travers la volatilité émotionnelle. Je défends ensuite la méditation de pleine conscience comme une forme appropriée de méditation à inclure dans les cours de pensée critique.

Keywords: mindfulness meditation, self-regulation emotion regulation, stereotype threat, attention

1. Self-regulation as a path to the inclusion of meditation in critical thinking

According to the expert consensus on critical thinking in the *Delphi Report*, commissioned by the *American Philosophical Association* in 1990, *good critical thinking*

> includes both a *skill dimension* and a *dispositional dimension*. The experts find [critical thinking] to include cognitive skills in (1) interpretation, (2) analysis, (3) evaluation, (4) inference, (5) explanation and (6) *self-regulation*. (APA 1990, p. 4, emphasis added).

Most, if not all, critical thinking teachers are familiar with (1)–(5) and teach them as core components of their critical thinking courses. What about (6), *self-regulation*? The experts define it as follows:

> *Self-regulation* [involves] *self-consciously monitoring one's cognitive activities, the elements used in those activities, and the results produced,* particularly by applying skills in analysis and evaluation to one's own inferential judgments with a *view toward questioning, confirming, validating, or correcting either one's reasoning or one's results*. (APA 1990, p. 10, emphasis added)

Do critical thinking teachers and critical thinking texts actually include self-regulation as a component? If one examines two of the leading textbooks on logic and critical thinking, Patrick Hurley's *A Concise Introduction to Logic 12th edition* and Lewis Vaughn's *The Power of Critical Thinking 4th edition*, they will not find substantive discussion of techniques for self-regulation or exercises on how to develop self-regulation. While some textbooks, such as Judith Boss's *Think 5th edition*, do include a section on reason and emotion, most critical thinking textbooks do not include exercises or discussion of techniques for developing self-regulation or why it is important. Yet, as the APA report explicitly points out, it is a core part of *good critical thinking*, and by extension, *a good critical thinker* should be able to self-regulate. Is the gap in critical thinking education, evidenced by the gap in major texts that are used for teaching, acceptable?

I think not. We live in a world of increasing polarization, misinformation, hostility, conspiracy theories, and tone policing.[1] As America approaches the 2020 presidential election, emotions are on fire in a country that is growing more and more fractured. One need only look at the September 29, 2020 presidential debate between Joe Biden and Donald Trump in which a large number of character assassinations and heated exchanges occurred to see how volatile things are. Our current political environment cries out for individuals engaged in political argumentation to exercise more self-regulation. Why? Because political argumentation requires (i) listening empathically to each other and (ii) responding in a relevant way to each other's questions, arguments, and positions. Meaningful political argumentation, with the final end of deciding what is the way forward for everyone in a political body, requires empathically listening to what everyone is saying and responding in a relevant way with honesty, authenticity, and sincerity. Self-regulation is one of the elements of good critical thinking that facilitates being able to accomplish (i) and (ii) in emotionally volatile situations that require a commitment to quality reasoning and self-correction throughout the dialogue.

The expert definition in the *Delphi Report* does not make explicit the relation between emotion regulation and self-regulation. This might be because it assumes a tight *distinction* between cognitive processes and affective processes. According to the view I advocate, there is *interpenetration* between cognitive and affective processes on a gradient. In addition, emotion regulation is part of self-regulation. In actual debates and discussions, we need emotion regulation in our self-regulation as we aim to empathically listen to each other and react in relevant ways to the arguments being made. There is no significant cognitive/emotional divide that makes critical thinking only about self-regulation in a purely cognitive way; self-regulation in critical thinking must cross over to emotion regulation as well. The purpose of this paper is to begin a discussion about the following question within the critical thinking and informal logic community: amidst the massive amount of

[1] See Aikin and Talisse (2020) for an excellent discussion of political argument in a polarized world.

material that we already teach in critical thinking, *is it permissible to teach Buddhist mindfulness meditation in a critical thinking course*? You might ask: why Buddhist mindfulness meditation? Well, why not mindfulness? Consider *the self-regulation argument*:

1. Mindfulness meditation improves emotion regulation, which is an important part of self-regulation. It has the capacity to improve self-regulation, at least by improving emotion regulation, if not also by improving attention that is directly relevant to self-regulation.
2. Self-regulation is central for critical thinking, as noted by the *Delphi Report*.

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3. Mindfulness meditation is a pathway to improving critical thinking.

Importantly, the point here is only that *mindfulness is one way to improve self-regulation by acting on emotion regulation, not the only way*. Admittedly, the argument from self-regulation might not convince everyone.

Thus, in section **2**, I examine work by Mark Battersby and Jeffery Maynes. My goal here is to show that the dialectic between them also leads to an argument for the exploration of meditative practices in critical thinking education: *the expansion by way of cognitive science argument*. In section **3**, I examine work by Harvey Siegel and Sharon Bailin. My goal here is to show that the dialectic between them offers yet another pathway for bringing meditative practices into critical thinking education: *the persistence through emotional volatility argument*. In section **4**, because there are so many meditative practices, I present criteria for selecting a form of meditation that can be taught in a critical thinking course. I argue that mindfulness meditation deriving from the Buddhist tradition satisfies the relevant criteria, although it is not the only one. I then present research from contemporary cognitive science and psychology about the emotional benefits of mindfulness, especially with respect to emotion regulation. Recognizing that skepticism is a virtue, in section **5**, I consider a recent study by

Noone and Hogan that suggests that there is no traceable *improvement in a person's ability to think critically that is due to mindfulness*. I argue that while the study is important, there are substantial reasons for thinking that further studies should be done, as the authors themselves concede. I suggest a specific kind of study that focuses on the ability to recover from defeat so as to persist in critical thinking while holding to the standard of engaging in quality reasoning throughout an exchange. In section **6**, I move on to the issue of how meditation can be useful for improving performance in critical thinking by reducing the disruptive effects of *stereotype threat*. My focus here is on presenting the hypothesis that stereotype threat disrupts performance in critical thinking and that negative impacts from stereotype threat can be reduced by mindfulness. Finally, in section **7**, I summarize my argument for why it is permissible to include Buddhist mindfulness in a critical thinking course. I close by discussing three important objections: the *location*, *demarcation*, and *propriety* objections—the last of which motivates some to exclude mindfulness because it is part of a religion.

2. Does the expansion of critical thinking lead to the inclusion of meditation?

I am not alone in thinking that critical thinking education needs expansion. One important argument for expanding critical thinking education is offered by Mark Battersby (2016, pp. 118–120). His position is highly attractive, given the world we now live in. He claims that those involved in critical thinking education should adopt the *Critical Thinking Project* (CTP), which involves improving reasoning through five areas of engagement. His five areas are the following:

i. Expanding the concept of critical thinking to include evaluative rationality and rational decision-making in its most inclusive sense.
ii. Developing an alternative model of rational decision making with usable guidelines for a rational decision-making process.

iii. Making critical use of research coming out of cognitive psychology and behavioral economics to help identify tendencies in human judgment that can lead to irrationality.
iv. Developing interdisciplinary research projects with researchers that are concerned with the application of reason to judgment and decision-making—in particular cognitive psychologists, behavioral economists, and applied decision theorists in business faculties.
v. Teaching for evaluative rationality and rational decision making as well as argument evaluation, reasonable discourse, and reasoned judgment.

The core idea of Battersby's position is that critical thinking education should be expanded from argument evaluation to decision making. Historically, most work in critical thinking focuses on argument evaluation, such as through the identification of informal or formally fallacious patterns of reasoning, or checking the soundness and validity of an argument. Battersby's argument for expansion involves heavy reflection and engagement with work in cognitive science and behavioral economics, particularly work on *heuristics and biases*. His main argument is as follows:

1. Cognitive science and behavioral economics, especially work on *heuristics and biases* as summarized in Daniel Kahneman's (2011) *Thinking, Fast and Slow*, shows that the mind is prone to making certain kinds of errors in reasoning to a judgment both individually and collectively.
2. Critical thinking education should be informed by cognitive science and behavioral economics for the purposes of being an adequate discipline that contributes to improving the human condition through teaching "critical thinking."
3. Including decision-making alongside argument evaluation would make critical thinking education a better educational package and more relevant to the current human condition than focusing only on argument evaluation.

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4. We ought to adopt the Critical Thinking Project.

However, there are challenges to CTP that derive from how one looks at the *relationship* between research on human judgment and the possibility of critical thinking. I will call the challenge to CTP, deriving from research on human judgment and cognitive biases, *the cognitive bias challenge* (CBC). Maynes (2015) has presented a version of this challenge. Here I offer a similar version of the challenge:

1. The CTP is useful only if it is portable and durable. That is, if it has the capacity to be used successfully in a sustained way outside of the classroom.
2. Research on cognitive biases suggests that we suffer from a number of cognitive biases, such as *motivated reasoning, false consensus, and hindsight bias*, which impede the exercise of critical thinking.
3. If there is **no** solution to the barrier that cognitive biases put up for the exercise of critical thinking, especially outside of the classroom, then the CTP is hopeless.
4. There is no solution to the problem posed by cognitive biases.

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5. The CTP is hopeless.

There are two points to take note of. First, (4) is not inconsistent with the argument for CTP, since CTP could still be a better educational package than a non-CTP package, whether or not there is a solution to the problem of cognitive biases. Second, and fortunately for those engaged in critical thinking education and attracted to CTP, premise (4) is false. Maynes himself offers an intriguing solution. I will refer to his general solution strategy as the *Repertoire Response* (RR). The core idea of RR is to *concede* that we cannot *debias* those that we teach critical thinking to, but to *argue* that we can provide students with *a repertoire of strategies that enable them to exert some degree of control over their biases*. The question of how much control is a controversial and still open. Nevertheless, Maynes offers a view on what should be part of RR (2015, p. 186). His view should be seriously considered. As he says:

> Critical thinking essentially involves *metacognitive* skill, and critical thinking pedagogy should include a focus on developing this skill […]. Typically, when teaching critical thinking, we teach cognitive skills, such as argument diagramming or mapping, implicit premise identification, and fallacy identification. The metacognitive skills involved in critical thinking are those skills involved in recognizing *when* these cognitive skills should be used, knowing *how* to use them, and *why* to use them.

Importantly, RR actually fits with the initial component of the *Delphi Report*'s definition of 'self-regulation'. Namely, the component dealing with *self-consciously monitoring one's reasoning processes*. Furthermore, and crucially, the self-regulation argument for including meditation within the context of critical thinking is additionally supported by the engagement with cognitive science that Battersby and Maynes use in their support for CTP, CBC, and RR. That is, there is an argument for including mindfulness in critical thinking education that comes from considering the expansion of critical thinking through cognitive science. I call this argument for including mindfulness in critical thinking courses: *the expansion by way of cognitive science argument*.

Battersby's and Maynes' arguments rest on the claim that cognitive psychology and behavioral economics, or the mind sciences in general, offer us important data for constructing an adequate educational package for critical thinking. While Battersby looks to cognitive science for potential new sources of what to teach, Maynes looks to cognitive science for potential strategies to help mitigate problems we might face when we exercise our critical thinking skills. Fortunately, if we look into the literature in the sciences, we will see that psychological research on meditation shows that it can play an extremely important role in improving self-regulation by improving attention, awareness, emotion regulation, cognitive control, and mental stability. I will discuss this literature in more detail in sections **4** and **5**. These skills facilitate exercises of critical thinking. Arguably, someone who is good with these skills will be better at critical thinking in high-stakes contexts. Therefore, and to the point, *looking to the mind-sciences for how to improve critical thinking education leads directly to inves-*

tigating meditation as a potential source for improving critical thinking.

Coming from another direction, there is something else we need to take into consideration when we think about expanding critical thinking education. We should look at critical thinking as *a globally informed project*, rather than one that derives solely from Western sources on critical thinking. To look at critical thinking only from a Western lens is, *simply*, uncritical and involves willful persistence in not exiting one's echo chamber on critical thinking. Unfortunately, though completely excusable, Battersby offers his expansion of critical thinking and Maynes offers his list of strategies for improving exercises of critical thinking by looking primarily at the development of critical thinking from within Western philosophy and contemporary cognitive science.[2] Furthermore, the *Delphi Report* offers an account of critical thinking that neither explicitly engages any expertise from outside of the Western tradition, nor consults in depth with scholars working in traditions outside of the West on dialectic and debate when *generating* a conception of critical thinking skills, and the relation between the cognitive and affective dimensions of critical thinking. So, even if the definition of critical thinking is acceptable to all, it appears to have not been generated in the right way. At best, it is a case of an accidentally true belief. One could even argue that the expert consensus is *not* taken from a panel of *representative* experts across all relevant fields. The core group of experts is not sufficiently diverse.

Moreover, with an attitude of intellectual curiosity, we ought to wonder *what would an expanded critical thinking project and repertoire of skills for improving meta-cognition look like if we included ideas from a more globally informed conception of critical thinking?* Looking only at Western sources leaves out the large repository of critical thinking activities that are present in African, Arabic, Native American, Buddhist, Chinese, Hindu, or Jain philosophy. More importantly, some traditions of philosophy embrace both meditation and critical thinking. This leaves us with the

[2] It is noteworthy that Maynes takes note of meditation as an approach but does not discuss it in detail. See (2015, p. 189). He takes note of work done on contemplative practices in higher education done by Barbezat and Bush (2013).

question: *why and on what grounds should we leave these traditions out of the discussion of what a new and expanded model of critical thinking is*? My hope here is to make the case for the view that it is permissible to include meditation in a critical thinking course. In making the case for the view that it is permissible to include it, I am not legislating that everyone ought to teach it or that it is the only thing worth adding for the purposes of improving self-regulation in a critical thinking course. More importantly, I am advocating for a complete overhaul of critical thinking education based on a cross-cultural and multi-disciplinary investigation of critical thinking.

3. Unlocking a misconception about critical thinking as a pathway to making room for meditation

Perhaps *the expansion by way of cognitive science argument* is no more convincing than *the self-regulation argument*. As a consequence, I want to turn to an important critique of critical thinking education presented by Sharon Bailin et al. (1999). This leads to what I call *the persistence through emotional volatility argument*.

We can get a fix on the significance of her critique and its relevance to the argument for including meditation by turning to a core debate in the theory of critical thinking that is presented by Harvey Siegel in his (1993) *Not By Skill Alone: The Centrality of Character to Critical Thinking*. In this piece, Siegel contrasts two views of critical thinking: the skill view and the character view. He goes on to defend the character view.

> *The Skill View* holds that critical thinking is exhausted by the acquisition and proper deployment of critical thinking skills.
>
> *The Character View* holds that critical thinking involves the acquisition and proper deployment of specific skills as well as the acquisition of specific character traits, dispositions, attitudes, and habits of mind. These components are aspects of the "critical spirit."

Bailin et al. (1999) argue that the notion of skill deployed both in the *skill view* and the *character view* is highly problematic, since it is tied to the tri-fold distinction across the concepts of *knowledge*, *skill*, and *attitude*, where educators seek to place critical thinking in the skill category. There are two sides to this problem.

On the one hand, when critical thinking is thought of as a domain-general skill separated from domain-specific knowledge, it is conceptualized as something that can be applied across domains without any knowledge of the domain. Consequently, one can come to see critical thinking as a domain-general skill that can be properly deployed in a specific domain even by a person who does not know anything about the domain. In my view, one pedagogical problem that arises from this approach is that students might become overconfident with respect to using domain-general critical thinking skills when they do not know anything about the domain in question. This can lead to the raising of objections that are logically relevant but misguided with respect to the history and development of the specific domain. For example, one might criticize an economic argument based on form alone without understanding the historical context from which it derives and the spirt of the author making the argument at the time it was made.

On the other hand, when critical thinking is thought of as a skill that has been cut away from attitudes, it appears as if the disposition to engage in critical thinking is separated from the attitude required for deploying it. For example, possession of the disposition to think critically, while not being motivated to do so by a desire to have *improved quality in reasoning*, is problematic. It is problematic when the disposition leads one to disrupt shared communal reasoning in a way that derails it from its goal: deciding on something important within a certain amount of time.

Thus, if the very notion of *skill*, where some theorists want to place critical thinking, is problematic, then perhaps we ought to abandon it. As a consequence, Bailin et al.'s argument provides us with another reason to look for or generate a theory of critical thinking that comes from global sources, for their argument has been developed in reaction to the history of Western discussions of critical thinking. In a globally sensitive survey of critical thinking,

we will find that critical thinking is not always thought of as a skill divorced from specific domains of knowledge in the way that Bailin et al. find problematic.[3] In addition, we will also come to see that critical thinking is a domain of knowledge itself that is substantive and value laden in a way that can be criticized by looking at it cross-culturally (more on this point in section **7**).

Bailin et al. (1999) also point out that there is a problem with the way in which "skills" talk gets integrated into critical thinking education. When one thinks of critical thinking as a skill, cut off from knowledge and attitudes, pedagogy often aims towards practice and a certain kind of repetition of the skill as a way to the proper acquisition of it. In the view that Bailin et al. advocate, mere repetition of the pattern recognition aspect of the fallacy of *ad hominem* or the form *modus ponens* will not work in the way that it can work for the skill of dribbling a ball since the latter simply involves gaining muscle memory and coordination, while the former requires more.

> [W]hat characterizes thinking which is critical is the *quality* of the reasoning. Thus, in order to become a critical thinker, one must understand what *constitutes quality reasoning*, and have *the commitments relevant to employing and seeking quality reasoning*. (Bailin et al. 1999, p. 281, emphasis added)

The worry can be put more formally in the following way:

1. Skills in critical thinking cannot be separated from understanding the nature and the purpose of the task one is attempting to accomplish.
2. Skills in athletics can be separated from understanding the nature and the purpose of the task one is attempting to accomplish.
3. If two types of skills are sufficiently different in their nature, then the pedagogy appropriate to one is not appropriate to the other.

[3] See Vaidya (2016) for discussion of the Nyāya tradition of classical Indian philosophy where the relation between logic, epistemology, and debate is conceived of in a different way.

4. Talk of skills in critical thinking and skills in athletics are sufficiently different.

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5. The pedagogy appropriate to teaching athletic skills is not appropriate for teaching critical thinking skills.

What Bailin et al. point to is the fact that attitudes about critical thinking and knowledge of critical thinking concepts are key to becoming a better critical thinker. It is not just possessing the skill. It is not just having the disposition to deploy the skill in the relevant context. It also involves having the attitude of being committed *to employing and seeking quality reasoning for the purpose at hand*.

Given the additional requirement of having the correct attitude when engaging in critical thinking, there is now another reason why it is permissible to teach meditation in a critical thinking course: the ability to self-regulate is often necessary for seeking and holding to quality reasoning in high-stakes contexts *because of the need to persist through emotional volatility*. The importance of this cannot be highlighted enough. It is when we cannot self-regulate in high-stakes contexts that we are likely to do our worst with respect to critical thinking. The fact that the *Delphi Report* holds that good critical thinking requires *self-regulation* is not accidental or inessential. Self-regulation, via emotion regulation, is a necessary condition for persisting through a volatile disagreement when one wants to sustain quality reasoning all the way through to the final end where a decision is made. Thus, if Bailin et al. are correct about critical reasoning involving a commitment to quality reasoning over and above mere practice, it would be *ineffective* to not include methods that facilitate holding to the standard of quality reasoning through emotional volatility in critical thinking education.

In fact, Bailin et al.'s argument *requires* that we explore and teach what would allow us to hold on to the standard of quality reasoning through emotional volatility. Simply put, if *x* is a sufficient condition for performing *y* properly, or for improving one's ability to perform *y*, then all else being equal, if we think it is

important to teach *y*, we ought to teach *x* also as a means to teaching *y* correctly. Thus, one can argue as follows:

1. Mindfulness meditation improves emotion regulation, a subset of self-regulation, which is a key component of being a good critical thinker.
2. All else being equal, better emotion regulation will facilitate persisting through emotional volatility when critically thinking in a high-stakes context.
3. Persisting through emotional volatility while critically thinking in a high-stakes context facilitates holding to the standard of quality reasoning until the end when a decision or evaluation of the discussion is made.
4. Arguably, there are no negative effects that derive from teaching mindfulness meditation with respect to improving emotion-regulation.[4]
5. If it is permissible to teach *x* and *y* promotes the teaching of *x*, then, all else being equal, it is permissible to teach *y* as well.

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6. It is permissible to teach mindfulness meditation as a tool in a critical thinking course.

4. What is meditation?

'Meditation' is not easy to define. The main reason for the difficulty is that there are too many uses of the term, some of which are broad, while others are narrow.[5] For example, some uses of 'meditation' will include dancing and chanting as a form of meditation. Others will hold that 'meditation' only refers to practices that

[4] See Doran (2018), Purser (2019), and Seigel (2019) for discussion of one way in which meditation can be thought of as being negative for a person. Take note of the fact that these arguments do not speak directly to the issue of how meditation can be bad for critical thinking, but rather about why certain political groups, such as neo-liberals, advance meditation. While I find Doran, Purser, and Seigel to be making a highly relevant critical point that ought to be considered in full detail when thinking about the role of meditation in critical thinking, their arguments are not decisively against it.

[5] See (Lutz, Dunne, and Davidson 2007, pg. 500–505)

involve sitting and focusing on one's breath. I will not offer a general account of *meditation*. For the purposes of my argument for the permissibility of teaching meditation in a critical thinking course, it will be central to work with a notion of 'meditation' that has the following properties: (a) it comes from a tradition of thought in which argumentation and the evaluation of argumentation is also found; (b) the notion of meditation that is at work is researched in cognitive neuroscience; (c) some of the techniques of meditation taught in the tradition can actually be taught in a critical thinking course within the typical amount of time for which those courses last, which is 10–16 weeks, and (d) the training is relatively easy to administer. Why these criteria?

First, my contention is that meditation can be taught in a critical thinking course because meditation is found in traditions that discuss critical thinking as part of what it is to *be* a critical thinker. In particular, the philosophical and religious traditions of India, such as Hinduism, Buddhism, and Jainism, all develop views about argumentation while also advancing some meditative practice as part of their philosophical outlook. Second, the notion of meditation that I defend does have a substantial body of cognitive neuroscientific research on it. According to Battersby and Maynes, the reason for taking seriously decision-making and metacognitive skills in critical thinking is that we learn a lot about how the mind can go wrong and could be improved by paying attention to cognitive neuroscience, behavioral economics, and psychology. Thus, if paying attention to those same areas were to point to something that improves the mind with respect to decision making and metacognitive skill, a case could be made for including it in a critical thinking course. Third, it would seem that inclusion of a practice in a critical thinking course could only really happen if the technique can be taught with little, yet proper, training. Note that I did not say with little practice of the right kind. Students spend a lot of time learning how to argue for the presence of a fallacy; they spend far less time learning what a fallacy is. Likewise, students should *not* be spending an inordinate amount of time on what meditation is. Rather, they should be engaging in a meditative practice for a sustained amount of time (more on this in section **5)**. These criteria are put in place for delimiting a serviceable notion

of meditation for inclusion in critical thinking. As a consequence of (a)–(d), I will focus my discussion of meditation on *mindfulness*, especially as it is found in Indian and Tibetan Buddhism, and contemporary versions of it, which derive from these traditions. Mindfulness meditation satisfies (a)–(d), even if it is not the only thing that does. The following are the reasons.

First, one finds work on critical thinking and argumentation in the Buddhist tradition. Daniel Perdue's (2014) *A Course in Buddhist Reasoning and Debate* is an outstanding presentation of the analytical components of Indian and Tibetan approaches to argumentation and critical thinking. Second, mindfulness is one form of meditation for which one finds a large repository of neuroscientific research.[6] Kirk Warren et al.'s (2015) *Handbook of Mindfulness: Theory, Research, and Practice* presents an excellent overview of the extent of research in cognitive neuroscience on the benefits of mindfulness. They survey a vast body of literature that demonstrates the cognitive and neuroscientific basis for claims about the benefits of mindfulness. Third, Jon Kabat-Zinn has put 40 years of applied research and development into his eight-week Mindfulness-Based-Stress-Reduction (MBSR) program, discussed in his (2013) *Full Living Catastrophe: Revised Edition*. In his (2012) *Mindfulness for Beginners*, he shows that mindfulness is a method that can be taught easily and practiced easily while yielding positive benefits.

To understand mindfulness, it will be useful to begin with a distinction. The distinction is between focused-attention and open-presence/awareness styles of meditation. *Focused attention* meditation refers to a practice in which the mind is focused unwaveringly and clearly on a single object. The primary goal of focused-attention meditation is to develop the ability to focus on a single object for an unlimited amount of time with unwavering attention. Typically, there are two types of flaws that one can encounter when engaging in focused attention. Either one falls victim to dullness or to excitement. In the former case, an object of focus may become blurry. In the latter case, one may become distracted.

[6] See Guendelman et. al. (2017); Finkelstein-fox et. al. (2018) Huang et. al (2019) for some recent studies on mindfulness and emotion regulation. However, Brown et. al is a good source.

Developing focused attention requires cultivating the ability to stay focused regardless of the pitfalls of dullness and excitement.[7] *Open presence meditation* does not aim to produce a single mental state. Rather, in open-presence, one comes to be aware of the awareness and clarity that makes all cognitions possible. In meditative practices that involve open presence, practitioners seek to develop the ability to observe without exercising judgment, to develop awareness, and to develop clarity itself as objects and attributes arise and fall away.[8]

4.1 The benefits of mindfulness meditation for critical thinking

Regardless of how one articulates what *critical thinking* is, it would seem that critical thinking, as part of a commitment to quality reasoning leading to a collective decision, involves solving two problems.

The *sorting problem for critical thinking* is the problem of determining, in a given context, which factors are relevant for evaluating a claim or an argument or determining the matrix of possible options. The *suppression problem for critical thinking* involves suppressing or being in a position to judge, with good evidence, that irrelevant factors have not influenced one's evaluation, judgment, or decision. Both problems can be better understood by drawing a distinction between two contexts in which they can arise.

The *practice context* is the familiar situation in which a person learns and practices critical thinking skills. It is often a low-stakes context. No substantial good is tied to the exercise of the skill, other than a grade. The primary purpose of the practice is to improve or acquire the skill. The *performance context* is the familiar situation in which a person is exercising critical thinking for the purpose of making an argument or a decision. It is a context where a substantial good is tied to the performance of the skill. The performance context is, generally, a high-stakes context; it often involves judgment and evaluation by others. For example, a presidential debate is a performance context. The *portability of critical*

[7] (Lutze, Dunne, and Davidson: 511-513)
[8] (Lutze, Dunne, and Davidson: 513-515)

thinking skills refers to the ability to transfer exercises of critical thinking from the practice context to the performance context. The sorting and suppression problems arise in both contexts. But the stakes are higher in the performance context. For example, when things go wrong in a performance context surrounding an important decision, such as which policy on nuclear energy to adopt, a wrong decision with drastic consequences can be made. To understand how one could go about dealing with the suppression problem, it is useful to distinguish between the sources from which non-relevant factors can arise.

There are two main sources: cognitive and emotional. Cognitive sources include memory, attention, stored or occurrent beliefs, as well as implicit biases. Emotional sources include specific emotional states, such as anger, or mental states that are on the boundary between moods and emotional states, such as boredom or anxiety. By distinguishing these two sources, one can look to see how mindfulness positively acts on each of these dimensions. Because the focus of my argument for inclusion is primarily about emotion regulation as part of self-regulation, I will be developing the argument around the emotional benefits more than the argument around the cognitive benefits, although the latter also exist.

4.1.1 The emotional benefits

In Western philosophy and science, emotions are often differentiated first from moods, second by whether they are complex or basic, and third by whether they are positive or negative. For example, according to Ekman (1999), anger is a basic negative emotion, while joy is a basic positive emotion.

What are the important properties of an emotion? According to Gross (2008, p. 497–498), there are three important properties that help define *emotion*. First, emotions are triggered by a situation that pertains to the individual's identity or goals. Second, emotions are multifaceted embodied phenomena that involve subjective experience, behavior, and peripheral physiology. Third, emotions are malleable; they can force themselves upon our awareness, they compete with other states for attention, but they do not automatically win out. Because emotions are malleable, it is possible for them to be regulated. Gross further offers an account of *emotion*

regulation where it refers to the *regulation of emotions*, rather than how emotions themselves regulate a network of states and behaviors. In particular, emotion regulation has to do with how we try to influence which emotions we have, when we have them, and how we experience and express these emotions.[9] It is important to note that emotion regulation can involve both down-regulation and up-regulation (Gross 2008, p. 500):

i. Down-regulation occurs when one regulates an emotion or set of emotions down, such as when one wants to reduce the effect of the emotion.
ii. Up-regulation occurs when one regulates an emotion or set of emotions up, such as when they want to sustain the effects of the emotion.

Direction	**Valence**	
Down-Regulation	*Positive*: Hiding the fact that you feel good because you won a tournament just before you shake hands with your opponent.	*Negative*: Hiding your anger at yourself because you failed to make a point during your match so that your opponent does not think you are frustrated.
Up-Regulation	*Positive*: Sharing the fact that you won the tournament with your family to sustain the positive feelings that come with the emotion.	*Negative*: Sharing the fact that you played poorly with your coach to transmit how you felt about the match so as to reflect on your emotional response.

[9] It is important to take note of the fact that emotion regulation and emotion generation are related to one another and that on some accounts of *emotion*, emotion regulation amounts to emotion generation. Gross (2011) offers a sustained discussion of the relation between scientific accounts of emotion and the relationship between emotion regulation and emotion generation.

Within the psychological literature on emotion regulation, it is well known that negative emotions can lead to poor decision-making, unhelpful behavioral responses, and interpersonal conflict (Arch and Landy 2015, p. 208). As a consequence, we might ask: *what are the emotional benefits that derive from mindfulness meditation*?

We can begin by distinguishing between state mindfulness, induced or trait mindfulness, and trained mindfulness. State mindfulness refers to being in the state in which one is mindfully present. The mindful state might only occur for a brief period once a day at a low intensity, or it might be more frequent and intense. Induced or trait mindfulness refers to the tendency to reside in the state of mindfulness. Trained mindfulness refers to the capacity to cultivate and more frequently reside in a mindful state (Arch and Landy 2015, p. 209). Given that our discussion here is focused on the use of mindfulness within the context of critical thinking courses, as noted earlier, it will be important to focus on studies of mindfulness that could actually be used in class. In this category, there are many studies of induced mindfulness that are short.

Short, or brief, induced mindfulness typically lasts 3–15 minutes in length. Inductions usually make use of guided instructions delivered via audio recordings or spoken instructions. These small-dose mindfulness sessions can involve, and often do involve, naïve participants with no formal training. One might think that such short sessions do not produce any positive effects. However, they do, even though it is better for one to engage in a long-term practice, which requires training for at least 8–10 weeks (more on this in section **5)**. Some of the studied benefits of induced mindfulness (Arch and Landy 2015, p. 212) are:

i. Reduces negative affect.
ii. Improves emotion regulation.
iii. Promotes toleration and recovery from provocation.
iv. Diminishes carryover effects from charged affective to uncharged neutral stimuli.
v. Facilitates recovery from high-arousal states in a way that blocks "contamination" of responses to neutral or mixed material.

vi. Reduces the threat value of aversive experiences.

According to Gross's model of emotion regulation, mindfulness is an *attention deployment* approach to emotion regulation. What this means is that mindfulness trains the mind to regulate emotion by acting on the generation of the emotion early on in the situation, which in turn affects emotion appraisals and responses downstream. An attention deployment strategy is contrasted with a *situation selection strategy or modification strategy*. In the latter approaches, a person aims to regulate emotions by either not engaging in situations that bring about the emotion or by modifying the situation in some way to regulate the emotions. Neither of the latter approaches are relevant to engaging in critical thinking in an *emotionally volatile performance context* while trying to sustain quality reasoning, since one has already placed themselves in the relevant context. By contrast, in attention deployment, one focuses on altering their attention in the situation, rather than avoiding or changing the situation. The attention deployment approach is central to sustaining quality reasoning in an emotionally volatile performance context. Some of the ways in which mindfulness improves emotion regulation via attention deployment (Arch and Landy 2015, pp. 217–220) are:

i. Reduces negative appraisal of affective stimuli.
ii. Impacts emotional responses by dampening negative affect and increasing greater positive affect in response to affective stimuli.
iii. Helps to regulate difficult emotions by providing direct contact with primary emotions that allows for emotional exposure (i.e., deliberate, sustained, and repeated contact with the full range of present emotional experience).
iv. Promotes adaptive regulation of emotional responses, such as voluntary exposure to aversive stimuli and self-threatening information, greater clarity about what emotions are felt, acceptance of emotions experienced, and faster recovery from unpleasant emotions and aversive experiences.

4.1.3 Emotion regulation and executive control

So, mindfulness positively affects emotion regulation, which is a subset of self-regulation. But does the way in which mindfulness helps with emotion regulation genuinely contribute to improving the *quality* of one's exercises of critical thinking? Recall, this is the important point that derives from Bailin et al.'s (1999) discussion of why mere practice of the athletic kind in critical thinking skills is misguided. To get better traction on our current question, it is important to keep in mind two elements at play in the open awareness component of mindfulness meditation: *awareness and acceptance*. During the period of open awareness in mindfulness, one focuses on gaining awareness of their mental states while at the same time practicing non-judgment about what arises. How do these two features help with emotion regulation?

There are at least two kinds of answers. In the *response model*, mindfulness improves emotion regulation because it regulates our emotional responses by *reducing our* emotional reactiveness. The guiding idea is that we regulate better because we are not as emotionally reactive to the causes of our emotional states. The response model does little to motivate the idea that mindfulness can improve critical thinking because it fails to suggest exactly how *being less reactive emotionally* will better facilitate exercises of critical thinking. However, things are different on the *sensitivity model*.

According to this model, advanced by Teper, Segal, and Inzlicht (2013), mindfulness meditation improves emotion regulation because it *increases our sensitivity* to subtle changes in our affective states, which in turn signals the need for control and energizes the execution of control (see Figure 1).

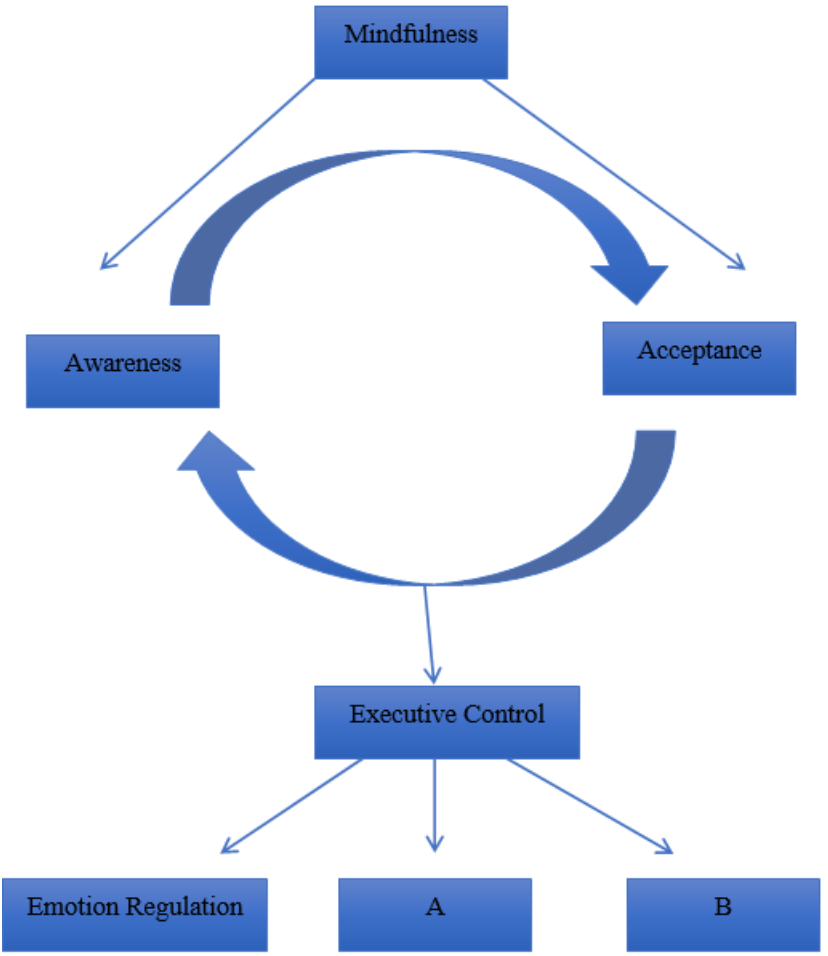

Figure 1. The sensitivity model

In Teper et al.'s sensitivity model (2013, p. 4), mindfulness enhances cognitive control through its two facets: *awareness and acceptance*. These facets work iteratively and interdependently to facilitate executive control and thus emotion regulation. Boxes A and B represent other hypothetical consequences of improved executive control.

And, importantly, of course, the *sensitivity model* of emotion regulation has a direct influence on self-regulation. Recall that the *Delphi Report* holds that *self-regulation* involves both *self-*

examination (the skill and willingness to engage in examining one's beliefs and processes for forming beliefs) and *self-correction* (the skill and willingness to change one's beliefs and processes for forming beliefs in light of evidence of error and deficiency). That is, the expert consensus holds that *good critical thinkers* should be open to examining whether or not they are making errors and devising strategies to deal with these errors when they detect them. Furthermore, this need not only be done after the performance of critical thinking is over, but also when it is actually going on, such as during an emotionally volatile exchange. Importantly, Teper et al. (2013) point out that mindfulness enables *both the detection of error and the willingness to improve one's epistemic standing in light of the detected errors or deficiencies*.

> Meditation experience presumably fosters an *open acceptance of one's errors and the affective response to such errors*, thereby facilitating control. That is, people who are able to accept the "pang" of making an error may experience this quick affective state more keenly and may thus be more likely to attend to their errors and prevent them from happening on future trials. These people may be better able to control their behaviors because they are more accepting of their errors and associated conflict (Teper et al. 2013, p. 3).

Note here that the core claim is about *awareness and acceptance* and not about *absolute control.* What is important is that *mindfulness* can lead to more awareness and acceptance, which is an intrinsic good for a critical thinker because it is partly constitutive of self-understanding. What has not been defended above is that one who engages regularly in mindfulness *will be able to completely prevent irrelevant factors from contributing to their exercises of critical thinking*. There is no total solution to the suppression problem. It would be a mistake to think, for example, that greater awareness of implicit bias entails that one has complete control over the influence of implicit bias. Sometimes greater awareness can backfire, such as when one believes that merely being aware is sufficient for being able to make judgements that are not contaminated by implicit bias. In such cases, this can end up amplifying the effects of implicit bias on judgment.

5. The scientific evidence against mindfulness in critical thinking education

The argument so far should lead one to the conclusion that exploring mindfulness in the context of critical thinking might have emotional benefits related to specific goals of critical thinking education, such as developing the skill of self-regulation. However, skepticism is a virtue. Thus, we should ask: *is there evidence to suggest that mindfulness mediation will not do anything*? After all, why hold that it is permissible to include it in a critical thinking course if *it cannot* really help with anything?

Noone and Hogan (2018) engage this question directly in an important study of the use of mindfulness meditation for critical thinking education:

> [Our 2018] study was designed to investigate the claim that *mindfulness practice improves critical thinking*. This claim was tested by randomly allocating carefully screened volunteers to either a mindfulness meditation program or a closely matched active-control condition for 6 weeks. Differences in performance, across time and both groups, on an established critical thinking measure, items from the literature on heuristics and biases, key thinking dispositions and executive function were examined. It also tested whether executive function mediates the relationship between mindfulness and critical thinking in line with default interventionist theory and previous cross-sectional and experimental studies which examined this relationship. Secondary analyses examined the effects of mindfulness practice on wellbeing, affect and life outcomes.
>
> Our results show that, for most outcomes, there were significant changes from baseline to follow-up but *none which can be specifically attributed to the practice of mindfulness*. (Noone and Hogan 2018, p. 12, emphasis added)

The upshot is that although there were improvements in critical thinking, *none of those improvements were traceable to mindfulness meditation*. Noone and Hogan's (N&H's hereafter) work supports the skeptic's position. But does it close the door to the potential for mindfulness to improve critical thinking? They hold

the following position with respect to the question of how beneficial mindfulness could be for critical thinking education:

> While further research on [mindfulness mediation] is *warranted*, claims regarding the benefits of mindfulness practice for critical thinking *should be tempered until evidence of these supposed benefits are presented* (Noone and Hogan 2018, p. 15, emphasis added).

I agree and believe that more research should be done. More importantly, more of the critical thinking and informal logic community should be engaged in it. The critical thinking community needs a major study that is properly executed, evaluated, and whose results are further debated. Here, I will argue that there are substantial reasons for thinking that N&H's study is clearly incomplete. My arguments point the way to a further study of mindfulness in relation to critical thinking education that focuses on the *ability to persist in critical thinking through emotional-volatility based on the fact that mindfulness improves one's ability to recover from public defeat*.

First, when N&H draw their conclusion, we ought to worry about how good the mindfulness intervention is. They say:

> No evidence was found to suggest that engaging in guided mindfulness practice for 6 weeks, using the online intervention method applied in this study, improves critical thinking performance. (Noone and Hogan 2018, p. 15)

But an effective course in mindfulness, such as those developed by Jon Kabat-Zinn in his Mindfulness-Based Stress Reduction, is eight to ten weeks in length, perhaps with longer intervals and different tasks than what was used in N&H's study. Surely, we do not expect students to learn how to identify fallacies better if we do not give them the right kind or amount of homework necessary to do so. Thus, while a six-week training in mindfulness meditation might start the process of training the mind, we might wonder whether that time period is too short and whether those interventions are the best ones for improving critical thinking.

Second, and more importantly, one ought to worry about the level of motivation that the students have for mindfulness in an online course, since (i) the whole course was conducted online, (ii) online courses in general education have lower rates of participation than in-class face-to-face courses, and (iii) students often fail to show any positive effect in normal critical thinking skills from formative assessment to summative assessment across a two year period.[10] *Moreover*, suppose we were to test a population of subjects that were motivated to learn mindfulness for the purposes of improving critical thinking so that they could better engage in political argumentation in high-stakes contexts *because they believe in the value of it for the following reasons: they (a) value good political argumentation, (b) see the value of persisting in an emotionally volatile conversation, and (c) want to see how mindfulness can help*. Arguably, we should not think the same results that N&H's study found would show up. So, while N&H's does show that, in the limited time that mindfulness was used, there were no benefits that were traceable to it, *it does not follow* that mindfulness has no positive benefits for critical thinking in high-stakes performance contexts when those that have studied mindfulness are committed to learning it for something they believe to be valuable.

Third, and most importantly, the study focuses on the *deployment of* and *execution of* critical thinking on the basis of a disposition to engage in it for the purposes of the course. However, there is another dimension to critical thinking that is also important. The disposition to *reengage* in critical thinking with others, once one has been shown to be *defeated* in front others. That is, *the disposition to persist in critical thinking* while holding to a high level of quality when reasoning with others without resorting to, for example, name calling after one has been defeated in front of people that are neither friends, family, nor people with whom one shares political affiliation or a set of cultural beliefs. Simply put, it is the ability to *reengage* and *persist* in a debate once one's enemy has shown them to be wrong. And reengaging with the desire simply

[10] See Arum and Roska (2011) *Academically Adrift* for data and discussion of this point relative to the first two years of college education where critical thinking is taught across a range of courses.

to hold to high quality reasoning to get at the truth without being attached to one's own view of the truth.

While N&H's study provides evidence that supports the position that there is no improvement in critical thinking that is traceable to mindfulness, *it could still hold* that one is better situated to *reengage* in critical thinking after an episode of defeat in an engagement because of mindfulness. The fundamental idea is that critical thinking requires persistence through emotionally volatile performance contexts. Defeat is commonplace enough that one would more often benefit from critical thinking when committed to quality reasoning were they to have the ability to recover from defeat well enough to reengage in group critical thinking and persist through emotional volatility to sustain quality reasoning. In the close of the last section, I argued that Teper et al.'s work suggests that the positive benefits of mindfulness that feed emotion regulation in the form of an attention deployment sensitivity model would help one with the problem of recovering from defeat for the purposes of persisting in critical thinking because mindfulness improves *awareness* and *acceptance*. Thus, one area for further study is along the dimension pertaining to persisting in critical thinking through an emotionally volatile engagement where mutual defeat is common place amongst parties that disagree fundamentally.

6. Stereotype threat and mindfulness meditation

Putting aside the negative assessment of mindfulness presented in N&H's study, I now want to look at a study that shows how mindfulness positively improves performance with respect to a phenomenon that disrupts the quality of various kinds of performances. The phenomenon is stereotype threat. I will argue that if mindfulness can reduce the negative effects of race-based and gender-based stereotype threats on athletics and mathematics in performance contexts, then it can likely also reduce the negative effects of social-category-based stereotype threats on critical thinking in performance contexts. But first, what is stereotype threat? Steele (2010, p. 5) presents an account of the pervasiveness of the phenomenon.

> I believe that stereotype threat is a standard predicament of life. It springs from our human powers of intersubjectivity – the fact is as members of society we have a pretty good idea of what other members of our society think about lots of things, including our major groups and identities in society. We could all take out a piece of paper, write down the major stereotypes of these identities, and show a high degree of agreement in what we wrote. This means that whenever we're in a situation where a bad stereotype about one of our identities could be applied to us – such as those about being old, poor, rich, or female – we know it. We know what "people could think." We know that anything we do that fits the stereotype could be taken as confirming it. And we know that, for that reason, we could be judged and treated accordingly. That's why I think it is a standard human predicament.

Stereotype threat typically occurs when performance on a task for a group, such as blacks or women, is decreased because a stereotype that is thought to apply universally to members of the group is activated. Two common stereotypes, whose threats have been widely studied, are athletic ability and math ability.

Group	**Contrast Group**	**Ability**	**Threat**
White Men	Black Men	Athletic Ability	Not as Good
Women	Men	Math Ability	Not as Good

Steele (2012, pp. 8–9) discusses the athletic ability stereotype through the work of a group of Princeton University social psychologists working on performance. In one study, Jeff Stone and company took white students and told them to play ten holes of golf and that the test they were taking *was designed to test* their "natural athletic ability." White participants who were told this *performed worse* than white participants who were not told this. In a follow-up study, Stone and company took a group of black participants and put them through the same test with the prompt that the test was designed to test their "natural athletic ability." However, this time they found that there was no effect on the black

participants' golf performance. Stone describes the problem the white participants faced:

> If [the white participants] experienced the frustration at golf, *then* they could be confirming, or be seen to be confirming, the unsavory stereotype. If [the white participants] didn't experience frustration at golf, *then* they didn't confirm the racial stereotype. This was an extra pressure they had to deal with during the golfing task, for no other reason than that they were white. It hung over them as a threat in the air, implying that one false move could get them judged and treated as a white kid with no natural athletic ability. (Steele 2012, p. 9)

Awareness of stereotype threat is important for educators to take into consideration, given that stereotype threat often causes a decrease in performance that has nothing to do with the skill in question. Importantly, when we look at the relationship between stereotype threat and performance, we must pay attention to the role of working memory in performance. According to one account, the very same resources necessary for task performance are drained by stereotype threat. Good performance is correlated with proper functioning of working memory. Stereotype threat drains working memory, which thus takes away resources for optimum performance. But by looking at the relationship between how stereotype threat causes poor performance, we are also led to a possible cure. Mindfulness acts on working memory. In fact, it acts on both attention and working memory so as to improve them. Thus, we should expect that when one has practiced mindfulness for a sufficiently long period of time, one should be less susceptible to the disruptive effects of stereotype threat.

In their (2012) article, Weger et al. conducted a study in which they showed that mindfulness reduces the disruptive effects of stereotype threat. In the study, 71 female psychology students aged 18–37 were randomly assigned to either a 5-minute mindfulness task or the control task. Some of the participants were then induced with stereotype threat (female = low math performance), and everyone's math performance was subsequently tested. The mindfulness task was the "raisin task" that induces mindfulness of the present moment by encouraging the meditator to drop into

their awareness of the present moment. The participants in the mindfulness condition scored much higher than those in the control. They maintain the following:

> The central finding of our study – the fact that the impact of stereotype threat was reduced when participants engaged in a mindfulness task – is of particular interest in light of the significance of this effect and because of the debilitating impact it has on various parameters of performance. Of note is the fact that *a 5 min mindfulness manipulation is sufficient to reduce the effect of stereotype threat*...(Wenger et al. 2012, p. 473, emphasis added)

If mindfulness meditation can reduce the negative effects of a gender-based stereotype threat for math ability in a performance context, can it also do it for critical thinking in a performance context? Consider the *transfer argument*:

1. Mathematics and critical thinking are sufficiently similar.
2. If mindfulness meditation works to reduce stereotype threat on math, based on a gender-stereotype, in a performance-context, and math is sufficiently similar to critical thinking, then mindfulness meditation should work to reduce stereotype threat on critical thinking, based on social-category stereotype, in a performance context.

∴

3. Mindfulness meditation should work to reduce stereotype threat on critical thinking, based on a social-category, in a performance context.

However, one could counter the *transfer argument* by holding that the positive effects of mindfulness on math performance will not carry over to critical thinking performance because the domains are different in various ways. In response to this worry, I will take note of two facts.

First, while it is true that in the case of math that mindfulness worked directly on a gender-based stereotype related to math, and there is arguably no similar stereotype concerning critical thinking, *one need not activate a stereotype threat directly* about *critical thinking* for mindfulness to payoff. One might just activate a near

stereotype about central social categories a person identifies with, such as age, religion, economic status, social status, or gender, which disrupt one's critical thinking in a performance context. Political argumentation is often identity based in an obvious way: political parties often exclude certain kinds of identities from membership. So, in political argumentation, identity-based stereotypes are often at play.

For example, consider the claims made by Donald Trump concerning Joe Biden's cognitive abilities based on his age and some of his speaking performances.[11] Arguably, a stereotype threat has been activated for Biden: *old men are not good at making difficult decisions and engaging in critical thinking in a high-stakes context*. However, if mindfulness can reduce stereotype threat in general, then the activation of this age-based stereotype threat can be reduced, and quality critical thinking can remain stable throughout a performance context in which it is active.

Second, math and critical thinking need not be sufficiently similar with respect to *content.* Rather, they need to be similar with respect to what components of *the mind are used and tasked*. The fact that a person engaged in critical thinking would use (a) working memory and would need to (b) regulate emotions due to high-stakes and emotional volatility suffices for the positive benefits. Consider Wenger et al. on the relation amongst mindfulness, working memory, and stereotype threat.

> The experience of stereotype threat drains available working memory resources […] while mindfulness restores depleted working memory resources. Mindfulness *may therefore* facilitate performance by countering the resource-dependent impact of stereotype threat. (Wenger et al. 2012, p. 474, *emphasis added*)

[11] For example, see Trump's mid-August campaign ad: https://www.foxnews.com/politics/trump-campaign-launches-ads-questioning-biden-mental-faculties.

Thus, since critical thinking in performance contexts uses working memory and requires emotion regulation, the positive benefits of mindfulness should occur.

7. Final objections

Before moving on to objections to the *permissibility to teach Buddhist mindfulness meditation in a critical thinking course*, let me summarize the position presented. Recall the *Delphi Report's* definition of good critical thinking:

> [G]ood critical thinking includes both a *skill dimension* and a *dispositional dimension*. The experts find [critical thinking] to include cognitive skills in (1) interpretation, (2) analysis, (3) evaluation, (4) inference, (5) explanation, and (6) *self-regulation* (APA 1990, p. 4, emphasis added).

In this essay, I have provided three arguments for why it is permissible to include Buddhist mindfulness meditation in a critical thinking course: *the self-regulation argument*, *the expansion by way of cognitive science argument*, and *the persistence through emotional volatility argument*. In addition, I have argued that Buddhist mindfulness meditation satisfies four criteria for the kind of meditation that can be considered within the context of critical thinking education. The criteria were: (a) the meditative practice comes from a tradition of thought in which argumentation and the evaluation of argumentation is also found; (b) the notion of meditation that is at work is researched in cognitive neuroscience; (c) some of the techniques of meditation taught in the tradition can actually be taught in a critical thinking course within the typical amount of time for which those courses last, which is 10–16 weeks; and (d) the training is relatively easy to administer. In addition, I argued that mindfulness meditation does have positive benefits in the space of *emotion regulation*, a subset of *self-regulation*, and that these benefits minimally surround the area of *awareness* and *acceptance*. I further argued that N&H's study that claims that the positive benefits of mindfulness for critical thinking should be tempered can be improved on in important ways. In particular, with respect to the dimension concerning *the disposi-*

tion to persist in critical thinking through emotional volatility in a performance context when one has been *defeated* in front of others. Finally, I discussed how mindfulness has the ability to positively promote better exercises of critical thinking by reducing the disruptive effects of stereotype threat in a performance-context.

But my argument for why we can include Buddhist mindfulness meditation in critical thinking is incomplete until I respond to three important objections to including it in critical thinking courses.

First, and foremost, is the *location* objection. Suppose one were to agree that mindfulness can improve self-regulation, and further suppose that one was inclined to want to do more research in order to test out the benefits of mindfulness in an educational context. Nevertheless, one might be skeptical about where it should be taught. Are critical thinking courses the right place for mindfulness to be taught? There are good reasons for being skeptical. For one, most universities already have a wellness center, so why couldn't mindfulness be taught as an option in courses offered by the athletics department or the wellness center? Why should we consider it as an option in a critical thinking course? Another reason might be that there is so much that needs to be taught in a critical thinking course that there seems to be no room to add more without deleting other things that are vital to the course, such as becoming familiar with cognitive biases and fallacious reasoning, either of the formal or informal kind. Finally, the benefits of mindfulness seem to be useful for a wide variety of educational activities, from math to history, because in all of these cases focused attention and self-awareness are valuable. So, why introduce it in critical thinking?

The main reasons why mindfulness can be taught in a critical thinking course are that (i) an expanded notion of "critical thinking," such as what Battersby proposes, already provides a path to including mindfulness in critical thinking courses, and (ii) mindfulness derives from a tradition that develops important contributions to argumentation theory as well.

Moreover, when Socrates noted that the unexamined life is not worth living, he was not telling us to examine our relation to the world around us and not think critically about ourselves through

self-reflection and self-examination. Arguably, a nuanced and global history of critical thinking would show that self-understanding through self-examination and self-reflection are core elements of what it is to be a critical thinker. Within Buddhism, we find mindfulness as a tool for self-understanding, and in so far as self-understanding feeds the project of critical thinking, it seems completely relevant to teach it in a critical thinking course. In addition, by allowing those working in critical thinking education to teach mindfulness meditation, or some kind of self-regulation tool, we are not precluding it from being offered by a university wellness center. *The goal here is to defend the permissibility of teaching Buddhist mindfulness meditation in a critical thinking course. The goal is neither to show that Buddhist mindfulness is the only thing that can improve self-regulation nor to say that critical thinking is the only place where it belongs.* Phil Jackson, the famous LA Lakers coach, already pioneered the use of Zazen meditation in training basketball players.[12] Would it be so much of a stretch to want to include mindfulness in critical thinking courses, which emanate from philosophy departments, especially given that Buddhism is a philosophical tradition that is often excluded from the philosophical canon for no good reason?

Second, there is the *demarcation* objection. What has been argued here is that mindfulness can yield benefits for critical thinking education. But some would argue that many other things will also, such as better sleep, less stress, proper diet, and good exercise. Moreover, there are many things that would improve critical thinking education, so why shouldn't these be taught in addition to mindfulness? What is the proper boundary of critical thinking education?

This is an important objection because it asks us to think about how to draw a new boundary around critical thinking. If Battersby is correct in calling for an expansion of critical thinking that moves away from, for example, fallacy identification and argument formalization and towards evaluative rationality and decision making, then we need a new way to draw a boundary around

[12] See Allhoff & Vaidya (2007) for discussion of Phil Jackson's work in basketball.

critical thinking. For even in Battersby's CTP, one might ask: why should decision making be taught in critical thinking; isn't it the topic of business management, economics, and decision science courses? What is the new boundary? And why is any given boundary justified?

I have no new boundary to offer, but only signal that if the science of decision making can make it into critical thinking, then so should mindfulness, but the science of sleep should not. On the view I hold, there are traditions of philosophy, such as Buddhism, Hinduism, and Jainism, to name a few, where meditation plays an important role in self-understanding. Importantly, these traditions developed theories of good argumentation and debate. For example, Vaidya (2016) discusses the Nyāya tradition of classical Indian philosophy and the contribution it makes to debate and dialogue.

As argued here, mindfulness plays a role in the development of a critical thinker. Arguably, mindfulness facilitates non-attachment to winning a debate, given that it improves emotion regulation through acceptance and awareness. Moreover, one who is searching for the truth through argumentation is less likely to be attached to *winning* an argument if they engage in mindfulness. Moreover, they would be in a position to admit defeat on a point and return to arguing for the purposes of finding the truth. Finally, while it is true that there are other things that facilitate good critical thinking, the reason for excluding these things is obvious: there are places for discussion of proper nutrition and stress reduction in our current education practice. Recall that the argument here is not that mindfulness should *only* be taught in critical thinking courses; rather, it is that mindfulness arguably facilitates good critical thinking and is tied to a tradition that engages in both critical thinking and meditation.

Third, there is the *propriety* objection. The worry here is powerful, and it should not be ignored. It is the central reason why I am only arguing for the claim that *it is permissible* to teach mindfulness, as opposed to the claim that it *is obligatory* to teach it. The worry comes from two directions. One the one hand, bringing mindfulness into critical thinking education brings religion into a context where it does not belong because other religions are not

being represented. On the other hand, critical thinking education is already biased, and the introduction of mindfulness would amplify the bias.

Robert Ennis (1998) gives a sound articulation and hearing to the second version of the propriety objection in his: *Is Critical Thinking Education Culturally Biased*? The worry he is concerned with is that the promotion of critical thinking is in tension with the values or practices of certain cultures. He discusses the examples of the Inuit that are not always open to requests for reasons and the Amish that are not always critical of what they read. Applied to the argument here, the worry is that adding mindfulness is a violation of the ethos of certain cultures that do not practice meditation or value individual self-understanding and self-examination.

Furthermore, following the trajectory of the first version of the critique, one might think that extracting mindfulness from Buddhism as a practice that ultimately aims at soteriological goals such as the elimination of suffering is in tension with the deployment of it in the context of improving critical thinking. The idea is that mindfulness is part of a religious practice, and it is only by removing it from a religious context that one can argue that it is not religious and can function properly in the context of critical thinking. One might worry that the extraction involves cultural appropriation that is inappropriate.[13]

My view is that all of these worries are important and require further sustained discussion. However, there is a path forward for ameliorating some of the pressure that the *propriety objection brings*. First, there is the distinction that Ennis uses to show that critical thinking is not biased. Second, there is the historical fact, concerning the Buddhist tradition, where both critical thinking and meditation are engaged.

[13] One place to see in detail where the kind of worry I have in mind here is discussed is in Evan Thompson's (2020) *Why I am not a Buddhist*. In this work, he takes on Buddhist Modernism in a detailed discussion and aims to show where it is problematic. If one were to think that my own argument for the inclusion of mindfulness in critical thinking is a kind of Buddhist Modernism, then Thompson's book would be a good place to see where modernism goes wrong.

On the one hand, Ennis distinguishes between *promoting critical thinking as a disposition for engagement* in shared decision making and *holding it as an ideal* for reasonable decision making. The core of the distinction is between promoting a practice and legislating when and where the practice should be applied. The overall flavor of Ennis' distinction is correct. We need to promote a certain kind of engagement, critical thinking, for the purposes of cross-cultural cooperative decision making—especially with respect to enabling democratic processes in nations that have citizens whose allegiance is to a variety of different religions and traditions. However, promotion is not the same as legislation. So, in the case of mindfulness, we can teach it in a critical thinking class with the aim of promoting it as a tool for self-understanding and self-examination, which also facilitates ordinary skills of critical thinking. And we can promote this without legislating that anyone must do it. Ennis' distinction is important because it captures how education works. We educate by providing opportunities to learn and consider whether one wants to further deploy the skill and knowledge they have learned. We do not require or legislate that one must use all of what they learn. By merely bringing meditation into the critical thinking context, informing students of what it can do, and providing them with adequate training, one has sufficiently provided them with the opportunity to decide if they want to continue to do it.

On the other hand, we should take note, again, of the fact that it is not true that Buddhism is predominately concerned with meditation at the expense of analytic thinking and argumentation. As I argued earlier, one of the advantages of drawing on mindfulness from the Buddhist tradition is that we already find in the tradition a rigorous engagement with more familiar forms of critical thinking involving argument analysis and the identification of fallacious forms of reasoning. Moreover, if it is important to read Daniel Kahneman's (2011) *Thinking Fast and Slow* in developing an expanded notion of critical thinking for the 21st century, one ought to also consider Daniel Perdue's (2014) *A Course in Buddhist Reasoning and Debate* and John Kabat-Zinn's (2013) *Full Living Catastrophe*.

In addition, it is important to recognize that the asymmetric position that holds that critical thinking, informal logic, and formal logic are *value neutral* but mindfulness meditation is *value laden* is incorrect. Some might be inclined to think that critical thinking is a *value-neutral* form of education that is valuable to all because it does not import any substantive views about anything but only offers tools that are domain general and useful across many different disciplines. By contrast, one might think that Buddhist mindfulness meditation is *value-laden*, and because of the asymmetry between the two, and the commitment to the view that critical thinking education involves open inquiry that is absent of dogma , one cannot include Buddhist mindfulness meditation in a critical thinking course. However, this argument is challenged by the fact that critical thinking, informal logic, and formal logic are value laden. We debate theories of critical thinking, informal logic, and logic because there are substantial values at play in those disciplines.[14]

Finally, and to clarify, the arguments here neither show (i) that Buddhist mindfulness is necessary for becoming a good critical thinker; rather, they only aim to show that there are good reasons to think that further exploration of mindfulness in critical thinking is warranted; nor (ii) that becoming more aware of one's mental states and being able to accept defeat and persist in an emotionally volatile conversation will lead to complete control over implicit, cognitive, or emotional biases, which we aim to suppress in good exercises of critical thinking. Instead, they show that it is permissible to teach mindfulness for the purposes of improving emotion regulation, which is a part of self-regulation and is central to being a good critical thinker.

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[14] See Williamson (2012) on Logic and Neutrality where this point is made with respect to formal logic.

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