



Methodological and Ideological Options

Mindfulness and sustainability

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ABSTRACT

Ecosystems are under pressure due to high levels of material consumption. Subjective well-being sought through other means than material rewards could make an important contribution to sustainability. A wealth of research indicates that mindfulness contributes to subjective well-being by focusing the mind on the here and now, giving rise to stronger empathy and compassion, facilitating clarification of goals and values, and enabling people to avoid the “hedonic treadmill”. There is also a body of research that shows how subjective well-being, empathy, compassion, and non-materialistic/intrinsic values are associated with more sustainable behavior. Based on a review of the literature on these topics, we suggest that promoting mindfulness practice in schools, workplaces and elsewhere could be construed as a policy that pays a “double dividend” in that it could contribute both to more sustainable ways of life and to greater well-being.

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1. Introduction

“Every nation and every man instantly surround themselves with a material apparatus which exactly corresponds to their moral state, or their state of thought. ... It follows of course that the least change in the man will change his circumstances.”

[Emerson]

While part of humanity is enjoying greater prosperity in more areas than ever before, ecosystems are under considerable pressure. Sixty percent of the ecosystems examined in the Millennium Ecosystem Assessment (MA, 2005: 1) were degraded or being used unsustainably: “Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.”¹ While human-driven habitat change, overexploitation, and pollution have been the drivers with the greatest impact, the impact of climate change is now rapidly increasing in all ecosystems (MA, 2005: 16). Ecosystems must adapt to a warming world on top of their already weakened

resilience, at the same time as the intensity of the other drivers also continues to increase.

In theory, climate change might be solved by technical means. However, the implementation of solutions at the necessary pace and on the necessary scale is not in sight and no international emission agreement is in place. Moreover, even if the climate challenge is solved, we would still have to reduce the impact of the other drivers. The consumption of resources underlies all drivers, and this consumption will become more intense as middle-class consumers across the developing world now become increasingly numerous. Up to three billion more middle-class consumers will emerge in the next 20 years in addition to today's 1.8 billion, further driving up demand (McKinsey, 2011). A transition to sustainability through new technologies, resources, and production processes, in a world with a growing population with increasing demand for consumption, would be “like climbing up a down escalator” (Raskin et al., 2002: 40).

What could characterize a future sustainable world? The storyline of the most sustainable of the IPCC SRES scenarios (B1) can provide an indication (IPCC, 2000): technological change is significant, with reductions in pollution, improved efficiency of resource use, and a major push toward post-fossil technologies. “R&D ... education and the capacity building for clean and equitable development” is enhanced. “Governments, businesses, media and the public pay increased attention to the environmental and social aspects of development.” “Community values triumph over individualist ones”, and there is a “voluntary embrace of cohesion and cooperation”, more social institutions, a strong welfare net and a “globally coherent approach to a more sustainable development.” “Income is spent on services rather than material goods, and

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¹ See, e.g., also SCBD (2010).

on quality rather than quantity because the emphasis on material goods is less”, and environmental taxation is increased. There may be education to “develop human potential”.

This (summarized) storyline is instructive because it suggests driving forces and key variables that can enable development in this direction. One implication is the significance of the social dimension; this is not a world achieved solely by technological measures. Another is that it is a world with more humanness, fairness, and awareness, as well as less focus on consumption.

Human beings do not just consume to provide for their basic needs and necessities such as food, water, and shelter, but also to fulfill additional desires and wants. The distinction between needs and wants is important (Raskin et al., 2002: 55). While *needs* can be regarded as a relatively inflexible part of people's consumption, *wants* are more adaptable, as they are shaped by the perception of what is considered important, “normal” or valuable in a culture (see also Max-Neef, 1991; Tay and Diener, 2011). For ecosystems, however, what we want makes a big difference. It is not insignificant what billions of consumers consider valuable. If our experiences are highly dependent on material consumption, it will be more difficult to reduce the drivers of ecosystem degradation.

Many argue along the following lines: a transition to sustainability requires a “shift from materialist to post-materialist values, from anthropocentric to ecological worldviews” (Leiserowitz et al., 2005); the “widespread emergence of a new set of social priorities as an enabler” (Tibbs, 2011); recognition that the problem “is about how we ought to live, and how humans should relate to each other and to the rest of nature” (Jamieson, 1992); and that we “depend more on compassion, equity, fairness, and an ethos of sustainability than ... on science, law, or technology” (Cairns, 2001). However, many envisage huge sacrifices having to be made and a trade-off between well-being and the environment, *as if they were in conflict*. This, of course, makes it more difficult to encourage change toward less material consumption. Studies show, however, that there may not necessarily be such a trade-off (e.g., Brown and Kasser, 2005; Corral-Verdugo et al., 2011).

The difficult question is how this transition can be achieved. In this paper, we discuss “mindfulness” as one possible contribution. Mindfulness is a mental training technique that promotes awareness and a more mindful way of living. It has been subject to an increasing number of scientific studies, and we believe that the reported effects on individuals, such as increased well-being, value clarification, awareness, empathy, and compassion, could be helpful in supporting a transition toward sustainability.

In research on mindfulness, most of the focus has been on how it can be helpful for a range of well-being and health-related conditions. A body of research has also focused on the ability of mindfulness to generate empathy and compassion. Less research has focused on the relationship between mindfulness and sustainability. At the same time, other studies that are not specifically concerned with mindfulness suggest that well-being, empathy/compassion, and intrinsic/non-materialistic values can lead to sustainable behavior. Hence, taking all these findings into account, there appear to be possible links between mindfulness and sustainability that are interesting to explore. Our goal with this article is therefore to study the research literature and the hypothesis that mindfulness and a more mindful way of living might encourage pro-environmental behaviors. We start in the next section by defining mindfulness and discussing what it means to be mindful, and how it can be trained. In Section 3 we review literature demonstrating that mindfulness can promote well-being, and we explore the possibility that greater well-being is also beneficial to the environment. We further examine how mindfulness can help to clarify values and increase empathy and compassion, and how this, in turn, can promote sustainability. The literature has mainly been chosen by searching for relevant articles on scientific databases like PubMed, Science Direct, Springer, Web of Science, Wiley Online Library, SAGE, and Taylor & Francis Online. Based on this review, we suggest that there is a potential for a policy

with a double dividend: increasing mindfulness can promote both well-being and sustainable behavior. Section 4 discusses challenges as well as mindfulness's potential to be a noteworthy contributor to sustainability at the societal level. It is important to recognize that, in spite of the potentially positive consequences of mindfulness, there are also possible pitfalls that should be taken into account. For instance, people need to find the time to practice mindfulness in their busy day-to-day schedules, and, while they may experience increased well-being, the self-insight and awareness that can also ensue is not always pleasant. This can be discouraging and lead to discontinuation. Moreover, the technique can be used for purposes that are not necessarily compatible with sustainability. Lastly, we discuss the need for more research on these topics and conclude.

2. Mindfulness

Basically, being mindful means being aware, taking note of what is going on within ourselves and outside in the world, without shying away from information or feelings that we do not like or do not wish to be true. Mindfulness is a concept that can be viewed in several ways: a mental training technique (meditation) that we engage in for a period of the day, or a way of being in our everyday lives. It can be defined as “paying attention in a particular way: on purpose, in the present moment, and nonjudgementally” (Kabat-Zinn, 1994: 4), or as “a receptive attention to and awareness of present events and experience” (Brown et al., 2007). According to Bishop et al. (2004), when being mindful, “thoughts and feelings are observed as events in the mind, without over-identifying with them and without reacting to them in an automatic, habitual pattern of reactivity”. Hence, one does not attempt to change thoughts and feelings, but how one reacts and relates to them (Shapiro et al., 2006). According to Chambers et al. (2009), mindfulness meditation “involves a systematic retraining of awareness and nonreactivity, leading to defusion from whatever is experienced, and allowing the individual to more consciously choose those thoughts, emotions, and sensations they will identify with, rather than habitually reacting to them.” Mindfulness, as it emerged out of the Buddhist tradition, can increase awareness and enable individuals to focus and continually refocus on their needs and well-being, which could give rise to new perspectives on how we can develop as individuals and societies (Sangharakshita, 2003).

Mindfulness can be trained and enhanced by practicing mindfulness meditation. Basically, it involves paying attention to one's whole experience in the moment. In sitting meditation, for example, one pays attention to one's body, feelings, thoughts, and surrounding or context. Regardless of whether these experiences are pleasant or unpleasant, scary or seductive, one simply pays attention to one's experiences, from moment to moment. A cousin technique of mindfulness meditation is loving-kindness meditation. This form of meditation has also evolved from the ancient Buddhist practices. It aims to evoke positive emotions more directly, and is used to increase feelings of warmth and caring for self and others (Frederickson, 2009). In brief, the technique involves focusing on oneself, people one both likes and dislikes, and strangers, and dwelling on and cultivating an attitude of care, acceptance, well-wishing, and compassion in relation to them. In the end, this attitude is extended to all beings (Hofmann et al., 2011). Loving-kindness meditation is also a way of enhancing mindfulness. One of the consequences of loving-kindness meditation is that participants become more mindful and aware of their surroundings (Fredrickson et al., 2008).

These practices have attracted increasing attention in a number of professional and private arenas. Interest in mindfulness is moving into areas beyond medicine, healthcare, psychology, and neuroscience to programs on childbirth and parenting, education, business, athletics and professional sports, the legal profession, criminal justice and politics (Boyce, 2010; see also e.g., Gelles, 2012; Riskin, 2002; Weick and Sutcliffe, 2007; Wickelgren, 2012). Today, meditation is one of the

world's most widely practiced, enduring, and researched psychological disciplines (Deurr, 2004, cited in Walsh and Shapiro, 2006). At the ISI web of Science, the number of peer-reviewed publications containing the word mindfulness has increased by an average of 30% a year for the last five years (589 publications in 2012; accessed May 2013).

3. Mindfulness, Well-being, Values, Empathy, and Sustainability

As we will show, research indicates that mindfulness has positive effects on both well-being and empathy, and it can promote awareness of an individual's 'true' values. Well-being, empathy, and awareness of values can in turn lead to more sustainable behaviors. Fig. 1 summarizes the main elements of interest in this paper, highlighting the usefulness of seeing them as an interrelated whole when discussing sustainability. The arrows show the hypothesized links between them. However, the arrows of causality probably run in more than one direction.

3.1. Subjective Well-being

Having better health and well-being is beneficial to ourselves and to those around us. In addition, well-being is likely to have an impact on how we view and approach sustainable behavior. For instance, stress, depression, and physical pain make it harder to take into account societal concerns such as climate change, loss of biodiversity, poverty, inequality, or racism. Instead, attention is likely to be drawn to the most salient personal problems, thus neglecting other concerns (see Shah et al., 2012). If basic needs are not fulfilled, caring for the environment will probably be seen more as a "luxury problem".

A wealth of research substantiates the claim that mindfulness improves well-being and health-related conditions, such as chronic pain, stress, anxiety, depression, immune function, and satisfaction with life (Brown et al., 2007; Chambers et al., 2009). Magnetic resonance imaging of meditators' brains suggests that changes occur in regions associated with, for example, sensory, cognitive and emotional processing, learning, and perspective taking (Hölzel et al., 2011; Lazar et al., 2005), and regulatory functions of meditation practices may have long-term impacts on the brain and on behavior (Lutz et al., 2008). Meditation has been pointed out as one of the more effective ways of achieving happiness (Layard, 2005). The conclusion reached in a recent review was that there is a "... clear convergence of findings from correlational studies, clinical intervention studies, and laboratory-based, experimental studies of mindfulness – all of which suggest ... that training in mindfulness may bring about positive psychological effects" (Keng et al., 2011). Research has also documented positive effects of loving-kindness meditation on well-being (Fredrickson et al., 2008; Hofmann et al., 2011).

Why is mindfulness meditation so beneficial in terms of happiness and well-being? Firstly, it can lead to less unhappiness by increasing the individual's ability to be engaged in the present moment. Research shows that having a wandering mind is correlated with less happiness, even when thinking about emotionally neutral topics. People who are able to be in the "here and now" are happiest. Time lag analyses of

experience sampling data suggest that mind wandering is a cause, and not just the consequence, of unhappiness (Killingsworth and Gilbert, 2010).

Secondly, mindfulness seems to increase compassion and empathy (more on this later), which, in turn, might improve social relations. A study of loving-kindness meditation found that the participants received more social support than the wait-list control group, and developed more positive relations with others (Fredrickson et al., 2008). Supportive relations with friends and family are one of the most important factors in relation to achieving a happy life (Layard, 2005).

Thirdly, mindfulness might improve well-being by contributing to a greater sense of clarity with regard to one's values, and to choosing behaviors that are consistent with these values (more on this below). In this process, goals can become more "intrinsic". Personal well-being is best served by following "intrinsic" and "authentic" goals, i.e., goals that are inherently satisfying and meaningful, and rooted in one's core values (Lyubomirsky, 2007). Prime examples of such values are the values of personal growth, relationships, and community (Brown and Kasser, 2005). In one study, the clarification of values partially mediated the relationship between increased mindfulness and decreased psychological distress (Carmody et al., 2009).

Fourthly, mindfulness meditation is an activity that appears to reduce the curse of the "hedonic treadmill". A problem associated with increases in material goods and income is that their effects on subjective well-being seem to be rather short-lived. People soon become accustomed to a given level of material welfare. This phenomenon of habituation and adaptation to the circumstances of life is called the "hedonic treadmill effect" (Seligman, 2002). An interesting aspect of mindfulness and loving-kindness meditation is that these mental training techniques appear to be able to undo the hedonic treadmill effect (Fredrickson et al., 2008). Another way of putting this is that activities differ according to their marginal utility. Elster (1988: 58) compares two activities: eating lamb chops and learning to play the piano. The first activity is pleasurable in the short run, but is subject to rapidly decreasing marginal utility. The fifth lamb chop dinner of the week is probably not as good as the first one. In contrast, learning to play the piano is frustrating at first, but the more you do it, the more pleasurable it becomes. The first activity has decreasing marginal utility, the second has increasing utility. Mindfulness and meditation might belong to the second category. Some research finds that, the more you meditate, the better it gets. A study of loving-kindness meditation found that the "dose-response" relationship between the amount of time people devoted to meditation and the amount of the increase in positive emotions tripled over a nine-week period (Fredrickson, 2009; Fredrickson et al., 2008).

Mindfulness, then, has positive consequences for well-being, and it accomplishes this without much use of material resources. It might be an example of what O'Brien (2008: 290) calls "sustainable happiness", "...the pursuit of happiness that does not exploit other people, the environment or future generations". Studies suggest that happiness is correlated with several forms of sustainable behavior (Brown and Kasser, 2005; Corral-Verdugo et al., 2011; Jacob et al., 2009). Interestingly, as prosocial behavior may increase subjective well-being, subjective well-being may, in turn, encourage more prosocial behavior (Aknin et al., 2011; Dunn et al., 2008, cited in Markowitz and Shariff, 2012), suggesting the possibility of a positive feedback loop. The hope of a double dividend, that mindfulness might both increase well-being and be better for the environment, could therefore have the potential to inspire more hope, making discussions of sustainable policies more attractive and engaging (Markowitz and Shariff, 2012; Myers et al., 2012).

3.2. Values

Values are often adopted from people's surroundings, such as family, friends, and the rest of the society. Advertisers play on this as they aim to convince us that a purchase would be beneficial and that it

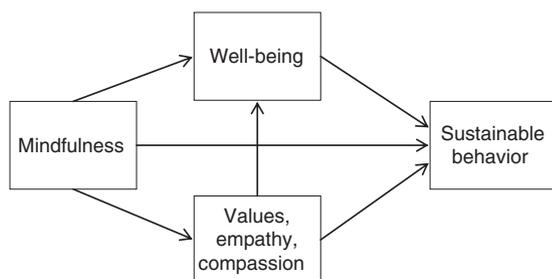


Fig. 1. Hypothesized relationships between mindfulness, values, empathy/compassion, well-being, and sustainable behavior.

contributes to achieve a happier life. Advertising creatively promotes “perceived obsolescence”, the desire to replace an existing product with a new one, even if the existing product functions equally well (e.g., fashion), and infuses consumption with feelings of self-worth, freedom, adventure, and success (Dauvergne, 2010). This conditioning makes it harder to critically evaluate and choose what exactly is valuable to us. Instead, we may be “pushed and pulled by what we believe ... is most important, but fail to reflect upon whether it is truly important in the context of our own lives” (Shapiro et al., 2006). Several studies suggest that people with self-enhancing, materialistic values and goals directed toward achievement, money, power, status, and image also have more negative attitudes to the environment and are less likely to be involved in environmentally friendly behaviors (Brown and Kasser, 2005; Crompton and Kasser, 2009). Given the strong emphasis on materialism and consumption in Western society, it is hard to resist their influence, but mindfulness could serve as a counterweight to the adoption of such values and promote awareness of possibilities for personal well-being that exist beyond the acquisition of material goods. Shapiro et al. (2006) argue that mindfulness can clarify one’s values (see also Carmody et al., 2009; Carlson, 2013). It can help us to reflect more objectively, so that we can “rediscover and choose values that may be truer for us”. According to Rosenberg (2004), mindfulness training can help us to become more aware of thought processes and less receptive to persuasion by others. This could make it easier for us to distinguish between needs and wants, and deliberately choose our lifestyle (see also Brown et al., 2007). As an example, Brown et al. (2009) argue that the great focus on wealth and consumption in society can contribute to feelings of discrepancy between what we have, financially, and what we want, thereby fostering a reduction in subjective well-being. Using three different samples that completed self-report measures, they found that higher mindfulness was associated with smaller financial desire discrepancies and greater subjective well-being, and that smaller desire discrepancies were related to greater well-being. In a quasi-experimental study, they also trained participants in mindfulness, and found that, when training increased mindfulness, financial desire discrepancies decreased and subjective well-being increased.

3.3. Empathy and Compassion

Empathy and compassion are key features of many religions and belief systems.² Sustainable living can be seen as a moral imperative, and an embodiment of such values. Jamieson (1992) argues that, when seen as ethical problems, environmental problems “become problems for all of us to address, both as political actors and as everyday moral agents”. These problems (e.g., climate change) are also challenging to understand and engage with because they are so abstract, probabilistic, and intangible (Markowitz and Shariff, 2012). Framing the issue in terms of ethics and morals may be more engaging. One way to boost recognition of climate change as a moral imperative could be by “increasing identification with and empathy for future generations and people living in other places” (DLC, 2009; Markowitz and Shariff, 2012). According to Decety (2011), empathy is often associated with prosocial behavior and is an important enabler of altruism. Moreover, and important in relation to the sustainability argument: “empathy is not restricted to kin, nor does it have to be prompted by the actual perception of distress signal or emotion contagion. Rather, it can be extended to strangers and even members of different species and generated from cognitive processing, like imagination and conscious rationalization” (Decety, 2011). According to Jazaieri et al. (2013), compassion is suggested to be a predictor of psychological health and well-being, while also promoting altruistic behavior and generosity.

² While we understand empathy as the capacity to recognize emotions that are being experienced by another person, we use compassion about our response to that recognition.

Walsh and Shapiro (2006) argue that “meditative disciplines particularly value and cultivate transpersonal states in which the sense of identity extends beyond (trans) the individual person or personality to encompass wider aspects of humankind, life”. In support of this contention, mindfulness has been shown to increase people’s empathy and compassion (Shapiro et al., 1998), and a felt connection with other people and the world around them (Tipsord, 2009). Kemeny et al. (2012) ran an eight-week meditation/emotion training intervention on healthy teachers, who were assigned to either a treatment group or a wait-list group. They used pre-assessment, post-assessment and assessments five months after completion. They found that the states of mind of those in the treatment group became more positive than among members of the wait-list group, and also that their behavior became more positive. There was an increase in prosocial responses like compassion, and a significant reduction in negative affect. The reductions in negative affect were maintained five months after the program. Similar results are found in other studies (Jazaieri et al., 2013; Weng et al., 2013), supporting the idea that compassion can be taught and learned.

Studies showing that inducing empathy can be an effective way of creating more environmentally friendly attitudes and concerns support the above arguments (e.g., Berenguer, 2007; Pahl and Bauer, 2013; Schultz, 2000).

3.4. Sustainable Behavior

Recent research suggests that our goals and the pursuit of them, our motives, desires, wants, and actions are not always the result of conscious choices or deliberate thought (Bargh and Chartrand, 1999; Bargh and Williams, 2006; Custers and Aarts, 2010; Neal et al., 2006). Instead, it is our habits, i.e., automated response dispositions cued by the environment or preceding actions, that constitute much of our everyday lives (Neal et al., 2006). People tend to experience the world through cognitive filters of a habitual, self-centered, and prior conditioned nature, which can lead to superficial, incomplete, and biased pictures of reality (Brown and Cordon, 2009; Brown et al., 2007). According to Pronin (2007), human judgment and decisions are “distorted by an array of cognitive, perceptual and motivational biases”, but people tend to deny that they have such biases (see also Kahneman, 2011). Although automaticity can be beneficial in many circumstances, it can also have a range of undesirable effects on the individual, for instance related to health and well-being, because habitual behavior might not be susceptible to adjustments aimed at rational and reflective thought (Marteau et al., 2012). It could also result in “selective perception”, where some aspects of a situation that are related specifically to own goals and activities are recognized at the expense of aspects that could be important to the wider community to which one belongs (e.g., Dearborn and Simon, 1958). Rosenberg (2004) argues that much of our behavior as consumers is also automatic and influenced more by unconscious choice than by mindful deliberation (see also Bargh, 2002; Chartrand, 2005; Dijksterhuis et al., 2005). According to Rosenberg, advertisers reinforce this automaticity, conditioning us to want to consume.

However, mindfulness and increased awareness of one’s mental life can reduce emotional and cognitive habits, hence promoting a non-habitual/non-automatic mode of being that is more flexible and objectively informed (Bishop et al., 2004; Brown et al., 2007; Kang et al., 2013; Lutz et al., 2008; Vago, 2014). According to Bishop et al. (2004): “Rather than observing experience through the filter of our beliefs, assumptions, expectations, and desires, mindfulness involves a direct observation of various objects as if for the first time, ...”. In experimental settings, Wenk-Sormaz (2005) and More and Malinowski (2009) found less habitual responding with the use of meditation. Mindfulness has also been related to increased self-control (Frieze et al., 2012), which might be beneficial in situations where one is facing choices between sustainable and tempting unsustainable behaviors. In the context of physical health-related activities, Chatzisarantis and Hagger (2007) found that mindfulness facilitated the translation of

intentions into actions and suggested that mindfulness can play an important role in fostering self-regulation. Thus, to the extent that mindfulness reduces automaticity and promotes pro-environmental values, compassion, and increased self-control, such mental training could also facilitate the translation of pro-environmental intentions into more sustainable behavior. Consequently, mindfulness may “serve as an antidote to consumerism”, as Rosenberg (2004) has argued. Some research supports this contention. For instance, Brown and Kasser (2005) studied how mindfulness, intrinsic value orientations, and “voluntary simplicity” lifestyles were related to subjective well-being and ecologically responsible behavior in samples of adolescents and adults. They found that happier people lived more sustainably and that mindfulness and intrinsic values were associated with higher well-being and more ecologic behavior. People who lived a life of voluntary simplicity were more likely to endorse intrinsic values, values that supported well-being and ecologic behavior, suggesting that cultivation of intrinsic values can be related to this kind of simpler lifestyle. The researchers propose that “... a mindful consideration of one’s inner states and behavior along with a set of values oriented more toward intrinsic than extrinsic aims appear to simultaneously benefit both individual and ecological well-being.” Amel et al. (2009) gathered data through a survey and regressed a green scale variable constructed from self-reported sustainable behavior involving “acting with awareness”, a variable related to mindfulness that they thought would be most relevant to sustainable behavior. They found that acting with awareness was correlated with sustainable behavior (see also Jacob et al., 2009).³

4. A Policy that Pays a Double Dividend: Problems and Potentials

Obviously, meditation alone will not solve the environmental crisis, and for mindfulness to become a double dividend policy by contributing to both well-being and sustainability, several obstacles would have to be taken into account. Structural barriers such as a lack of cycling lanes and public transport are just two examples from the area of transportation that hinder someone with otherwise sustainable intentions from behaving in accordance with his or her ideals. The lack of labels on food informing consumers about how far the food has traveled is another instance of factors precluding mindfulness of choice. In addition, mindfulness may not necessarily be easy to instigate and sustain over time. There are forces – represented by advertising, prevailing norms etc. – that contribute to people choosing material consumption and other sources of perceived well-being over mental training. The positive consequences may be slow to emerge, and increased awareness could give people access to suppressed feelings that are not always pleasant (Yalom, 1980). People may also see more clearly how their actions contribute to environmental degradation. Although having such insights may be a good thing in itself, it can also lead people to discontinue their practice because such an understanding can increase discomfort. Some scholars have also suggested that people may fear becoming too compassionate, for instance if they are afraid of being taken advantage of (Jazaieri et al., 2013). Furthermore, we also have to deal with the increasing availability of competing activities that offer an easy escape from the ‘here and now’, often associated with multi-tasking: television, internet, cellphones, etc. Rifkin (2009) maintains that a new “dramaturgical” consciousness is beginning to emerge among the millennial youth, the first generation to grow up on the internet. Role-playing has become a form of consciousness, as the young perform and act on the multiple stages of YouTube, Instagram, Facebook, etc.: “... everyone

is on stage and in front of the spotlights” (p. 555). If correctly identified, this trend raises potential problems for the self: the problem of authenticity (how to know the authentic person behind the mask), and the problem of a fragmented, multidimensional self. The long-term consequences of a life increasingly lived ‘online’ are hard to predict. It could increase the need for being ‘anchored’ and having a ‘true’ sense of self. On the other hand, it could also divert attention away from realizing ‘inner’ potentialities toward performance on digital stages. Yet another potential problem is the debasing of mindfulness practices through the use of these techniques in attempts to, e.g., ‘boost success’. If mindfulness is used in an instrumentalized way, devoid of ecological and social awareness, it might not contribute to the achievement of a more sustainable future (Hedlund de-Witt, 2011). Varela et al. (1991: 252) warn that “meditations and practices undertaken simply as self-improvement schemes will foster only egohood. Because of the strength of egocentric habitual conditioning, there is a constant tendency ... to try to grasp, possess, and become proud of the slightest insight, glimpse of openness, or understanding”. They argue that, unless such tendencies are dealt with properly, “insights can actually do more harm than good” (see also Trungpa, 1973; Hubbard and Swanson, 1997). A related pitfall is that the practitioner could become too focused on the self, and on “inner work” at the expense of “outer work”, which might lead to narcissism and political passivity (Hedlund de-Witt, 2011).

On the other hand, the link between mindfulness and empathy, and the potential of mindfulness to widen our sense of identity, suggests that these risks might be overcome. In addition, as emphasized by Brown et al. (2007), “mindfulness is not a form of escape that results in passivity or disconnection from life; rather, it is thought to bring one into closer contact with life by helping to circumvent the self-generated accounts about life that act to pull one away from it”. The correlation between mindfulness and environmentally friendly behavior also suggests that these forms of “inner” and “outer” activity are compatible.

There are a number of cultural trends that could promote public interest in learning more about mindfulness. The most fundamental of these trends is what Taylor (1991: 26), cited in Heelas and Woodhead (2005), has called “the massive subjective turn of modern culture”. The subjective turn involves a turn away from life lived in terms of external roles, and “... towards life lived by reference to one’s subjective experiences” (Heelas and Woodhead, 2005: 2). The “good life” does not consist of fulfilling external role expectations, but of “... living one’s life in full awareness of one’s states of being (...) ... to “become who I truly am”” (p. 4). This awareness seems to be very much in line with mindfulness techniques. Furthermore, empirical work based on the World Value Surveys has shown an increase in “self-expressive” values, emphasizing quality-of-life concerns at the expense of “survival” values (e.g., Inglehart and Baker, 2000). The subjective turn is also important in the religious/spiritual realm. There has been a decline in traditional religious beliefs and an increase in spirituality (Heelas and Woodhead, 2005), as well as openness to renewal and new approaches to social change (Hedlund-de Witt, 2011).

If the techniques of mindfulness training are taken up by a significant number of people, some of the positive effects may be noticeable in the general population. If the positive effects prove large enough, this could be promoted as a public policy, not only because of sustainability issues, but also because of its effects on well-being and prosocial behavior. A recent series of articles in *Nature* (vol. 490, no. 7419) focused on the increasing amount of stress in society. In one of the articles, Blackburn and Epel (2012) warn about the accompanying societal costs and advocate that, in order to curb this trend, policymakers need to prioritize “societal stress reduction”. They mention yoga and meditation as helpful means, at least for those who can “afford the time and expense”. However, there could be ways of promoting them as cost-efficient policies. The concepts can be taught by one teacher to many students in a group at the same time, or by cellphone or using web-based approaches (as now offered, for instance, by the Mental

³ They also investigated “observing sensations”, another variable related to mindfulness they thought could be relevant, since the variable includes attention to sensory connection with the world outside ourselves. The regression found no significant correlation, but the authors argued that it was more than likely that this was due to problematic measurement issues.

Health Foundation in the UK⁴). The danger associated with this latter approach, however, is that one loses the inspiration and support one might get from meeting a supporting network, and that it more easily could reduce mindfulness to simple techniques and lose sight of values supporting sustainable living.

Davidson and McEwen (2012) contend that “the studies on interventions explicitly designed to promote positive emotional qualities, such as kindness and mindfulness, imply that such qualities might best be regarded as the product of skills that can be enhanced through training, just as practice will improve musical performance and produce correlated regionally specific anatomical changes”. Although more research remains to be done, they argue that the available evidence points to the possibility that “social and emotional characteristics can be educated in ways that are not dissimilar from certain forms of cognitive learning”, and that mental training techniques similar to the ones discussed here “might constitute ideal interventions to promote early self-control and improve later adult prosocial outcomes” (Davidson and McEwen, 2012). Diamond and Lee (2011) argue that, for children to be successful in the future, they will probably need to develop the qualities of creativity, flexibility, self-control, and discipline. They maintain that executive functions are more important to school readiness than intelligence, and they mention yoga and mindfulness among activities that improve executive functions (see also Wickelgren, 2012).

Thus, it could also be helpful in the promotion of mindfulness as a policy with a double dividend to start at an early age. Children could then develop and maintain skills and relational ways of being that are less conditioned by today's prevailing norms and culture, and shaped more by awareness of choices and behaviors that promote sustainable outcomes.

5. Need for Further Research

There are many things we do not know in this field of inquiry, especially as regards effects related to sustainability. In general, there is a lack of experimental evidence, as most studies are correlational (with the exception of the consequences of mindfulness for well-being, where many experiments have been carried out). Long-term consequences in terms of environmental behavior, political activity (or passivity), and lifestyle have seldom been explored in experiments. Both quantitative and qualitative research efforts are called for. Another question is how easy it is to sustain mindfulness meditation over time, and what role training plays in developing and sustaining the practice. It is interesting to note that, even three years after starting, a large proportion of participants (56%) still practice meditation (see Walsh and Shapiro, 2006).

6. Conclusion

Rapidly growing demand for resources has resulted in a substantial and largely irreversible loss of diversity of life on Earth. There will be three billion more middle-class consumers during the next 20 years, which will further increase the consumption of resources. If billions of people across the world hold materialistic values, making perceived well-being heavily dependent on consumption, it will be hard to achieve sustainability. It will be easier if well-being is achieved through means that are less dependent on consumption. In this paper, we have highlighted the contribution of mindfulness to well-being, substantiated by a wealth of research. Well-being achieved in this manner can, in turn, contribute to a more sustainable way of life. Research indicates that mindfulness can contribute to environmentally friendly and sustainable behavior. However, there is much we do not know, and more research is needed in which controlled experiments are carried out to test causality.

Nevertheless, the results from studies of mindfulness suggest that the promotion of mindfulness and loving-kindness meditation in schools, workplaces, and elsewhere could be construed as a policy that pays a “double dividend” in that it could contribute both to more sustainable ways of life and to greater well-being.

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