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Emma Loftus

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**THE ETHICAL AND EMOTIONAL BENEFITS OF  
REDUCING SELF- FOCUS THROUGH MINDFULNESS**

by

**EMMA G. LOFTUS**

**SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT OF THE  
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**PROFESSOR MA**

**PROFESSOR WALKER**

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### Abstract

This proposed study was inspired by the concept in Aristotle's virtue ethics theory that a good life is necessarily an ethical one. The following work intends to expand previous literature on this topic by exploring an accessible potential method through which ethicality (and thus, well-being) can be increased, and also a possible explanation of how this process might occur. Past research has indicated that mindfulness training can increase both prosociality and well-being, and additionally that higher ethicality is connected to higher well-being. Reduced self-focus has been found to mediate these relationships. The proposed 30 day study makes use of a daily mindfulness training app to explore its effects on participants' ethicality and well-being, and examines whether reduced self-focus mediates these potential relationships. Results are expected to show that that, first, increased mindfulness leads to increased ethical behavior, mediated by reduction in self-focus; and second, that increased mindfulness leads to an increase in well-being, mediated both by increased ethical behavior and by reduction in self-focus. Ultimately, the intention of this study is to find support for the benefits of cultivating a more loving and interconnected world, as well as the means by which to do so.

### The Ethical and Emotional Benefits of Reducing Self-Focused Attention through Mindfulness

Why bother being ethical? This question has concerned philosophers and psychologists alike for thousands of years. It may seem obvious that everyone ought to be a good person, and indeed there are many similarities in the ethical behavior of people across the world (Gibbs, Basinger, Grime, & Snarey, 2007). However, when the question is considered from a practical point of view, it begins to seem odd that humans have developed a system that is specifically other-serving and often conflicts with self-interest. For instance, giving one's life to save strangers is considered to be highly ethical by many people, yet it is not in one's best interest to do so. And examples need not be so drastic to illustrate the point. Arguably, simply living a life of under-the-radar amorality wherein one appears ethical to one's peers but actually acts in a self-interested manner would provide the best possible outcome for the individual. However, the vast majority of people fail to do this. The question of what reason the individual might have to be ethical likely has many answers, but the following proposed study examines the possibility that a truly good life requires ethicality. But if this is the case, how might one increase their ethicality in order to enhance well-being? One potential mechanism to consider is that of mindfulness, which may be positively connected to these constructs.

From a psychological perspective, the theory of moral evolution can provide at least a partial answer to the contradiction of human morality. Tomasello and Vaish (2013) argue that the primary function of morality lies in its ability to facilitate cooperative behavior in group settings. As they explain, given the fact that all individuals are selfish to some degree, morality regulates

the individual's social behavior so that they are generally cooperative. They note that in ethical situations, the individual is either placing the well-being of others above their own self-interest (as with sharing, for instance) or aligning their self-interest with others (as with justice, equality, and other forms of ethical norm-enforcement). This allows for a society in which all individuals are better off, because cooperative groups can achieve significantly more than the individual is capable of. In addition, shared resources are distributed more equitably and less violence occurs within the group.

But how is it possible that cooperation in group settings, while objectively useful for all, could have evolved at the individual level? After all, evolution is not about designing an ideal society, but it is instead an automatic phenomenon driven by whatever genes or gene mutations happen to be most effective for an individual to survive, given their particular environment. So it is reasonable to question how a cooperative gene could have *started* to propagate itself, as one might assume that cooperative acts without guarantee of reciprocation wouldn't be evolutionarily beneficial to the individual. However, this is not necessarily the case.

Prior to the presence of modern day ethicality, certain capacities emerged in humans that allowed for the eventual emergence of today's morality. One of the most directly influential capacities is that of altruism (Fitzpatrick, 2017). Although true altruism is defined as acting purely to benefit another with no expectation of reciprocation (Khalil, 2004), the following theories of its evolution occasionally use the term more loosely to mean acts that are intended to help another with the possible goal of personal gain. Hamilton's Rule (Bourke, 2013), which explains how altruism expanded beyond direct parent-child helping, does discuss true altruism as individual benefits were only present insofar as DNA was propagated. Hamilton put forth the concept of inclusive fitness, wherein a gene is evolutionarily useful if it can increase *either* the

direct fitness of the individual, *or* the individual's 'inclusive fitness'- meaning, propagation of one's DNA regardless of whether it comes as a result of one's offspring *or* the survival of family members. As Bourke (2013) explains, Hamilton's rule led to the concept of 'kin altruism', wherein an altruistic gene propagated itself through people helping their family in increasing degrees dependent on the amount of DNA shared. In this way, it was possible for the gene to exist at least in some manner.

This, however, does not account for altruistic acts towards non-family members. In 1971, Robert Trivers coined the term 'reciprocal altruism' in his explanatory model of altruism's evolution. The idea is that in a long-living, relatively small group, it is more likely that individual's genes will be passed on if they help a fellow group member who may remember their kindness and repay them later (Trivers, 1971). The helped individual may also spread word of the helper's good deeds, leading to a reputation of good-doing [awk](#) that may increase the chances of someone else helping them in the future. Fehr and Fischbacher (2003) discuss how evidence for this theory exists today through studies finding that individuals who have a known history of generosity in a public goods game are significantly more likely to receive help, even from those who they have never directly helped. Although there is not yet a consensus on how capacities such as altruism developed into modern-day morality, Fitzpatrick (2017) argues that morality may not have *evolved* per se, but rather that because humans were bestowed with qualities such as evaluative reasoning and altruism, cultures naturally began to develop theories about the most rational way to treat other people.

The emergence of morality on a species-wide scale is now clearer. But what of the development of individual ethicality? Today, Lawrence Kohlberg's moral stages theory remains perhaps the most well-known and well-regarded theory of personal moral development (Sanders,

2018). Kohlberg's (1977) theory focuses on the reasoning process behind a person's response to a moral dilemma, creating a model of increasingly developed morality. The model consists of six increasingly complex and morally competent stages, which are further organized into three levels. Individuals typically advance in levels according to their age, although Kohlberg notes that not everyone develops to stage 6. Some have argued that the theory measures ethical judgment rather than development, as people may have high-level ethical reasoning but fail to act accordingly (White, 1999). However, Blasi's (1980) meta-review found that 57 out of 75 studies indicated significant correlation between developmental stage and behavior. Kohlberg (1983) addresses these concerns and others in a detailed defense of the theory.

In the pre-conventional level (stages 1 and 2), most often occupied by babies and young children, one's ethical choices are based purely on ego-oriented consequences (Sanders, 2018). Stages 1 and 2 focus on punishment-avoidance and reward-seeking, respectively. In the conventional level (stages 3 and 4), ethicality begins to become more other-oriented and society's generally agreed-upon moral and social rules dictate moral reasoning. Adolescents and younger adults typically inhabit this level. Stage 3 is related to the individual's motivation to maintain good relationships with others. In order to be viewed as good, inhabitants of this stage will follow the rules set forth by parents and other authority figures. In Stage 4, behavior is determined by laws, and mindsets reorient to believe one should be good not only to maintain personal ties, but also because social order is inherently important. Finally, in the post-conventional level (stages 5 and 6), the individual begins to use abstract principles and reasoning that is based not merely on the local society, but rather from a universal person-based perspective. Stage 5 contextualizes laws as changeable constructs that are not inherently ethical, but rather are based on social contracts that aim to create the greatest good for the greatest

number of people, with an acknowledgement that everyone has differing values that ought to be considered in this endeavor. In Stage 6, the individual uses abstract reasoning to reach decisions in a manner that is rooted not in consequences (as in social contracts, where an action's morality is based on how much pain or pleasure it may result in) but on the inherent rightness of the act itself, largely in consideration of whether it would be acceptable for all people to act in that manner. These constitute the individual's universal ethical principles.

Recapitulating the previously discussed information, rational morality on a species-wide scale evolved from an expanding circle of altruistic tendencies while individual ethical development expands from a purely ego-based perspective to a universalizing-principles orientation. However, it remains unclear why the individual person *ought* to have a motivation to be good. As reason-based beings, humans may have an evolutionary drive to perform an action, but are capable of analyzing that action and deciding that it goes against the individual's desires. Aristotle, an ancient Greek philosopher, put forth an answer to this that is still well-regarded today. He suggested that a good life is not simply one with more pleasure and less pain, but rather it is eudaimonia that constitutes the ultimate good that humans ought to strive for in life (Athanasoulis, n.d.). Eudaimonia is often loosely translated as 'happiness', but this fails to fully explain the term. It posits that the 'good life' consists of the cultivation of one's character and attainment of meaningful goals. In Aristotle's view, virtue flows from virtuous character traits, and through this, one is able to achieve eudaimonia. A eudaimonic life is not necessarily one in which a person is *happiest*, in terms of having the most positive affect, but it is rather when one has attained a life filled with that which is worth desiring (Telfer, 1980). It represents a life of meaningfulness. In this way, every individual has a strong motivation to be good, because it is the only mechanism by which one can achieve a good life.



This concept inspired a number of positive psychologist researchers to posit a positive relationship between morality and well-being (Stavrova, Schlösser, & Fetchenhauer, 2013). Before delving into the current evidence on this relationship, it is imperative to explore what is meant by 'well-being'. Psychologists began to focus on the study of well-being in the later 20<sup>th</sup> century, and Deiner's (1984) work on Subjective Well-Being (SWB) influenced the field significantly. SWB conceptualizes well-being as the presence of positive affect, absence of negative affect, and a high degree of satisfaction with one's life. As Deci and Ryan (2006) note, this concept of SWB with its accompanying assessment is often used interchangeably with happiness. Thus, well-being and happiness- largely in terms of positive and negative affect- have been conflated with well-being. However, it is not clear that the constructs assessed by SWB fully capture what well-being is. Measuring well-being is a difficult endeavor, because in doing so, one must make a judgment on what comprises a good life. Two people may live very different lives, with vastly different incomes, amount of social engagement, and degree of positive affect, yet they may report that their assessment of personal well-being is the same. This concern about how best to conceptualize well-being led to the emergence of two main forms of well-being: eudaimonic (meaning-oriented) and hedonic (positive/negative affect-oriented). McMahan and Estes (2011) note that lay conceptions of well-being tend to include both hedonic and eudaimonic aspects, giving support to the idea that there may be differential aspects of well-being.

Eudaimonic measures, as previously discussed, originated with Aristotle. The psychological conception of eudaimonia follows relatively closely to Aristotle's ideas, and is described by McMahan and Estes (2010) as relating to the development of one's character and meaningful contribution to the greater good. Eudaimonic measures may serve to fill in the gaps

left by measures that only take into account one's degree of pleasurable experience, and acknowledge that the good life might encompass more than that. Ryan and Deci (2001) argue that humans desire many outcomes that may provide positive emotional affect, but that ultimately do not result in increased well-being. For instance, consider individuals whose parents enable them to live very comfortably without a job. They pursue a variety of hedonistic goals, and indeed experience a high degree of positive physical and emotional affect. Yet, many would argue that when people like this fail to pursue deeper and more meaningful activities, their life is not objectively high in well-being. A number of studies have found support for the validity of eudaimonic conceptions of well-being. For instance, having an orientation towards meaning and engagement, as opposed to an orientation towards pleasure, has been found to be more strongly associated with life satisfaction in both national and cross-national studies (Park, Peterson, & Ruch, 2009; Peterson, Park, & Seligman, 2005).

Hedonic measures, however, are not without their benefits. A person with a meaningful life who never experiences a moment of emotional or physical pleasure wouldn't be considered high in well-being. Huta and Ryan (2009) argue that hedonism and eudaimonia both have their place in an accurate measurement of well-being. They conducted four separate studies looking into the potentially differing effects of hedonic versus eudaimonic pursuits. Overall, hedonia was largely linked more to positive affect, while eudaimonic pursuits were related more to cognitive feelings of meaningfulness and appreciation. Huta and Ryan note that hedonia's link to positive affect was no longer found at a 3-month follow-up, indicating that hedonia is most useful as a temporary mechanism of emotional self-regulation. Eudaimonia, conversely, was not related to immediate positive affect but this connection did appear at the 3-month follow-up, suggesting that its use lies in cultivating more long-term mechanisms of happiness. In addition, results

indicated that while hedonia allows one to be more disengaged from personal concerns, eudaimonia facilitates engagement and connection to a broader whole. However, both hedonia and eudaimonia were positively related to life satisfaction. Based on their findings, it appears that it may be more useful and accurate to regard the two not as mutually exclusive measures of well-being, but rather as two important mechanisms that work differently yet also in tandem to achieve well-being.

Regarding the current study, an acknowledgment of the importance of eudaimonia follows from the focus on virtue as a necessary component of the good life. It may be the case that acting ethically is related more to the eudaimonic good life than to hedonia. Furthermore, given that eudaimonia requires that one's interests go beyond the self, it is reasonable to posit that a positive relationship between virtue and eudaimonic well-being may be mediated by a reduction in self-focus. However, given that an accurate assessment of well-being likely utilizes both hedonic and eudaimonic aspects, the current study will apply both in its conceptualization of well-being.

Since the conception of a relationship between virtue and well-being in psychology, a number of studies have found support for the idea that ethical behavior is positively related to increased well-being (James, 2011; Post, 2005). Few, however, looked specifically at *ethical* behavior, choosing instead to examine prosocial or altruistic behavior. Prosocial behavior refers to voluntary action intended to benefit another person, while altruistic behavior requires that one is motivated solely by the hope of benefiting someone else with no expectation of personal gain (Lay & Hoppmann, 2017). Ethical behavior is more difficult to define, as conceptions of what being ethical entails vary, but ethicality is related to the individual's interactions with other people and requires a cognitive judgment of what the right action in a moral dilemma is (Beu &

Buckley, 2001). Despite these definitional differences, the terms virtue, altruism, and prosociality are often used interchangeably in the psychological literature (Stavrova et al., 2013). Significant cognitive processes are at play during ethical decision-making when deciding what is right, whereas cognition is only present in altruistic and prosocial decision-making to the degree that the individual considers how best to help the other. Therefore, it does not seem entirely accurate to conflate the three together. However, given the dearth of literature on the ethicality/well-being relationship, the literature on altruism and prosociality may provide an acceptable substitute for specifically ethics-related studies. The following two studies refer explicitly to ethicality.

James (2011) looked into data from the World Values Survey, specifically in relation to the U.S., Canada, Mexico, and Brazil, to examine whether there is a relationship between people's reported perceptions of acceptability of unethical behavior and self-reports of subjective well-being. James found that, even after controlling for variables such as income, individuals who did not justify unethical actions reported higher subjective well-being relative to respondents who did justify these actions. While this study is correlational and thus cannot establish cause-and-effect relationships, it does support the idea that being ethical (or, at the very least, not being unethical) is related to higher well-being. In line with this, Steger, Kashdan, and Oishi (2008) found that ethical behaviors were more strongly related to eudaimonic and hedonic well-being relative to behaviors geared towards pleasure-seeking or material goods. Additionally, results indicated that ethical behaviors were related to greater well-being the next day, while self-serving behaviors were only related to immediate pleasure. Steger et al. suggest results indicate that 'doing good' might be an important mechanism through which people cultivate meaningful and satisfying lives.

In addition to studies looking directly at virtue, there are a number of studies that examined prosociality, altruism, and compassion. As discussed earlier, these may not perfectly reflect the morality/well-being relationship, but they do provide some relevant evidence. For instance, a meta-analysis by Post (2005) found a strong positive correlation between compassionate emotion along with behavior and well-being, happiness, and health. In addition, Aknin et al. (2013) performed three studies that found, firstly, a positive correlation between prosocial spending across 136 countries and self-reported happiness. The following two studies found the same relationship experimentally across four income-disparate countries. Not only was this relationship present in both rich and poor countries, but also they found that the connection remained even when there was no opportunity to enhance one's social ties, suggesting that the emotional reward for this helping behavior is genuinely altruistic and other-focused.

Considering the aggregate results of the discussed studies, it is plausible to suggest that there may indeed be a potential relationship between acting virtuously and enhancement of one's well-being. However, ethical action is not the only mechanism through which one can increase well-being. Mindfulness, defined by Baer (2006) as the intentional, uncritical observation of one's emotions, cognitions, and sensory information along with focusing on the present, emerged in Western psychology largely through the Kabat-Zinn's (1982) innovative use of mindfulness in a stress-reduction program. Today, it remains widely regarded in the clinical world as a tool with which to increase mental health (Farb et al., 2018; Hofmann & Gómez, 2017). Shapiro, Carlson, Astin, and Freedman (2006) explain that the primary significance of mindfulness lies in its ability to facilitate "reperceiving", in which the individual experiences a shift in self-perception such that they are not immersed in the drama of their personal narrative, but rather are able to

step back to dispassionately observe it. Importantly, Shapiro et al. theorize that this re-perceiving positively impacts wellbeing.

This theory has been supported by a variety of research. For instance, Baer, Lykins, and Peters (2012) found that mindfulness positively correlates with well-being as measured by the largely eudaimonic Psychological Well-being scale. Experimental studies have found similar relationships. Ivtzan et al. (2017) examined the effectiveness of an 8-week long "Mindfulness Based Flourishing Program" to increase well-being through focusing meditation on five eudaimonic goals and two hedonic goals. Increases in both types of well-being were found, as well as reductions in stress and depression. A similar study by Howells, Ivtzan, and Eiroa-Orosa (2014) found that a 10-day mindfulness training smartphone app significantly increased hedonic and eudaimonic well-being. Additionally, both experimental and correlational studies have found a positive relationship between mindfulness and life satisfaction (Chen, Wu, & Chang, 2017; Harnett et al., 2010).

Interestingly, not only have studies found support for a mindfulness-well-being connection, but several studies also point to a relationship between mindfulness and ethicality. Two studies by Ruedy and Schweitzer (2010) found, firstly, a positive relationship between mindfulness and self-reported likelihood to act ethically as well as value upholding ethical standards. Secondly, results indicated a negative relationship between measured mindfulness and actual likelihood to cheat in their study. Several studies have also found evidence for a positive relationship between mindfulness and helping behavior. While helping behavior is separate from ethicality, various studies have found a significant positive relationship between the two (Aquino & Reed, 2002; Hardy, 2006). Thus, studies connecting mindfulness to an increased likelihood to help also support the idea that mindfulness leads to increased ethicality. One such study found

that upon completion of a three-week smartphone-based mindfulness program, participants were significantly more likely than the control group to voluntarily give up their seat for an apparently disabled confederate (Lim, Condon, & Desteno 2015). Additionally, Cameron and Frederickson (2015) found that mindfulness predicted self-reported likelihood to engage in helping behavior in the real world. Increased mindfulness therefore appears to predict higher likelihood to engage in helping behavior, which is related to ethicality.

In his explanation on theoretical methods of moral enhancement, Ahlskog (2017) discusses the relationship between mindfulness and ethicality. Specifically, Ahlskog argues that in order to increase individual moral motivation, efforts should focus on reducing self-interest through reduction of one's sense of self, which can be done through mindfulness. Lessening one's identification as an independent self rather than as a part of a collective whole realigns one's interests with the broader human community, which leads to an increase in other-oriented ethical motivation. Ahlskog notes that mindfulness is one mechanism through which to do this, which is harmonious with Shapiro's (2006) discussion of re-perceiving the self through a detached point of view. Considering that re-perceiving is also implicated as a method to increase wellbeing, it may be that reduction of self-focused attention acts as a mediator variable in the relationships between mindfulness, ethicality, and wellbeing.

Self-focused attention is defined by Spurr and Stopa (2002) as awareness of information that is both generated by and referring to the self. This includes past, present and future self-related data, both internal (thoughts and emotions) and external (physical stimuli). The construct was originally introduced by Duval and Wicklund (1972), who argued that it precipitates a self-evaluation process in which one's current state is compared to a desired ideal state. When discrepancies are present between the two, negative affect is assumed to occur. Building on these

ideas, Carver and Scheier (1998) theorized that consistent negative affect emerges from the individual's dissatisfied judgment of his or her progress or ability to embody the ideal state. This concept has since been bolstered by a number of studies finding that self-focused attention is predictive of both the onset and future levels of depression (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Nolen-Hoeksema, 1991). Additionally, a meta-analysis by Mor and Winquist (2002) found an overall positive relationship between self-focused attention and negative affect as well as anxiety. Though it has largely been studied in relation to clinical disorders, the construct has also been found to be negatively related to both subjective well-being and life satisfaction (Boyraz & Kuhl, 2015; Yamaguchi & Halberstadt, 2011).

In line with Ahlskog's (2017) theories, self-focused attention and mindfulness have been found to be negatively correlated (Perona-Garcelán et al., 2014; Úbeda-Gómez et al., 2015). This relationship is not limited to correlational studies. Goldin, Ramel, and Gross (2009) studied the neural effects of mindfulness meditation training, with results showing decreased activity in a brain network related to narrative and conceptual self-focus. In addition, Hölzel et al. (2011) found that one mechanism by which mindfulness meditation worked to increase well-being and reduce negative affect was through reduction in self-focus. More specifically, they discuss how mindfulness meditation allows one to examine the 'self' from a removed perspective, and through this observation, there occurs a deconstruction of one's conception of the self. This realization that one's 'self' is something that can be experienced rather than identified with then reduces clinging and hostility. Hölzel et al. note that those who go through this disengagement with the self show significant concern as well as tenderness for others. Here, not only is reduction of self-focus implicated as a method through which mindfulness increases well-being, but the study also suggests that mindfulness-induced reduction of self increases concern for others. Research has



found that concern for others constitutes a key aspect of moral decision making (Crockett, Kurth-Nelson, Siegel, Dayan, & Dolan, 2014).

Expanding on the idea that reduced self-focus may increase ethicality, Dambrun et al. (2012) found that self-enhancement values were related only to fluctuating happiness, while self-transcendent values were related to durable happiness. This indicates that expanding focus beyond the self may be connected to more consistent positive affect. Results are in line with previously discussed research by Huta and Ryan (2009) finding that hedonic pursuits are correlated with temporary happiness while eudaimonic pursuits are connected to more long-term positive feeling. Dambrun et al. also noted that the fluctuating happiness resulting from self-enhancement was negatively related to mindfulness, providing possible support for a connection between mindfulness, (durable) well-being, and self-focus. Most compelling, and specifically applicable to the posited relationship between ethicality and reduced self-focus, Piff, Feinberg, Dietze, Stancato, and Keltner (2015) noted in several experimental studies that inductions of awe increased ethical decision making and prosocial values, and these relationships were mediated by feelings of a smaller self.

Considering the aggregate results of the discussed research, there appears to be fairly robust support for the presence of positive relationships between ethicality, mindfulness, and well-being, and self-focus. However, research has not yet been done to explicitly examine whether reducing self-focused attention is related to increased ethicality, or to eudaimonic and hedonic well-being. In addition, studies have not explored whether an increase in ethicality leads to an increase in comprehensive wellbeing, only that the two are correlated. Actualizing Ahlskog's theories and adding the component of wellbeing, the current study will explore mindfulness in connection with ethicality, wellbeing, and reduced self-focused attention. In a

month-long longitudinal experimental design, participants will engage in daily mindfulness meditation via smartphone app. At pre- and post-experimental testing, participant's degree of mindfulness, ethicality, well-being, and self-focused attention will be measured. It is hypothesized that mindfulness training will lead to an increase in ethicality, which will be mediated by a reduction in self-focused attention. In addition, mindfulness training is expected to increase hedonic and eudaimonic well-being, with the relationship mediated both by reduction in self-focused attention and increased ethicality.

### **Proposed Method**

#### **Participants**

In this study, the target population will be American adults. The population will be constrained to Americans as the study concerns self-interest (giving rise to the potential of communal vs. individualistic cultural differences affecting generalizability) and Western-centric conceptions of morality. Given that a similar longitudinal study (Steger et al., 2008) had a medium sized effect, power analysis parameters for the present study included an estimated medium effect size. Cohen (1992) indicated that to achieve power of .8 with a .05 alpha, 128 participants would be required. However, to account for potential attrition, 200 total participants will be sought. Many of the participants will likely be college undergraduates at the study's location, but efforts will be made to diversify participants. Participants are expected to be approximately equal in gender, largely White and Hispanic given the local population demographics ("U.S. Census Bureau," 2017) and mostly younger adults with some recruited older participants. Recruitment will involve flyers around both the general town area and also at the college, as well as school-based email blasts. Participants will be compensated with \$30.

## Materials

Well-being, ethical development, mindfulness, and self-focused attention will be measured.

**Well-being.** The Pemberton Happiness Index (PHI, Hervás & Vazquéz, 2013) will be used to measure well-being. The PHI was described by Cooke, Melchert, and Connor (2016) as the most comprehensive scale amongst the composite well-being measures examined in their study because it includes both eudaimonic (meaning-based) and hedonic (affective-based) factors. Hervás and Vazquéz (2013) found very good support for the scale's psychometric properties, including internal consistency and convergent as well as incremental validity. The PHI consists of 11 yes/no response items related to remembered properties of well-being. Specifically, the questions ascertain subjective perceptions of one's general, eudaimonic, hedonic, and social well-being. The PHI also contains 10 yes/no response items related to domains of experienced well-being, which has to do with positive and negative events from the previous day. The mean score from both sections is averaged to create a single well-being score, where higher scores denote higher well-being. (Paiva, Camargos, Demarzo, Hervás, Vazquéz, & Paiva, 2016).

**Ethical Development.** The Defining Issues Test (DIT, Rest, 1979) will be administered to measure ethical development and behavior. This scale was originally developed as a way to measure one's placement in Kohlberg's levels of moral judgment. The DIT contains 12 short stories that reflect the essential moral aspects of the 6 stages, and operates as follows: first, participants state what the ethical action should be (including an "I don't know" option). Next, they rank the importance of 12 items regarding reasoning behind their ethical choice on a 5-point

Likert scale (from "great importance" to "no importance"). Participants then rank the top 4 reasoning items in order of which best described their evaluative process. This is repeated for the remaining 11 stories. The reasoning items each relate to a different Kohlbergian stage, and scores are established by counting the number of Stage 5 or 6 items ranked in the top 4 for all 12 stories. The scale will be scored according to procedures outlined by the researchers, with higher scores signifying higher ethical development. Though the DIT has been a source of contention since its conception, Thoma and Dong (2014) state that both typical validity and reliability testing as well as six validity tests specific to the DIT indicate clear support for the measure's capacity to measure moral development. The six additional tests include ability to differentiate age/education groups, longitudinal scoring gains, cognitive capacity correlation, moral education sensitivity, behavior correlation, and prediction of political attitudes.

**Mindfulness.** The Mindful Attention Awareness Scale (MAAS, Brown & Ryan, 2003) will be employed to measure mindfulness. The MAAS consists of 15 items containing statements regarding mindfulness (e.g., "I snack without being aware that I'm eating") for which the participant rates their agreement from 1 ("almost always") to 6 ("almost never"). Scores are determined by an averaging of the participant responses, with higher scores indicating higher degree of mindfulness. Mackillop and Anderson (2007) state that their data supports the psychometric validity of the scale.

**Self-Focused Attention.** The Implicit Assessment of Self-Focused Attention (IASFA, Eichstaedt & Silvia, 2003) will be used to measure self-focused attention. This computer-based task contains 10 items, and operates by displaying 5 neutral words and 5 self-relevant words in random order. For each word, participants must say whether it is self-relevant or neutral as quickly as possible. Scores are calculated by subtracting average reaction time for neutral word

recognition from average reaction time for self-relevant word recognition. Two studies by Eichstaedt and Silvia (2003) indicated good validity of this measure.

### **Procedure**

The study will begin in the lab. Following informed consent, participants will be randomly assigned to either the control or treatment condition. Participants will be run individually and will begin the study with a series of online questionnaires. They will complete the well-being, ethicality, mindfulness, and self-interest measures in that order, followed by demographic questions including race, age, and gender. After all measures have been administered, the control participants will be informed that the first half of the study is done, and they will be asked to return in 30 days to complete the second half of the study. The experimental participants, however, will be asked to download a mindfulness training smartphone app called Headspace. They will then be told to use the app daily for 10 minutes, at whatever time is convenient, over the next 30 days. At that time, they will be asked to return and complete the study. After 30 days have passed, participants will return to the lab and complete the same scales. Following this, they will be given compensation, debriefed, and thanked for their participation.

### **Ethics**

In any research study, it is vital to weigh the potential benefits of the resulting knowledge against the possible risks to the participants. Regarding the present proposed study, it seems highly unlikely that the risks to participants would outweigh the benefits. Though the study is not addressing a societal problem so much as a way to increase well-being, the benefits are still

significant in the same way that any positive psychology-related research is. The participants themselves have the benefit of participating in a month of daily meditation, which has been shown to have numerous positive outcomes, such as increased happiness and decreased stress/negative affect (Ivtzan et al., 2017; Hölzel et al., 2011; Harnett et al., 2010). This is in addition to the monetary compensation of \$30 that all participants will receive. The research may also add to the knowledge base by potentially providing an answer to the question of how mindfulness leads to well-being and ethical behavior, which may then benefit our society at large through facilitating the ability to create more effective well-being and moral enhancement programs.

When considering the potential risks to participants, there are few that are notable enough to merit concern. The population would not require any protections, as it is simply American adults. Furthermore, there are no aspects of the study's methodology that constitute any sort of risk beyond what someone may encounter on a day-to-day basis in the real world, and thus the study does not rise above the level of minimal risk. The tests do not measure something typically upsetting; they essentially ask how well someone is doing (a question frequently asked in normal life), and also about one's self-perceptions of mindfulness, self-focus, and ethicality. No sensitive info will be collected. The manipulation itself would, as previously discussed, be likely to lead to a *positive* change, rather than a potential negative change. In addition, deception will not be used at any point during the study. Upon completion, debriefing will explain the study in detail, in order to ensure participants are left fully informed and in the same (or better) condition as they were prior to the study. Participants will also have the explicitly expressed ability to leave the study at any point and still receive the same level of compensation and debriefing. This makes participation entirely non-coercive. The only potential risk involved in the study is that

some information specific to the participants will need to be collected because it is a longitudinal study and participants will need to be tracked over time. In order to address this without use of identifiable information, participants will create a code that will be entered on all survey data that they complete, such that their two sets of scores can be matched but no identifiable information will be attached to the data.

Considering the risks and benefits, as outlined above, it seems highly probable that the benefits to participants, the knowledge base, and society at large significantly outweigh the potential risks to the participant's well-being. For this reason, the researcher believes that the proposed study represents ethical psychological research.

### **Predicted Results**

Difference scores for all variables will be computed prior to testing. The self-focused attention difference scores will be computed so that a higher score signifies decreased self-focused attention.

### **Manipulation Check**

To establish whether the treatment led to a significant increase in mindfulness, a 2 independent samples t-test will be done between the difference scores for each group. Given that previous research by Howells et al. (2014) found that a mindfulness training smartphone app increased mindfulness, it is expected that mindfulness will significantly increase for the treatment group relative to the control group.

### **Mindfulness and Ethicality**

A 2 independent samples t-test will be done on the ethicality difference scores for each group to establish whether mindfulness training significantly increased ethicality. Given the past research showing both correlational and causal relationships between mindfulness and ethicality (Lim et al., 2015; Cameron & Frederickson, 2015, and Ruedy & Schweitzer 2010) results are expected to indicate that use of the app will significantly increase ethical development.

### **Mindfulness, Ethicality, and Self-Interest**

The next hypothesis posits that the positive relationship between mindfulness training and increased ethicality is mediated by a reduction in self-focused attention. In order to test this, the 3-step Baron-Kenny (1986) method will be used. The first step establishes a significant positive relationship between mindfulness training and ethicality, which will have been previously established for the preceding hypothesis. The second step involves analyzing whether significant relationships are present between mindfulness training-reduced self-focus, and reduced self-focus-ethicality. To establish the first relationship, a 2 independent sample t-test will be done between the reduced self-focus difference scores. The second relationship will be established through collapsing the treatment and control difference scores for reduced self-focus and ethicality, then performing a simple correlation test between the two variables. Based on the previously discussed research (Hölzel et al., 2011 and Shapiro, 2006) it is expected that mindfulness training will lead to reduced self-focus. The third step requires a multiple regression test with ethicality as the dependent variable, self-focus difference scores as a continuous predictor, and the treatment group as a contrast coded predictor. Results are expected to show that self-interest will stay significantly correlated with ethicality, while the treatment group correlation either will not remain significant or the relationship will weaken, showing that a



reduction in self-interest mediates the relationship between mindfulness training and ethicality. Expected results are due to the Hölzel et al. (2011) finding that mindfulness increases concern for others through reduced sense of self, and because Piff et al. (2015) found that the positive relationship between awe and ethical decision making was explained by feelings of a small self. Following this, the Sobel test will be conducted to test the degree to which reduction in self-interest mediates the two variables.

### **Mindfulness and Well-being**

The third hypothesis to be tested in the proposed study is that an increase in mindfulness will lead to an increase in well-being. As with the first hypothesis, testing will involve use of a 2 independent samples t-test between the well-being difference scores. Given that a variety of studies (Baer, 2012; Ivztan et al., 2017; Howells et al., 2014; Harnett et al., 2010; Chen et al., 2017) have indicated significant relationships between mindfulness and well-being, results are expected to show a positive relationship between mindfulness training and well-being.

### **Mindfulness, well-being, self-focus, and ethicality**

The fourth hypothesis is that the positive relationship between mindfulness training and increase in well-being will be mediated by both a reduction in self-focus and an increase in ethicality. This will be tested similarly to the previous meditational hypothesis, using the Baron-Kenny method. The first step, testing whether a relationship exists between mindfulness and well-being, will have been performed in the previous hypothesis test. The second step requires establishing the following relationships: mindfulness training-reduction in self-focus, mindfulness training- increased ethicality, reduction in self-focus-increased wellbeing, and

increased ethicality- increased wellbeing. The first two relationships will have been established by the previous hypothesis tests. The relationship between reduction in self-focus and increased well-being will be tested by a simple correlation between the collapsed treatment and control difference scores for reduced self-focus and ethicality. The increased ethicality-increased well-being relationship will be similarly tested, performing a simple correlation between the collapsed treatment and control difference scores for ethicality and well-being. The third step requires two multiple regression tests, one to test the mediation of self-interest with mindfulness training-increased well-being and one to test the mediation of ethicality with mindfulness training-increased well-being. For both tests, well-being will be the dependent variable and the treatment group will be a contrast coded predictor, with the first mediation using reduced self-focus difference scores as a continuous predictor while the second mediation will instead use ethicality difference scores as a continuous predictor. After initial mediation is tested, the Sobel test will determine degree of mediation. Past research has shown that self-focused behavior does not lead to increased well-being while other-focused behavior does (Nelson, Layous, Cole, & Lyubomirsky, 2016). Additionally, Dambrun et al. (2012) found that while self-enhancement values are related only to fluctuating happiness, self-transcendent values are related to durable happiness. Considering this in combination with the research discussed for the preceding hypotheses, it is anticipated that results will show that both reduced self-interest and ethicality will significantly mediate the posited positive relationship between mindfulness training and well-being.

## **Conclusion**

### **Implications**

This study explores the potential of an accessible mindfulness-based method to increase well-being through becoming more ethical, all of which is ultimately based on changing the attentional focal point away from one's interests. A better understanding of how ethicality and well-being can be increased through a widely available mechanism will facilitate increased effectiveness for creators of moral and well-being enhancement programs. When focusing all of one's energy on the self and its goals, it can be difficult to recall that one's problems and negative emotions are simply a drop in the ocean when one is contextualized as a tiny being within the universe. Balancing mindful attention between the inner and outer worlds cultivates compassion and transcending the self allows for an awareness of one's inherent interdependence with other beings and nature. This study may provide support as well as a method of action for these ideas, and encourage a more loving, connected world.

### **Limitations**

This proposed study is limited in several respects. First, there is no way to guarantee that participants will consistently complete the daily mindfulness training. Requesting feedback from participants regarding their actual completion rates may partially rectify this, but participants might not be honest out of concern for self-image or guilt. It is also possible that 30 days would not be long enough to find significant changes. Finally, given that there are many different facets of ethicality, it may be the case that significant changes in ethicality do occur but not developmentally, thus they would not be measured. Moral emotions might increase instead, such as compassion and guilt. Alternatively, moral behavior might increase despite a lack of moral development. It may also be the case that that different types of self-focused attention might influence the other variables differentially. For instance, positive self-focused attention may

increase well-being. Therefore, studying self-focused attention as a non-composite variable prevents clarifying this potential distinction.

### **Future Directions**

Building directly on the present proposal, subsequent studies can examine whether these same hypotheses are present when measuring other types of ethicality, such as moral behavior or moral emotions. This will elucidate the potentially differing degrees to which various types of ethicality are influenced by mindfulness training, as well as how they might differentially correlate with self-focused attention and well-being. Researchers might also look into the ideal balance of self- and external-focus to explore whether there is a point at which one is too externally-focused and well-being suffers, perhaps through lack of care about the self. This may address the possibility that those with a truly altruistic orientation, who consistently value the interests of others above their own, might be negatively impacted by attempts to reduce self-focused attention. The possible mediational effects of self-interest on the self-focused attention and increased ethicality relationship might also be explored, which may help create moral enhancement programs implement the most direct forms of augmentation. Additionally, studies may explore other variables that explain the mindfulness-ethicality relationship, such as empathy. In finding additional variables that are at play between the two, further knowledge can be garnered about the manner through which mindfulness increases ethicality which will allow for more careful application of moral enhancement programs. Some forms moral motivation may have unintended consequences. For instance, empathy can sometimes motivate altruistic behavior by causing the empathizer to give unfair preference to the empathized entity (Batson,

Klein, Highberger, & Shaw, 1995). Therefore, a better understanding of the relationship between mindfulness and ethicality can reduce the potential of accidental negative impacts.

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