

LIVING IN PRESENT TO NURTURE THE FUTURE: INVESTIGATING THE
ASSOCIATION BETWEEN MINDFULNESS AND SUSTAINABLE CONSUMPTION
BEHAVIORS USING INDIVIDUALS' COGNITIVE PERSONALITY, VALUES AND
BELIEFS VARIABLES

by

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DEDICATION

This dissertation is dedicated to my wonderful parents and loving kids

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ABSTRACT

Currently our world consumes the equivalent of 1.6 earths per year. Although the production has become resource-efficient by using fewer natural resources to produce one dollar of GDP, per-capita consumption in the US firmly increases. Individuals consume an ever-increasing quantity of goods and services which inevitably leads to environmental damages in terms of pollution, deforestation, climate change and psychological disorders such as reduced wellbeing, unhappiness, and anxiety. Past research has suggested that embracing sustainable consumption - where consumption of products and services have minimal impact on the environment, and improvement in society's wellbeing – might mitigate the detrimental effects of over-consumption. Increasingly studies in this stream propose that adopting a psychological approach, specifically by enhancing individuals' inherent capability known as mindfulness may aid in boosting sustainable consumption behaviors. However, only few studies have investigated the decision-making processes associated with mindfulness that could show a detailed picture of how mindfulness - receptive attention to and present moment awareness is positively associated with sustainable consumption behaviors. Conceptual model for this study was built based on mindfulness-related mechanisms, namely re-perceiving, systematic processing, and ability to overcome need for fulfillment. Using a four-step conceptual model: mindfulness—cognitive personality variables—values and beliefs variables—sustainable consumption behaviors, this research empirically examines how trait mindfulness is associated with sustainable consumption behaviors. Embracing a broad definition of sustainable consumption in terms of its impact on environment (composition) and level of consumption (volume), this research includes both pro-environmental and downshifting consumption behaviors.

By utilizing an online survey method, data was collected from 1005 respondents in Amazon Mechanical Turk (Mturk). Findings from self-reported measures suggested that while mindfulness directly and positively associated with sustainable behaviors, significant indirect relationships are explained by cognitive personality variables such as cognitive flexibility, need for cognition, attention based self-regulatory control, and values/beliefs namely altruistic values, self-acceptance values, materialistic values, and perceived consumer effectiveness. Comparing empirical models using measures of both socio-cognitive based mindfulness and meditation based mindfulness demonstrated that the former has both direct and indirect relationships with sustainable behaviors while the latter showed only indirect relationships through cognitive personality variables and values/beliefs.

By identifying cognitive personality variables that are closely associated with mindfulness, this research teases out the tenets of mindfulness that are more relevant for sustainable consumption behaviors. Also, the recognized cognitive personality variables in this research have been rigorously studied in consumer behavior research, hence finding their relationships with mindfulness might help uncover applications of mindfulness in mainstream consumer behavior research. In addition, by supporting relationships involving cognitive personality variables and values/beliefs relevant for sustainable consumption, this study may offer insights for policy makers and practitioners in maneuvering consumers' mindfulness and their sustainable behaviors to bring about change in their sustainable consumption behaviors.

CHAPTER 1

INTRODUCTION

“The situation the earth is in today has been created by mindless production and mindless consumption. We consume to forget our worries and our anxieties. Tranquilizing ourselves with overconsumption is not the way for it.”

-Thich Nhat Hanh in “The World We Have – A Buddhist approach to Peace and Ecology”

On a daily basis, an average individual in the US consumes products more than his or her weight and thus relentlessly contributes to a lifestyle and culture of superfluity (Goldenberg, 2010). Compared to a situation thirty years ago, currently, the world is using thirty percent fewer natural resources to produce one dollar of GDP, indicating that production has become more resource-efficient. Yet, the overall natural resource usage steadily increases (SERI, 2000). Consumption expenditure per person has tripled over the period from 1960 to 2001 (Assadourian, 2010), indicating that consumption has far exceeded individual needs. This argument is backed by evidence, which suggests that at the current rate of consumption it takes at least eighteen months to produce what we consume in twelve months (Living Planet Report, 2010). The amount of environmental damages already made in terms of pollution, deforestation etc. which also contribute to extreme climate change affirm the above mentioned statistical evidence. Moreover, it is argued that consumers’ desire for endless possessions and consumption is associated with several psychological disorders such as reduced wellbeing, unhappiness, anxiety etc. (Kasser, 2002; Kasser and Ryan, 1993; Brown et al., 2009; Gabriel and Lang, 1995; Myers, 2000; Zavestoski 2002). Due to the environmental and societal challenges that hyperconsumption generates, Jackson (2005a) suggests that adopting a sustainable path will offer “double dividend” in terms of consumption in the long run. He posits that by embracing sustainable consumption, where consumption of products and services have minimal impact on

the environment, there will be improvement both in society's wellbeing and environmental conditions. Accordingly, ever since the realization of problems due to hyperconsumption, a growing body of research regarding sustainable consumption have been published in journals of marketing and consumer behavior including special issues on sustainable consumption and behavior. Examples are special issues on "Sustainability" by Journal of Academy of Marketing Science (February - 2011), "Putting Sustainable Consumption into Practice" by Journal of Consumer Policy (March - 2011), "Climate Change and Marketing" by Journal of Public Affairs (April, 2017), and "Sustainability and Ethical Consumption" by Management Decision (Nov, 2016) to name a few. Numerous studies reiterate the fact that a radical change in consumer behavior and lifestyle is required for successful implementation of sustainable consumption initiatives (e.g. Vining and Ebreo, 2002; Jackson, 2005b; Bratt, 1999; Dunlap, Van Liere, Mertig and Jones, 2000; Stern et al., 1999; Bagozzi and Dabholkar, 1994; Phipps et al. 2012; Thøgersen, 1994a, 1994b). However, effecting enduring change in consumer behavior with relevance to sustainable consumption has proven to be challenging (e.g. Prothero et al., 2011; Young, Hwang, McDonald and Oates, 2010; Hughner et al., 2007; Thøgersen, 2005). This study presents a psychological approach, in enhancing sustainable consumption behaviors. Mainly this study discusses how mindfulness - *receptive attention to and awareness of present events and experience* (Brown et al., 2007, p.212) - might be positively associated with sustainable consumption behaviors.

1.1 Justification for the Study

Following paragraph describes the importance of introducing mindfulness in consumption behaviors. Some consumers, who are exposed to a situation where their well-to-do peers possess a product, develop a preference towards that product without giving thought to any

objective needs but simply want to keep up with the Joneses. It is argued that social comparisons and status seeking tendencies drive consumers to make unconscious consumer decisions without proper attention and awareness. Further, due to the convenience and norms they are used to, some consumers make unconscious and auto-pilot decisions in their day-to-day regular consumption without much attention and awareness, which eventually results in hyperconsumption practices (Jackson, 2005a, Shove and Warde, 1997). Occurrences of not having sufficient attention and awareness are sometimes attributed to consumers' mindlessness in making their consumption decisions (Langer, 1992; 2002). When consumers are mindless about their consumption decisions, they may not pay adequate attention to the decisions they are involved in, may not be fairly aware/conscious about the consequences of their decisions, and may tend to rely on already existing distinctions such as social norms and convenience. It is suggested that an approach to deal with mindlessness is to enhance and/or practice mindfulness which is a capability already available in individuals (Rosenberg, 2004; Langer, 1989).

Mindfulness may also strengthen the often weak association between attitude and behavior which has been identified as an obstacle in some of the sustainable consumption contexts (Young et al., 2010; Prothero et al., 2011; De Young, 1988-89; Thøgersen, 1994a; 2000). Prothero et al. (2011) call for research that can deal with the gap in the association between attitude/value-behavior with relevance to sustainable consumption. It is argued that by being mindful, individuals may behave in a way more congruent with their values and interests (Brown and Ryan, 2003; Ryan, Kuhl, and Deci, 1997; Shapiro, Carlson, and Astin 2006). Accordingly, this research assumes that introducing mindfulness in consumers' sustainable behaviors might address this issue to some extent.

Although previous studies have investigated the role of mindfulness in sustainable consumption behaviors (Rosenberg, 2004, Brown and Kasser, 2005; Bahl, et al., 2013; Ross, 2015), only few studies have examined the decision making processes using mindfulness concepts that could clarify how mindfulness is positively linked to sustainable consumption behaviors. To this end, this study identifies cognitive personality variables, values and beliefs that underlie the association between mindfulness and sustainable consumption behaviors. Recognition of these intervening variables which are already used in consumer behavior research will offer a comprehensive understanding of the role of mindfulness in sustainable consumption. In addition, it might also open up new avenues for future research pertaining to the use of mindfulness in several areas of consumer behaviors.

This research is timely, in terms of implications for public policy and practitioners. From a public policy perspective, I believe that my research will contribute towards understanding the psychological foundations for a transition in individuals' sustainable behaviors. Given market evidence that there is a transitional wave among some consumers towards tendencies of reduced and mindful consumption (Bennet and O'Reilly, 2010; Sheth, Sethia, and Srinivas, 2011), marketers should be interested in how to react to or manage this trend. Moreover, as many markets are saturated and characterized by intensive competition, firms struggle hard to sustain their competitive advantage (Holweg and Pil, 2005; Gupta and McDaniel, 2002). Thus, practitioners strive to develop strategies that can tap any upcoming changes in consumer behavior to outperform their competitors. To this end, my dissertation which examines how consumers' mindfulness affects their sustainable consumption behaviors will offer a systematic review for practitioners to improve sustainability initiatives in their businesses. For instance,

developing promotional strategies and product information that will trigger consumers' mindfulness and cognitive processing related to it might refine marketers' sustainability efforts.

Therefore, the goal of this study is to shed light on how mindfulness in consumers can be used to overcome hyperconsumption tendencies and enhance sustainable behaviors on the individual level. This research investigates the mechanisms and variables involved in the association between mindfulness and various types of sustainable consumption behaviors.

In particular, this study is guided by the following research questions:

- 1) How do differences in individual consumers' mindfulness trait reflect variations in their sustainable consumption behaviors?
- 2) How do cognitive personality variables, individual values and beliefs affect the association between mindfulness and sustainable consumption behaviors namely environmentally friendly behaviors, purchase behaviors based on perceived CSR and downshifting consumption behaviors?

1.2 Plan of Study

In Chapter 2, this research examines the concept of mindfulness, the two different approaches to mindfulness - the Eastern meditation based mindfulness and the Western socio-cognitive based mindfulness, comparison of both the approaches, and mechanisms of mindfulness. In Chapter 3, the concept of consumption behaviors is discussed along with aspects of hyperconsumption and sustainable consumption behaviors. After discussing the relevance of mindfulness in consumption behaviors, Chapter 4 deals with the conceptual model and hypotheses development. Chapter 5 describes research methodology and Chapter 6 explains data analysis procedures and results of empirical models tested. Finally, Chapter 7

discusses research findings in terms of results, academic, managerial, and policy implications. Future directions and study limitations are also discussed.

CHAPTER 2

MINDFULNESS AS A CONCEPT

The concept of mindfulness which was initially explored in Buddhism is called ‘Sati’ in Pali language, which means ‘to remember’ or presence of mind (Brown, Ryan, and Creswell, 2007). In his book ‘Miracle of Mindfulness’, Hanh (2008, p. 11) refers to mindfulness as “*keeping one’s consciousness alive to the present reality.*” Brown et al. (2007) describe mindfulness as a mode of consciousness and define it as “*a receptive attention to and awareness of present events and experience*” (p. 212). Mindfulness has been studied and practiced mainly through two different approaches. While some researchers (e.g., Langer, 1989, 1997, and 2012) have adopted the Western socio-cognitive based approach, others have pursued the Eastern Buddhist-meditation based approach to mindfulness (e.g., Kabat-Zinn, 1990, 1994). However, both schools of thought agree that mindfulness is an innate capacity/ability, naturally available in all individuals, but to differing degrees (Brown and Ryan, 2003, 2004; Kabat-Zinn, 2003).

2.1 Western Socio Cognitive-Based Approach

When they perform certain behaviors constantly over a period, individuals gradually become dependent on their habits and carry them out without much consciousness or awareness unless they are forced to function with conscious awareness. This notion inadvertently creates mindlessness in them (Langer, Blank, Chanowitz, 1978). Individuals with increased mindlessness automatize their behavior without conscious attention and they become vulnerable to external influences such as priming and cognitive biases (Langer, 1989). By adopting a socio-cognitive based approach, Langer (1992) explains the notion of mindfulness from the perspective of mindlessness. *Mindlessness is a state of mind characterized by an overreliance on categories and distinctions drawn in the past and in which the individual is context-dependent and, as such,*

is oblivious to novel (or simply alternative) aspects of the situation” (Langer, 1992, p. 289).

Mindlessness, which is perceived as the default cognitive functioning in individuals, is where a person relies deeply on categories and differences identified in the past, and becomes dependent on the context. Individuals in mindless state are associated with avoiding alternative options or novel features and are often linked to a situation of becoming blind to the reality. Consumers in this state are prone to automatic habituation. Although Langer admits that automatization of behaviors relieves one from costly cognitive functioning, she contends that we tend to rely too heavily on auto pilot behavior even during the time when we need to be consciously aware. This notion causes negative outcomes in cognitive performance and well-being (Langer, 1989; 2005). In contrast, a mindful person continually pays attention and becomes aware of the environment which is referred to as “engagement”. Thereby (s)he creates new categories of information and distinctions appropriate for the context and situation by being open to novelty. Further, a mindful person is aware of multiple perspectives and therefore generates more choice options to respond (Langer, 1992). As per Langer (1992), “*mindfulness is a state of conscious awareness where an individual is implicitly aware of the context and content of information*” (p. 289). Langer identifies 4 important features in explaining socio-cognitive based approach to mindfulness.

They are:

- *Engagement*: When individuals pay continuous attention to the objects and events while being aware of the context or environment, engagement occurs.
- *Novelty seeking*: Individuals’ tendencies of searching for newness in their conduct, experience, and environment explains novelty seeking. This feature of mindfulness lets individuals become open and inquisitive towards their environment.

- *Novelty producing*: In contrast to mindlessness, where individuals are stuck in their already defined categories, this feature of mindfulness drives one to create new categories or redefine old categories of information in a situation or context.
- *Flexibility*: Ability to generate multiple perspectives regarding a context or situation is termed as flexibility. Being open not only to new aspects, but also to various points of view liberate individuals from being trapped in a by-default option or single perspective in what they do and experience. This feature of mindfulness also leads people to adapt easily to a change in situation while encouraging them to ‘view themselves in others’ shoes’ (Langer, 1989; 1992; Langer and Moldoveanu, 2000).

Langer (1989) interprets mindfulness as a cognitive state that is rooted on an individual’s disposition or trait. With numerous experimental studies, Langer and her associates have supported that instructional interventions such as creative mental tasks and activities (e.g., translating English sentences into appropriate codes, sorting pictures into different categories while changing categories each time etc.) induce higher levels of mindfulness by interrupting mindless cognitive automaticity. Through these interventions, they argue that there will be improvements in dispositional and trait mindfulness (Langer, 1989; 2005; Djikic, Langer and Stapleton, 2008), while acknowledging that some individuals are naturally more mindful than others (Ostafin, Robinson, and Meier, 2015). Further, Sternberg (2000) investigates the construct of cognitive-based mindfulness from different standpoints such as cognitive ability, personality trait, and cognitive style. He argues that mindfulness for the most part resembles the features of cognitive style, which are the favored ways of using an individual’s ability. With that finding, he concludes that mindfulness could be positioned at the boundary of personality and cognitive ability.

Langer (2002) suggests that mindfulness helps us to utilize the power of uncertainty to derive benefits from it. Most of the norms in our society drive us to reduce or avoid uncertainty. However, things outside ourselves are dynamic and cannot be held stable all the time. Therefore, Langer recommends that one should exploit means to utilize the power of uncertainty to learn how we can better deal with day-to-day as well as occasional activities. This practice is encouraged by novel distinction drawing, a characteristic of mindfulness. Accordingly, embracing the power of uncertainty provides a feeling of empowerment among individuals (Langer et al., 1978). Following example explains how mindfulness embraces instances of uncertainty. Currently, there is a huge uncertainty associated with the world's natural resource base, which is being depleted for increased consumption purposes. Most of the scientific and technological advancements in this regard attempt to avoid this uncertainty by finding ways of resource efficiency to support same level of consumption with fewer resources (SERI, 2000). Although one can argue that this partially overcomes the issue in concern, the uncertainty of resource dwindling still remains, because per capita consumption has increased over time (Assadourian, 2010). Alternatively, a mindful way is to confront uncertainty of resource scarcity and turn it to the betterment of society. Putting it differently, by finding new and innovative ways of reducing per capita consumption, for example, by making products that last longer or by encouraging carpooling behaviors, both the natural resource base and the wellbeing of the society could be protected (Jackson, 2005a). Further, *being open to novelty* and *novelty producing* which are important features of Langer's mindfulness generate cognitive routes for creativity, insight making, remote associations and cognitive flexibility (Langer and Piper, 1987).

2.2 Eastern-Meditation Based Approach

Although not inherently a religious or spiritual concept, the second approach to mindfulness derives its roots from Buddhist meditation based mindfulness. There has been abundant research on mindfulness based on the Buddhist practice of meditation. In this manner, the work by Kabat-Zinn (1990, 1994) on mindfulness with respect to mental health and psychological wellbeing is remarkable. He defines mindfulness as the “*art of living*” and suggests that mindfulness “*is the process by which we go about deepening our attention and awareness, refining them and putting them to greater practical use in our lives*” (Kabat-Zinn, 1994, p. xvii). “*Mindfulness means paying attention in particular way: on purpose, in present moment and non-judgmentally. This kind of attention nurtures greater awareness, clarity, and acceptance of present-moment reality*” (Kabat-Zinn, 1994, p. 4). Wallace (2005) states that the core of mindfulness meditation is to enhance internal processes by improving clarity of things that happen in and out of one’s self and strength of metacognitive attention and awareness to increase one’s overall wellbeing. Building on Kabat-Zinn’s (1994) work, Brown, Ryan, and Creswell (2007) identify the following features in Eastern (meditation-based) mindfulness as relevant for empirical studies. They are:

- *Clarity of awareness*: bare attention which is not biased by any pre-conceptualized thought,
- *Flexibility of awareness and attention*: possessing an ability to have a larger perspective and to have a detail-oriented perspective at the same time,
- *Nonconceptual, nondiscriminatory awareness*: the ability to disentangle attention and cognition which is not possible in a mindless state where cognition and attention go hand in hand with each other,

- *Empirical stance toward reality*: the seeking and diligent examination of all relevant information before making a judgment which promotes compassion for self, others and environment,
- *Present-oriented consciousness*: awareness of what is happening in the moment, encouraging self-behavioral control for better goal achievement, and
- *Stability or continuity of attention and awareness*: continuing to be mindful.

In addition, Kabat-Zinn (1990) posits that following predispositions help develop mindfulness within ourselves. They are:

- *Beginners' mind*: viewing things as if it were for the first time and developing a mindset that is receptive to new opportunities and for unique avenues,
- *Non-judging*: taking the standpoint of an impartial witness to all the events that occur around us,
- *Acceptance*: being prepared to accept things as they are and thereby become more clear and informed of how to act accordingly,
- *Patience*: letting things and moments evolve at their own pace without disrupting their progress,
- *Trust*: trusting our own intuition, taking responsibility for things and our wellbeing,
- *Letting go*: not holding on to feelings and past experiences and becoming non-attached to them, accepting the way things progress,
- *Non-striving*: achieving our end goal not by coercing things but by diligently paying attention to things and by accepting them as they are.

Arguing that the above attitudes describe only the cognitive qualities that an individual needs for attentional practice of mindfulness, Shapiro and Schwartz (2000) include the following affective attitudes indicating that affective qualities also need to be concerned in this context. They are

- *Gratitude*: being thankful for the present and for what you have,
- *Generosity*: offering with compassion without any expectation of return,
- *Empathy and Compassion*: being able to understand others' feelings and misfortunes.

Supporting this, Kabat-Zinn says that mindfulness also “*includes an affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and interest*” (Kabat-Zinn, 2003, p. 145).

2.3. Comparing Socio-cognitive and Meditation-based Mindfulness Approaches

Both approaches to mindfulness focus on the self-regulatory mechanisms in terms of their meditation (Kabat-Zinn's mindfulness) and cognitive interventions (Langer's mindfulness).

Although Kabat-Zinn's approach to mindfulness is grounded in Eastern-Buddhist-based meditation practices, the goals of meditation-based mindfulness is oriented towards therapeutic healing of physical and psychological illnesses and the practices are ultimately intended towards the wellbeing of individuals. Similarly, Langer's approach to mindfulness concentrates on *goals* of cognitive development and wellbeing of individuals through mindfulness-based cognitive interventions (Hart, Ivtzan, and Hart, 2013). Although their definitions and core principles share several commonalities for the most part, the “target of attention and awareness” or “target of engagement” differ somewhat. That is the target of attention and awareness is deeper and broader in Kabat-Zinn's mindfulness than in Langer's mindfulness. In detail, while Langer's view of mindfulness insists on being attentive to and aware of external stimuli, Kabat-Zinn's view of mindfulness focuses on both internal and external stimuli. That is, while paying attention

and awareness to the external conditions, a meta-cognitive processing of our inner cognitive experiences (involving our bodily sensory functions) is also prompted by mindful meditation (Baer, 2003). Another key feature that differentiates meditation-based mindfulness from Langer's mindfulness is the affective components, that is along with cognitive aspects such as attention and awareness, meditation-based mindfulness also emphasizes feelings and affective concepts such as compassion, empathy, gratitude, and generosity (Kabat-Zinn, 2003; Shapiro and Schwartz, 2000). However, Langer's mindfulness hardly considers any affective aspects related to mindfulness.

The following discussion compares both approaches to mindfulness in terms of their core principles from which numerous similarities are revealed. "Attention and awareness" or "engagement" in Langer's socio-cognitive-based approach are similar to the "beginner's mind" and "being in present moment" from Kabat-Zinn's meditation-based approach (Khoury, Pagnini, Trent, manuscript in review). Attending to changes that occur around us while becoming consciously aware of them requires that one needs to have a beginner's mind without any "premature cognitive commitment" which represents an outcome of mindlessness (Langer, 1992). Premature cognitive commitment occurs when an individual accepts particular information as it is without critically evaluating it. As a result, information encoded in this way stays rigid in our cognitive system and may not be recalled effortlessly for later usage (Chanowitz and Langer, 1981). For instance, several forms of learning usually happen in this manner (Langer, 1992), such as while watching television, reading a newspaper or an academic research article. When we live in the present it is highly unlikely that we will run on autopilot or be mindless about making decisions. Indeed, the Mindfulness Attention and Awareness Scale (MAAS) (Brown and Ryan, 2003) which has its background in the meditation-based approach

includes items about mindless or automatic behavior, for instance “*It seems like I am running on autopilot without much awareness of what I am doing*” (p. 826).

Another feature of Langer’s mindfulness is novelty seeking or openness to new aspects. It is supported that several measures of meditation-based mindfulness have moderate to strong correlation with Langer’s novelty seeking concept. For example, the Toronto Mindfulness Scale (TMS; Lau et al., 2006) includes the two factors curiosity and decentering. Lau et al. (2006) also support that those people who have completed mindfulness meditation training scored higher on curiosity. This finding is further validated by strong correlation between TMS and openness to novelty (Khoury et al., manuscript under review). A “beginner’s mind” attitude in mindfulness meditation is further elaborated by Kabat–Zinn (1990) as being open to new opportunities and acting as if each moment brings unique experiences. Accordingly, novelty seeking is highly related to the aspects of meditation-based mindfulness.

The third concept of Langer’s mindfulness is flexibility or the ability to take multiple perspectives in a situation (Langer, 1989). Flexibility in this context also means the capability to accept continuous feedback from the environment and adopt/change behavior accordingly. The non-judgmental attitude that supports meditation-based mindfulness describes that when individuals perceive occurrences around them in an unbiased manner (Kabat-Zinn, 1990), they become capable of generating multiple perspectives. When people possess an ability to generate multiple perspectives, their compassion and empathy towards others improve (Khoury et al., manuscript under review). Mindfulness meditation requires a detached attention/observation meaning that one should avoid any pre-mature judgment or interpretation of objects being observed (Kabat-Zinn, 1982). This detachment in mindfulness helps individuals in *shifting their*

perspectives as and when needed, which eventually helps building multiple perspectives (Shapiro et al., 2006).

Another concept of Langer's mindfulness is novelty producing, that is, it entails generating new ideas and thoughts by being creative rather than depending on already established solutions for new problems (Langer, 1989). In an experimental study, a group of individuals who have completed a short program on mindfulness meditation showed increased levels of insight making, including reorganizing problems and offering more creative responses compared to the control group (Ostafin and Kassman, 2012). This suggests that novelty producing is a common tenet induced by both approaches to mindfulness.

Studies postulate that mindfulness can be either enhanced through meditation-based interventions (e.g. Kabat-Zinn, 1990, 1994; 2003, Shapiro and Schwartz, 2000; Brown et al., 2007) or other forms of cognitive interventions (Langer, 1989; 2005; Djikic et al., 2008). However, in both schools of thought, it is agreed that mindfulness is an innate capacity/ability naturally available in all individuals, but to differing degrees (Brown and Ryan, 2003, 2004; Kabat-Zinn, 2003; Khoury et al., manuscript in review). By using a dispositional mindfulness measure, namely the Mindfulness Attention and Awareness Scale (MAAS), it is supported that individuals who did not go through any meditation experience differ in their tendency to be mindful. That is, the fact that there are differences in their measures of mindfulness suggests that people naturally differ in their levels of mindfulness. In addition, it is found that these natural differences in mindfulness correlate with differences in mental health, well-being, and behavioral regulation among individuals (Brown and Ryan, 2004; Baer et al., 2006; Ostafin and Kassman, 2012).

In summary, when evaluated more deeply, most of the tenets of both schools of thought on mindfulness share similarities with each other. However, as discussed earlier they differ based on the target of attention and awareness, the dependence on meditation vs. cognitive interventions for furthering mindfulness, and the level of prominence offered to affective components such as feelings and emotions.

2.4 Application of Mindfulness in Other Disciplines

Past research postulates that both socio-cognitive and meditation-based mindfulness lead to beneficial outcomes in mental and physical health (Kabat-Zinn, 1982; Grossman, Niemann, Schmidt, Walach, 2004), behavioral regulation (Shapiro and Schwartz, 2000; Bishop et al., 2004), well-being (Langer, 2002; Brown and Ryan, 2003), learning outcomes (Langer, 1997), and organizational management (Weick and Sutcliffe, 2006).

For the most part, Eastern meditation-based mindfulness was primarily introduced to the Western world by Kabat-Zinn and his colleagues in order to heal the mental and physical illnesses of their patients. In relation to this, they initiated a meditation-based clinical therapy called Mindfulness Based Stress Reduction (MBSR) program at the University of Massachusetts Medical Center in which patients were required to practice mindfulness meditation usually for eight weeks on a daily basis with a duration of 40-60 minutes. This provided patients relief from their physical and mental ailments both at mind and body levels by improving their self-regulation. Following this, several researchers and medical practitioners used MBSR both as a treatment and as a therapeutic tool to help people cope with pains due to chronic diseases and alleviate psychological issues such as stress, anxiety, and sleeplessness (Kabat-Zinn, 1990). Similar to MBSR, Mindfulness Based Cognitive Therapy (MBCT) is another mindfulness meditation-based program introduced to prevent people from experiencing depression relapses.

Along with aspects of MBSR, MBCT also consists of cognitive therapy exercises such as thinking and identifying the negative aspects that give rise to depression and then offer mindfulness training to detach from it (Segal, Williams and Teasdale, 2002). Cognitive Based Compassion Training (CBCT) has successfully been applied in diverse populations, for instance in aiding adolescents in foster care with daily life stressors to manage stress, regulate feelings, and behave with compassion towards others (Reddy et al., 2013). Apart from this, mindfulness and acceptance practices are used in some of the cognitive-behavioral therapies such as Dialectical Behavior Therapy (DBT; Robins and Rosenthal, 2011) and Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, and Wilson, 1999) to help individuals with psychological issues regulate their behavior and cognitive processing.

In addition, empirical findings involving surveys, lab studies, and meditation programs suggest that both dispositional and state mindfulness are positively associated with self-regulatory behavior and different measures of subjective wellbeing including physical and emotional well-being (Brown and Ryan, 2003; Brown and Kasser, 2005; Brown et al. 2009). Studies have also reported improvements due to MBSR training in other aspects of wellbeing. These include but not limited to increase in quality of life, positive states of mind and emotions, satisfaction with life, hope, and self-efficacy. In addition, MBSR training in individuals is associated with nurturing attitudes related to mindfulness such as compassion, empathy, forgiveness and resilience (Hart et al., 2013).

Mindfulness-related cognitive interventions reportedly improve trait mindfulness (Djikic et al., 2008), cognitive performance, learning abilities (memory, focusing, problem solving) (Langer, 1997; 2000; Langer et al. 1989), and reduce social stereotyping (Djikic et al., 2008). Through several lab experiments, Langer and her colleagues support that mindfulness could be

used to improve educational outcomes among students. For instance, they found that when a study material is offered in a mindful manner, that is, when lessons are comprised of careful conditional statements rather than of absolute statements, students showed improvement in recalling the material and creative application of material. They further argue that mindful learning evades premature cognitive commitment and mindless decisions (Langer, 1997; Langer and Piper, 1987). Applying tenets of mindfulness such as multiple perspective taking, novelty seeking and engagement to student learning, Reber (2014) proposes that interventions such as diversified learning methods, problem focused learning, and personalized choice of examples may enhance students' learning outcomes.

Research in organizational management reveals that mindfulness could be put into better use either by training employees as mindful individuals or by introducing mindfulness in organizational procedures such as communication, team building, and negotiation. Studies to this end assert that mindfulness could positively influence employees' wellbeing, their performance, interpersonal relationships, leadership and ethical decision making. (Reb and Choi, 2014). Employees who practice various types of mindfulness meditation including MBSR training, show reduced stress, burnout and psychological distress related to the workplace (Manocha, Black, Sarris, and Stough, 2011; Shapiro, Astin, Bishop, and Cordova, 2005). As per Reb and Choi (2014), mindfulness might improve employees' quality of performance by enhancing their creativity, work memory, and by reducing automaticity. In an empirical study using measures obtained from employees' supervisors, Reb, Narayanan, and Ho (2013) find that mindfulness is positively associated with employees' organizational citizenship behaviors (e.g. helping each other in work) and negatively associated with their deviant behaviors (e.g. misusing

organizational property). It is further argued that mindfulness through its relation to compassion might improve organizational ethical behaviors (Reb and Choi, 2014).

2.5 Mechanisms of Mindfulness

Following section describes reperceiving mechanisms of mindfulness, mindfulness in relation to information processing models, and the relation between mindfulness and need-for-fulfillment motive. These mechanisms will later be used in generating a conceptual model to study the association between mindfulness and sustainable consumption behaviors.

2.5.1 Reperceiving Mechanism of Mindfulness

Shapiro et al. (2006) attempt to explicate how mindfulness might trigger a change and or transformation in its outcomes, through a procedure known as reperceiving model of mindfulness (Carmody, Baer, Lykins, and Olendzki, 2009; Saur, Walach, Kohls, 2010).

Attending on purpose with openness and non-judgmental attitude may lead to a shift in individuals' perspectives, which they term as reperceiving (Shapiro et al., 2006). Reperceiving is where *“through the process of mindfulness, one is able to dis-identify from the contents of consciousness (that is, one’s thoughts) and view his or her moment-by-moment experience with greater clarity and objectivity”* (p. 377). In other words, compared to being absorbed and held by the occurrences of our own life, through mindfulness we are able to witness those occurrences objectively. Reperceiving as they contend is a meta-mechanism because it overarches and fosters other direct mechanisms that are associated with mindfulness such as attention based self-regulation, cognitive, behavioral, and emotional flexibility, and values clarification.

Self-regulation is the process of functioning with stability while complying with necessary changes. According to Shapiro and Schwartz (2000) self-regulation could be understood as a concept of system with a feedback loop in which individuals reintroduce part of

the output from their functioning as information or input for their successive functioning. They argue that in general self-regulation occurs very often in every aspect of our life, either automatically or consciously. However, in conscious self-regulation individuals pay vivid attention to the functioning or process which will generate better feedback for further improvement. Through re-perceiving individuals may generate conscious self-regulation in which they enact control over their emotions and or thoughts and use it as information for better functioning and coping behaviors. Values clarification is another process that could be enhanced through re-perceiving. In a broad sense, individuals choose values in accordance with several aspects such as social norms, cultural values and familial conditioning. However, through re-perceiving which stems from mindfulness, one could possibly observe values around them independent of their true self and reflect upon them with much objectivity. This might further lead them to choose values that are authentic to their self and act accordingly. In relation to this, Brown and Ryan (2003) support that when subjects are “acting mindfully,” as assessed by the Mindful Attention Awareness Scale (MAAS) state measure, individuals act in ways that are more congruent with their actual values and interests. Similarly, re-perceiving prevents us from identifying ourselves with reflexive and rigid forms of already existing outcomes and experiences. In contrast, it allows us to view our situations and reactions to it through lenses of clarity, which might filter out prior beliefs and assumptions that sometimes tend to bias our processing of newly available information. This in turn may result in multiple and flexible choices of action. Hence, re-perceiving could also be associated with cognitive, emotional and behavioral flexibility.

2.5.2. Mindfulness in relation to Processing Models

Past research has compared several dual mode processing models with the manner in which mindful individuals process information. Among them elaboration likelihood, heuristic-systematic and automatic-controlled processing models are to name a few (E.g. Petty and Cacioppo, 1986; Petty, Cacioppo, and Schumann, 1983; Eagly and Chaiken, 1993). In describing how persuasive communication induces a change in attitude, these models mainly emphasize on two major routes to persuasion; central and peripheral. When individuals take a central route to persuasion they engage in diligent, thoughtful and systematic deliberation of information and arguments about an issue. On the other hand, when they take a peripheral route to persuasion they use simple heuristics, mental shortcuts and readily available inferences in forming their attitudes (Petty and Cacioppo, 1986). Langer's mindfulness elucidates that paying continuous attention to and by being aware of our environment may create new flexible categories of information and choices relevant for the context. This notion of mindfulness resembles central route to persuasion because in both cases there will be detailed processing of cognitive resources. Similarly, peripheral route to persuasion could be matched with Langer's idea of mindlessness because in both instances, individuals rely too heavily on already existing differences or categories and avoid detailed cognitive processing. As per Petty and Cacioppo (1986), the difference between mindless and mindful functioning is analogous to automatic and controlled processing in individuals. Automatic processing is generally characterized by absence of conscious awareness and intention where there will be little involvement of mental resources which is somewhat closer to mindless processing. However, controlled processing demands attention and awareness of surroundings with which one could produce flexible and multiple choices relevant for the situation as in mindful processing. In essence, Langer's mindfulness may

be equivalent to cognitive processing that requires detailed deliberations and avoids auto-pilot thoughts and actions.

Nevertheless, it is constantly argued that mindfulness, particularly mindfulness based on Eastern meditation could be a broader concept than just central processing in persuasion literature (Bahl et al., 2013). As per self-reference literature, there are two distinct forms of self-referencing or self-awareness: (i) self-reference described by neural functions supporting awareness of one's self that spans across time through past and learned information and (ii) a more abstract momentary self-reference described by neural variations supporting awareness of one's self in present moment. The first higher order self-awareness might be subjected to automaticity and could be a resultant of past learned activities. The second form of reference depicts moment by moment self-awareness through internal and external bodily sensory functions (Farb et al., 2007). They further support that through mindfulness meditation people are able to detach the 'self in present moment' from 'self across time' which otherwise may be an implausible thing to do in a regular non-meditation context. In that vein, Eastern-based mindfulness which underscores experiencing present moment awareness non-judgmentally deviates away from central route to persuasion because the latter may also use past learned information and experiences in creating an attitude (Bahl et al., 2013). Nonetheless, in a general sense one could argue that mindfulness is more closely related to central route to persuasion than peripheral route to persuasion, because in both there will be careful attention and awareness of information and environment.

2.5.3. Mindfulness and the Need-For-Fulfillment

Rosenberg (2004) contends that by developing mindfulness an individual can overcome psychological issues, such as the need-for-fulfillment and alienation or non-connectedness.

Greater awareness associated with mindfulness leads people to experience the occurrences of life in a more meaningful manner which lets them enjoy little details of life and perceive increased fulfillment with their lives. Relating to this, Csikszentmihalyi (1990) states that improving happiness and enjoyment in our lives could be referred to as the function of “reforming our consciousness.” Also, when someone is mindful, he/she may be more open to aspects around them. Increased awareness and attentive thoughts of mindfulness generates openness to the situations of others and generate connectedness with others (Shapiro, Astin, Bishop, and Cordova, 2005; Shapiro and Schwartz, 2000). According to Cushman (1990), this subsequently mitigates the effects of ‘feel of emptiness in self’ and alienation from society.

2.6 Cognitive Personality Variables Related to Mindfulness

Based on mechanisms of mindfulness discussed above - re-perceiving process, and central/systematic processing (Shapiro et al. 2006; Rosenberg, 2004; Petty and Cacioppo, 1986; Dong and Brunel, 2006), this study suggests the following cognitive personality variables that could be affected by mindfulness. In particular, relating to the re-perceiving process of mindfulness, cognitive flexibility (Carmody et al., 2009) and attention based self-regulatory control (Carmody et al., 2009) are identified and regarding the central/systematic processing, variable need for cognition (Petty and Cacioppo, 1986) is identified. Although these variables have been primarily chosen in this study because of the underlying mechanisms of mindfulness explained earlier, following reasons further encourage researching these cognitive personality variables. First, mindfulness is a concept that embraces several tenets. Hence, by identifying cognitive personality variables that are closely associated with it, this research teases out the tenets of mindfulness that are more relevant for consumption behaviors. Second, these cognitive personality variables have been already rigorously studied in consumer behavior research, hence

finding their relationships with mindfulness might help uncover applications of mindfulness in mainstream consumer behavior research.

2.6.1 Cognitive Flexibility

Cognitive flexibility is often described as the individuals' mental ability to switch or shift their thinking between numerous tasks or assignments in response to a variation in rules or demands (Miyake et al., 2000). This could also mean to adjust and adapt one's thinking for a changed or new situation. That is, when individuals can overcome their previously held beliefs and/or thoughts in response for a change in situation, then they are said to be cognitively flexible (Moore and Malinowski, 2009; Deak, 2003). For instance, if a person is able to change his firm beliefs regarding the need to keep up with the Joneses and divert his mind towards a simplified lifestyle, then he could be considered as cognitively flexible. Further, a cognitively flexible person may be able to consider multiple aspects of an object, idea or scenario (Bigler and Liben, 1992). According to Martin and Rubin (1995) "*Cognitive flexibility refers to a person's awareness that in any given situation there are options and alternatives available, willingness to be flexible and adapt to the situation, and self-efficacy or belief that one has the ability to be flexible*" (p. 623). The concept is also explained as an individual's ability to adapt cognitive processing tactics to face novel and unforeseen circumstances (Moore and Malinowski, 2009). In consumer behavior research, studies find that an increase in positive affect and good mood enhances individuals' cognitive flexibility and thereby their creativity and positive evaluation of new products (Isen, 2001; Bagozzi, Gurhan-Canli, and Priester, 2002). While cognitive flexibility could be increased by urging consumers to imagine using a new product in the distant future and to reflect on the new product from multiple perspectives, cognitive flexibility also

encourages consumers to identify non-obvious commonalities between new and familiar products (Kardes, Cronley, and Cline, 2011).

2.6.2 Attention-Based Self-Regulatory Control

Self-regulatory control, which is also referred to as self-control, is a trait variable which refers to individuals' capacity to alter their state or behavior through careful monitoring of their responses based on standards such as goals, norms and guidelines (Baumeister, 2002). As Shapiro et al. (2006) explicate a self-regulation process associated with re-perceiving occurs when there is conscious attention. Hence, in empirically supporting the process of self-regulation in re-perceiving (Shapiro et al., 2006), Carmody et al. (2009) adopt attention-based self-regulation which is a component of self-regulation that emphasizes on "*learning to direct attention in specific ways*" (p. 617) and therefore might be able to indicate mechanisms of mindfulness. In detail, attention-based self-regulatory control is defined "*as a person's ability to focus his or her attention on a given task, to control and regulate external and internal distractions, and to work toward a desired goal or outcome*" (Diehl, Semegon, and Schwarzer, 2006, p. 306). This individual-difference variable is also described as the capability to sustain steady functioning during unpleasant circumstances while maintaining emotional balance (Carmody et al., 2009). Self-regulatory control is also related to impulsive purchasing (Baumeister, 2002), spend self-control (Haws, Bearden, Nenkov, 2011) consumer decision making strategies (Gollwitzer and Sheeran, 2006), compulsive buying, and self-gifting (Faber and Vohs, 2004).

2.6.3 Need for Cognition

Need for cognition is an individual's propensity to engross in and enjoy effortful cognitive endeavors. Individuals who are high in need for cognition engage in elaborative thinking, exhibit central processing of information and therefore may avoid automatic thought

processes. They are inherently motivated to be curious and enjoy doing complicated activities (Cacioppo and Petty, 1982). The variable need for cognition, apart from its role in central route to persuasion, influences diverse areas of consumer behaviors such as exploratory buying behavior (Baumgartner and Steenkamp, 1996), motivation to search for information in a purchase situation (Schmidt and Spreng, 1996), consumer innovativeness (Cotte and Wood, 2004), and reflecting on feedback (Anseel, Lievens, and Schollaert, 2009).

CHAPTER 3

CONSUMPTION AS A CONCEPT

By nature, all human beings consume for their survival (Solomon, Greenberg and Pyszczynski, 2004). Consumption is the “*the utilization of economic goods in the satisfaction of wants or in the process of production resulting chiefly in their destruction, deterioration, or transformation*” (Merriam-Webster Online Dictionary, 2008). Different disciplines have offered various delineations regarding consumption. For example, from an economics standpoint, consumption is an act performed by an informed individual to maximize utility and wellbeing through rational choice (Jackson, 2005a). Consumption is also defined as “*the selection, purchase, use, maintenance, repair, and disposal of any product or service*” (Campbell, 1995, p. 102). Consumption has, in general, been perceived as the main force behind economic growth and development (Speth, 2008), as an indicator of quality of life (Kilbourne, McDonagh, and Prothero, 1997), and as the means for individual and collective wellbeing (Jackson, 2005a). Industrialized and capitalist societies frame the surge in consumption as an essential pathway to universal happiness, prestigious status establishments, and search for meaning to lives (Gabriel and Lang, 1995).

3.1 Driving Forces for Consumption

Researchers have examined the concept of consumption, particularly the driving forces behind consumption from several perspectives. In this regard, Ropke (1999) offers a broad review of driving forces for consumption based on economic (macro level), socio-psychological (micro level), and everyday life (meso level) categories. Table 1 shows Ropke’s (1999) classification of driving forces with historic and structural changes that enhanced them. In essence, Ropke’s (1999) classification simply suggests that today’s consumption trend has

progressed over a longer period, not only through psychological development of human, but also via social, economic, technological and historic advancements. This overall understanding of drivers of consumption further motivates us to examine the socio-psychological forces underlying individual (micro level) consumption behavior. To that end, Table 2 displays the main types of socio-psychological driving forces behind consumption, along with definitions and examples.

Table 1: Classification of Drivers of Consumption by Ropke (1999)

Category of force	Driving forces behind consumption	Historical and structural changes that enhanced the forces behind consumption
Economic (Macro level)	<ul style="list-style-type: none"> - Productivity increase and competition among producers for new products diversification innovations reduction of costs - Expansion of market relations 	<ul style="list-style-type: none"> - Use of commercials - Credit facilities - Labor market institutions: “work only to spend” mentality - Relative prices and sectoral shifts: goods that are produced industrially usually do not include relevant environmental costs, occupational health and safety issues etc. Therefore, material consumption became cheaper than other aspects such as natural environment and health of an individual. That is, the opportunity costs of material consumption is higher.
Socio- psychological (Micro level)	<ul style="list-style-type: none"> - Insatiable wants: overconsumption - Envy among consumers: conspicuous consumption - Individuals make sense of world through goods in combination with social hierarchical organization of society - Commodities as ritual adjuncts - Need for self-identity 	<ul style="list-style-type: none"> - Individualization – when isolated from traditional and social connections due to individualization, individuals search for consumption as a means of exhibiting their self-identity because they are no more defined based on their social bonds. - Consequences of later modernity for the construction of self-identity - Increased interpersonal independence - Dependence on world wide networks and large scale social structures, which made possibilities of consumption even greater - Process of formalization and institutionalization
Everyday life (Meso level)	<ul style="list-style-type: none"> - The importance of desires and emotions in relation to social relations 	<ul style="list-style-type: none"> - Home building - The duality of ideal family: In order to keep the closeness of family members and at the same time to maintain the individuality of each family member, consumption is required - The paradox of time saving: for e.g. people purchase a car to save time on traveling, but after the purchase they intend to

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- Structure-actor interplay: e.g. consumer is dependent on electric system, sewage system etc.
 - travel far places in search of new possibilities (new consumption experiences) which doesn't make any difference in their time saving before and after the car purchase
 - The momentum of socio technical systems: e.g. television and car are introduced as commodities and are later integrated into our social practices, systems etc.
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Table 2: Social and Psychological Drivers of Consumption

Social and Psychological drivers of consumption	Definition and explanations	Example	Extant research
Status/Conspicuous consumption or Consumption related to social comparisons	<ul style="list-style-type: none"> - Consumption, which involves a hierarchy of commodities to indicate a household/individual's status, wealth and prestige to others. Sometimes referred to as "display consumption" and "positional consumption". - Based on Veblen's (1899) ideology, conspicuous consumption is "<i>buying unnecessary and expensive products and services as a way to show off wealth</i>" (Bergman, 2010, p.3). - Status consumption, a derived concept from conspicuous consumption is "<i>the motivational process by which individuals strive to improve their social standing through conspicuous consumption of consumer products that confer or symbolize status both to the individual and to surrounding significant others</i>" (Eastman, Goldsmith, and Flynn, 1999, p.43). 	<ul style="list-style-type: none"> - Conspicuous consumption: using gold plated smartphones, Rolls Royce cars and spending around \$35,000 per night for hotels. - Status consumption: occurs when people have a want to purchase goods to "keep up with the Joneses lifestyle" 	<p>Eastman, Goldsmith, and Flynn (1999), Bergman (2010), Veblen (1899), Mason (1981), Hirsch (1995)</p>

	<ul style="list-style-type: none"> - May have evolved from evolutionary approach to behavior (Vugt, Griskevicius, and Schultz, 2014). 		
Inconspicuous consumption/Ordinary consumption	<ul style="list-style-type: none"> - Consumption that occurs while people make their ordinary day-to-day consumption decisions. It does not relate to their status or display, but it happens as a result of consumers' habit, convenience, institutional set up, social norms etc. This also occurs as a result of promotional tactics/marketing tactics. 	<ul style="list-style-type: none"> - When an individual goes to buy a pair of shoes, and if there is a "<i>buy one, get one half off</i>" deal, he/she will most likely end up buying two pairs of shoes instead of one pair. - A person who decides to buy "Clorox green works" cleaner because of its rather little damage on natural environment, might end up buying a regular cleaner product because it was on sale. 	Jackson, (2005b), Shove and Warde (1997)
Consuming for symbolic values and/or self-identity	<ul style="list-style-type: none"> - Individuals consume certain products because, apart from the functional purposes these commodities serve, using them signifies their desire, love and success in their lives. - Products also function as symbolic aspects in communicating their identity, social, and cultural importance. 	<ul style="list-style-type: none"> - A consumer who buys a specific toy for his/her kid, only because s(he) enjoyed playing with it as a kid. - A US consumer buys only American cars to exhibit his/her patriotism. 	Douglas and Isherwood (1996), Hirschman, (1982), Belk (1988), Campbell (1987; 1995)
Seeking novelty in consumption	<ul style="list-style-type: none"> - In order to get rid of boredom in their lives, individuals buy products because they want to enjoy the new pleasure, new taste and overall novelty in newly purchased commodities which is referred to as 	<ul style="list-style-type: none"> - Fashion goods e.g. clothing, new home décor, new furniture etc. - Adventurous vacations 	Scitowsky (1976), Lane (1991), Csikszentmihalyi (1990)

	“variety seeking consumption behavior” (McAlister and Pessemier, 1982).		
Specialization within daily life	<ul style="list-style-type: none"> - In the postmodern world, consumers want to present or display them and their surroundings in diverse ways, at various social situations and this requires more specialized products. - With the invention of specialized appliances and technological systems consumers are somehow driven to demand more and more products. 	<ul style="list-style-type: none"> - An individual wants different types of clothing to wear for work, rock concert, opera, football match etc. 	Featherstone (1991), Ropke (1999)
Matching	<ul style="list-style-type: none"> - Sometimes referred to as “Diderot effect”, this means that when individuals buy new items, it makes the surrounding items unacceptable to them and urges them to replace those items so that they will match with the new item bought. - Replacement of items occurs continuously at a never ending rate. 	<ul style="list-style-type: none"> - Situation where a consumer wants to buy new furniture because the old furniture does not match with the new house recently moved to. 	McCracken (1988)

3. 2 Consumption in Consumerist Society

Researchers argue that a more detailed description of consumption encompasses economic, cultural, and social features along with *consumerism*, a derivative of consumption, in order to justify capitalism (Lee, 1993; Bocoock, 1993; McCracken, 1988). Compared to consumption, consumerism is a rather comprehensive concept that is characterized by individuals' consumption experiences intertwined in their day-to-day social lives. It also refers to the psycho-social consequences of consumption experiences through which an individual is connected to the society and environment (Miles, 1998). Simply put, "*consumption is an act and consumerism is a way of life*" (Miles, 1998, p. 5). However, when consumerism has its topmost influence on individuals and society, it generates higher obsession with consumption experiences driven towards affluence and possessions (Aldridge, 2003). Preoccupation with acquisition and possessions is enhanced by insatiability of wants, a key problem of modern day consumption (Campbell, 1995). Insatiability of wants leads to ever increasing purchase of goods and services resulting in overconsumption or hyperconsumption¹. Accordingly, hyperconsumption is a behavioral manifestation of consumerism (Mullins et al., 2004). Hyperconsumption as will be discussed in detail below, is directly associated with environmental decline and psychological issues such as acquisitive desire disorder (Kottler, Montgomery, and Shepard, 2004).

¹ Kjellberg (2008) notes that "overconsumption" is more of a lay term and "hyperconsumption" is a carefully constructed term. Usually, the term "overconsumption" is given more prominence when dealing with the environmental consequences and climate change (Winter, 2004). However, in discussions of social and psychological motivations for consumption, and in aspects such as consumerism, the term "hyperconsumption" is given more importance (e.g. Kilbourne et al., 1997). Maybe due to this reason, some studies have used both terms; "overconsumption" and "hyperconsumption" interchangeably to refer to the same phenomenon (e.g. Sheth et al., 2011). With its excessive use of limited resources, "hyperconsumption" is also associated with environmental consequences in the same manner as "overconsumption". Since this research examines social and psychological aspects relating to consumption particularly with relevance to mindfulness, and for purposes of clarity, it uses the term "hyperconsumption" throughout the study. In sum, this study deals with excessive consumption which is sometimes referred to as "overconsumption" and at other times referred to as "hyperconsumption".

3.3 Hyperconsumption

Hyperconsumption is present when people's lives become highly commoditized with little reference to the fact that the commodity is produced from part of the ecological environment. Two different situational aspects best describe hyperconsumption; commodification of lives and having little thought or reference for the sources from which consumer goods are produced. Commodification is exhibited in instances where individuals consume a product/service for the sake of consuming it rather than for a need satisfaction where consumption becomes a never-ending process without any "objective" end (Kilbourne et al., 1997). Examples of commodification might be where people visit shopping malls leisurely and buy goods without experiencing a particular need. These consumers do not view consumption as a means to an end but as an end in itself (Economist, 2009). The second situation, which further intensifies hyperconsumption, is when consumers and producers give little regard to nature and the environment from which the resources for goods are drawn (Kilbourne et al., 1997). Examples of this situation might be where consumers want to buy furniture made from rare/endangered rainforest trees and instances where consumers want to replace electronics frequently with no regard to the rare minerals used to produce them. Hyperconsumption is encouraged when consumers and producers fail to realize that they are consuming a part of the natural environment which cannot be easily replaced. Also when there is commodification, the real use value of the product as well as the cost involved with the damages done in the environment in terms of that product are overlooked (Kilbourne et al., 1997). In line with this, Speth (2008) also places a somewhat similar argument for the existence of hyperconsumption. He says that the total costs of consumption are mostly underestimated and the real benefits of consumption are generally overestimated. More specifically the negative externalities associated

with production and consumption are rarely taken into account. That is, for instance, the prices of goods paid by the consumer generally do not cover the cost of damages caused to the air quality/water ways near the production facility. As the overall environmental, social and economic costs of producing goods are difficult to determine, they are often underestimated. Similarly, as per consumption economics, the law of diminishing marginal utility states that consuming an extra unit of good generates only diminishing returns. However, this fact is not taken into account when buying and/or producing goods for consumption. This illusive asymmetry of the costs and benefits of consumption urges consumers to consume more and more, which eventually results in hyperconsumption behavior (Speth, 2008).

Increasingly, hyperconsumption is viewed as a social pathology (Jackson, 2005a). Social pathology is a social situation which inhibits a group's ability to attain shared values and norms present in the rest of the society, thereby leading them to social disorganization, and risking overall "health" of the society (Ritzer, 2007). Moreover, like other socio-pathological circumstances such as substance abuse and crime, hyperconsumption generates social, economic, and psychological problems to consumers because of their addiction to material goods or the acquisition thereof.

3.4 Environmental, Psychological, and Other Health Consequences of Hyperconsumption

Past decades witnessed the extremes of hyperconsumption (Kilbourne et al., 1997). Supporting this statement, Speth (2008) claims that in the U.S., per capita electric power consumption has escalated by 70% since the 1970s, dimensions of new houses have grown by 50%, and solid waste produced by an individual has mounted up by 33%. Moreover, rapid growth of the self-storage industry after the 1970s is another key indicator of hyperconsumption, as self-storage is hugely demanded by consumers who want to store their "not so necessary

possessions” that they acquire (Speth, 2008). Hyperconsumption and population growth have been identified as the root causes of environmental degradation (Stern et al., 1997) and climate change (Rayner and Malone, 1998; York, Rosa, and Dietz, 2003). It is argued by researchers that compared to population growth, the main underlying reason for environmental decline is the increase in per capita consumption levels (Sheth et al., 2011; Wirth, Ehrlich, Lomborg, & Rosling, 2010; Pearce, 2009; Winter, 2004). However, according to Robbins (1999) hyperconsumption does not seem to be given sufficient consideration in this context since most of the institutions and individuals believe that consumption trends cannot be easily changed and consumption is the pillar of a nation’s economic prosperity. Some of the environmental challenges due to hyperconsumption include natural resource depletion, global warming, deforestation, clean water drainage, and loss of soil and agricultural land, all of which threaten the sustenance of present and future generations (Winter, 2004). It is estimated that world consumption in the year 2010 required the resources of one and a half planet earths, meaning that it took eighteen months to produce and absorb the materials that we used and discarded in just one year. Further, if everyone followed U.S. consumption trends, then the number of planet earths we will need might increase up to five (Living Planet Report, 2010).

Moreover, there is evidence that consumerism at its peak may generate social and psychological discontents such as social inequalities, mental distress, and disgruntled relationships, which might be associated with unhappiness (Kasser, 2002; Zaveskoski, 2002; Kilbourne et al., 1997; Gabriel and Lang, 1995). For example, Myers (2000, p. 61) says that *“compared with their grandparents, today’s young adults have grown up with much more affluence,however our becoming much better off over the last four decades has not been accompanied by one iota of increased subjective well-being”*. Likewise, several empirical

studies support that consumers' reported wellbeing levels and satisfaction improve only marginally with the increase in GDP and consumption levels (e.g., Oswald, 1997). Kasser (2002) argues that increase in materialistic behaviors which highly correlates with the increase in consumption levels leads to reduced subjective wellbeing and low psychological health because people miscomprehend "needs" for commodities and "growth and development" in themselves for affluence that they possess. Materialists, because of their endless desire for possessions, exhibit low psychological flexibility, unhappiness, and low quality social connections (Kasser and Ryan, 1993). In an experimental study, subjects who were primed with "*consumer cues*" compared to those who were primed with "*neutral cues*" reported increased levels of materialism along with higher levels of depressed affect, self-dissatisfaction, desire to out-do others, and low preferences for social activities/engagement. In this study, consumer cues were offered either by showing images of luxury consumer goods or by mere mention of the word "consumer". In the control condition, images that create only neutral valence such as images of natural scenes devoid of consumer goods were used, or just the word "citizen" was mentioned (Bauer, Wilkie, Kim, and Bodenhausen, 2012). Encouragement of hyperconsumption through consumer culture generates a gap in financial terms, between what consumers already possess and what they want to have. This "aspiration gap" jeopardizes individuals' subjective wellbeing (Brown et al., 2009). Apart from the psychological consequences, hyperconsumption also causes physical health hazards. For instance, hyperconsumption in terms of binge eating behaviors such as frequent snacking lead to obesity and illnesses such as diabetes and high cholesterol (Collins and Bentz, 2009).

Jackson (2005a) contends, that in a futile attempt to achieve wellbeing and happiness through hyperconsumption, individuals constantly cause environmental degradation.

Accordingly, it is suggested that there will be a “double dividend” for remedying the issue of hyperconsumption: by giving up on hyperconsumption, individuals can do better in terms of their individual and collective wellbeing and they can also protect the natural environment for better and future use (Jackson, 2005a; Speth 2008).

The following section will focus on sustainable consumption as an approach to overcome hyperconsumption. In this section, first the importance and evidence of sustainable consumption will be explained. Next, concepts pertaining to sustainable consumption behaviors such as pro-environmental behaviors and downshifting consumption behavior will be investigated.

3.5 Sustainable Consumption

Among researchers and many consumers, there is agreement that sustainable consumption is inevitable and is a widely preferred approach to combat the issue of hyperconsumption and its consequences (Nielsen, 2011). Sustainable consumption is defined as “*the consumption that simultaneously optimizes the environmental, social, and economic consequences of acquisition, use, and disposition in order to meet the needs of both current and future generations*” (Phipps et al., 2012, p. 1). Examples of sustainable consumption behaviors include, but are not limited to, using energy efficient appliances, buying only sustainable and Fairtrade goods, recycling waste from households, composting kitchen waste, saving energy and water, buying organic food, changing to more environmentally friendly transport modes, buying goods made with recycled material, investing only in “ethical funds”, adopting a voluntary simplified lifestyle etc. (Jackson, 2005b).

Evans (2011) states that “*sustainable consumption is a matter of consuming differently by consuming less, both in terms of the quantities of goods and services consumed (volume) and the environmental impacts of that which is consumed*” (composition) (p.551). In a similar sense,

Speth (2008) argues that sustainable strategies to deal with consumerism are taking place with two different degrees of gravity: pro-environmental consumption and reduced/downshifting consumption. Pro-environmental consumption promotes firms to produce and urges consumers to buy environmentally and socially friendly products. Alternatively, downshifting consumption, which is one of the most crucial approaches to sustainable consumption, attempts to reduce the overall consumption by ways of cutting down natural resource exploitation (Speth, 2008).

3.5.1 Pro-environmental Consumption Behaviors

Ever since the ecological and societal implications of consumption have been realized, numerous authors have attempted to profile consumers and developed different scales in order to study the actual trends and forms of pro-environmental consumption behaviors found among different individuals (e.g. Webb, Mohr and Harris, 2008). Measuring pro-environmental behavior is a challenging aspect because of the diverse and comprehensive nature of the behaviors being considered in that category which ranges for e.g. working from home to using environmental friendly detergents (Brick and Lewis, 2014).² Some of these concepts and scales include, the “Socially conscious consumer” (Webster, 1975; Anderson and Cunningham, 1972), “Responsible consumption” (Fisk, 1974; Roberts, 1993; 1995; Henion, 1976; Antil 1984), “Environmentally responsible behavior” (Hines, Hungerford, and Tomera, 1986), the “Environmentally responsible consumption/Eco scale” (Stone, Barnes, and Montgomery, 1995), “Ecologically conscious consumer behavior” (Straughan and Roberts, 1999), “Socially responsible purchase and disposal scale” (Webb et al., 2008), “Emission reducing behavior (Brick and Lewis, 2014)”, “Consciousness for fair consumption” (Balderjahn, Peyer and Paulssen, 2013), and many more. Among them following are worthwhile mentioning because of

² Current study refers all these kinds of behaviors as ‘pro-environmental consumption behaviors’

their diversity of focus and/or recency of development. By acknowledging that consumption is the only means through which natural resources are depleted and that there are difficulties for businesses to assess those environmental damages, Fisk (1974) turns out to be one of the pioneers to advance the idea of responsible consumption. In his study, he identifies different ways by which the environment is damaged and suggests various approaches to deal with this. Adopting an environmental viewpoint, Antil (1984) defines socially responsible consumption as *“those behaviors and purchase decisions made by consumers that are related to environmental resource problems and are motivated not only by a desire to satisfy personal needs but also by a concern for the possible adverse consequences of their consequent effects”* (p. 20). Holding both an environmental and societal perspective, Roberts (1993) defines the socially responsible consumer as *“one who purchases products and services perceived to have a positive (or less negative) influence on the environment or who patronizes businesses that attempt to effect related positive social change”* (p. 140). Consciousness for fair consumption by Balderjahn et al. (2013) focuses on the extent to which consumers intend to buy or desire goods that are manufactured and traded in line with fair business and industrial practices. Considering emissions reduction as a crucial element of individual environmentalism (IPCC, 2013), Brick and Lewis (2014) generated a scale of emissions reducing behavior, which include items such as ‘When you visit the grocery store, how often do you use reusable bags?’ and ‘How often do you eat organic food?’. Webb et al. (2008) developed measure of socially responsible purchase and disposal scale based on individuals who purchase, use, and dispose products with an intention of minimizing or avoiding detrimental effects and maximizing long-run gains for society. Some of the items include, ‘I try to buy from companies that help the needy’, and ‘I avoid buying products that pollute the water’. Along with individuals’ conservation behaviors relating to food

and transport that might have a direct impact on environment, Markle (2013) includes environmental citizenship behaviors such as being a member of an environmental group that might indirectly have an impact on the environment. Some of the items from Markle's (2013) scale include 'How often do you turn off the lights when leaving a room?' and 'Are you currently a member of any environmental, conservation, or wildlife protection group?'.

Based on the above discussion regarding numerous scales, this research defines that pro-environmental consumption behaviors are evident where consumers buy and or support environmentally and socially friendly products and services so that the harmful effects on environment could be minimized and social welfare could be protected.

3.5.2 Downshifting Consumption Behaviors

Ample attention has been paid to producing energy efficient vehicles, ecofriendly homes etc. but the carbon footprint on earth is constantly increasing because of stable increase in per-capita consumption (Schor, 2010). Hence, as Speth (2008) explains, "*...earlier most environmental attention has been given to delinking output from resource inputs, thus dematerializing the economy with more efficient use of resources. Now attention is turning to delinking social welfare from output*" (p. 149). In the aftermath of the 2008 economic downturn, a report from Pew Research Center (2010) indicates that increasingly consumers adopt a "new frugality" by developing cautious attitudes towards spending habits, consumption patterns etc. The Economist (2009) claims that there is a psychological transition in consumers' mindsets and their behavior has prompted them to view consumption only as a means to an end. Arguments as such have led researchers to explore consumers' downshifting consumption behaviors. Accordingly, this research discusses downshifting consumption behavior as a broader concept which might embrace aspects of downshifting consumption (Nelson, Rademacher, and Paek,

2007), voluntary simplified lifestyle (Huneke, 2005; Etzioni, 1998; Shaw and Newholm, 2002) and frugal consumption (Pepper, Jackson, and Uzzell, 2009). According to Nelson et al. (2007), due to psychological stress associated with overconsumption, increasingly individuals adopt a simplified lifestyle where they opt to work for fewer hours and/or consume less. This in turn offers them better work-life balance, personal fulfillment and opportunities to participate in community activities. Further, they contend that this trend motivates consumers to be involved in reusing, repairing, and sharing goods with others. Voluntary simplified lifestyle, a vivid form of downshifting consumption is the “*degree to which an individual selects a lifestyle intended to maximize his/her direct control over daily activities and to minimize his/her consumption and dependency*” (Leonard-Barton, 1981, p. 244). By limiting material consumption, both voluntary simplifiers and downshifter seek contentment through non-material aspects in their life (Etzioni, 1998; Shaw and Newholm, 2002; Nelson et al., 2007). Frugal consumption is where individuals limit their spending on goods and services by enacting a restraint on acquisitions and gaining efficiency or resourcefulness from their already held goods (Lastovicka et al., 1999). According to Evans (2011), frugality could be a moral restraint on consumption to avoid excess and waste and although it was not borne out of ecological reasons, it reduces the environmental impact due to consumption. In terms of limiting acquisitions, frugal consumption shares similarities with other forms of downshifting consumption behaviors including voluntary simplicity. Accordingly, Elgin and Mitchell (1977) identify frugal consumption as one of the important tenets of voluntary simplicity along with ecological consciousness and intrinsic development.

Based on this comprehension, current research describes downshifting consumption behaviors as reduction in overall consumption levels by adopting a simplified lifestyle with reduced work or income and by limiting material acquisitions; these behaviors that may arise out

of self-centered and altruistic (environment and/ or society) concerns usually result in personal growth and intrinsic satisfaction (Huneke, 2005; Lastovicka et al. 1999; Elgin and Mitchell, 1977; Nelson et al., 2007).

3.6 Values and Beliefs Affecting Sustainable Consumption Behaviors

Following is a discussion on certain values and beliefs that are associated with pro-environmental and downshifting consumption behaviors. Meta-analysis using past research on pro-environmental behaviors recap that pro-environmental behaviors are primarily influenced by environment-specific values/attitudes, perceived behavioral control, and norms³ (Bamberg and Moser, 2007; Hines et al. 1986). Particularly, altruistic values and perceived consumer effectiveness have been chosen because these have been identified as important determinants of sustainable consumption behaviors in past research (e.g. Berger and Corbin 1992; Ellen, Wiener, and Cobb-Walgren, 1991; Stern and Dietz, 1994; Stern et al., 1999; Stern et al., 1995; Karp, 1996), however have been hardly researched with relevance to mindfulness empirically. Similarly, there is a rigorous research on materialism as a determinant of consumption behaviors (e.g., Richins and Dawson 1992; Burroughs and Rindfleisch 2002) and mindfulness in the context of certain sustainable behaviors (e.g., Kasser and Ryan 1993). Nevertheless, materialism has not been investigated in the context of both pro environmental behaviors and downshifting consumption behaviors. In addition, this study has chosen self-acceptance values because of its strong association with mindfulness (e.g. Carson and Langer, 2006) and its influence in determining individuals' consumption behaviors (e.g. Kim and Gal., 2014). Despite its

³ Norms refer to people's perceptions regarding others' evaluations of their behavior (Fishbein and Azjen, 1975; 1980). Norms have not been accounted for in this conceptual model, because mindful individuals' behaviors are mostly accounted for by their own individual values and beliefs rather than their perception regarding others' evaluations (Shapiro et al., 2006).

significance self-acceptance has not yet been researched in the context of mindfulness and sustainable consumption behaviors.

3.6.1 Altruistic Values

When an individual places relatively higher importance on protecting, and enhancing the well-being of humans, other species and environment then he/she is believed to hold altruistic values (Schultz, 2000; Stern, Dietz, and Kalof, 1993). Schwartz (1992) views “*values as the criteria people use to select and justify actions and to evaluate people (including the self) and events*” (p.1). Schwartz (1992) identifies two different dimensions of values namely self-enhancement vs. self-transcendence and openness to change vs. conservation. Self-enhancement value cluster consists of values relating to power and achievement which mostly emphasize on social status, and prestige, control and dominance over others’ and others’ resources, personal success, competence according to social standards etc. In contrast, self-transcendence values, which are positioned right opposite to self-enhancement values in the circumplex model of values developed by Schwartz (1992), focus on values such as benevolence which encompasses preserving and improving the welfare of individuals who are in immediate contact; and universalism which denotes understanding, being grateful, tolerating and protecting the welfare of individuals in general. Similarly, openness to change vs. conservation is another dimension of values and placed in between self-enhancement and self-transcendence values. Openness to change values correspond to creativity, freedom, and challenges in life, whereas conservation values refer to opposing values such as traditions, conformity, acceptance of customs, and security (Bardi and Schwartz, 2003). Stern et al. (1993) have modified Schwartz’s value measures (Schwartz, 1992) pertaining to the use of it in environmental context. Particularly, altruistic values have been derived from the self-transcendence value cluster in a manner to

reflect individuals' tendency to preserve and enhance the welfare of environment and society. Stern and Dietz (1994) show that altruistic values, while playing a crucial role in forming environmental attitudes, also directly affect environmental behaviors. A series of research by Stern and his colleagues have supported that altruistic values could be an important determinant of pro-environmental behaviors (Stern and Dietz, 1994; Stern et al., 1993; 1995; 1999). In explaining how value orientations affect pro-environmental behaviors Stern et al. (1999) state that consumers who hold altruistic values, that is individuals who have their values positively oriented towards other people and other living beings, will gradually become aware of adverse environmental consequences caused by human actions and will tend to ascribe personal responsibility to take action towards it. This will generate environment-specific moral norms which will lead to pro-environmental behaviors such as buying organic food and goods made from recycled materials (Stern et al., 1999; Stern et al., 1995).

3.6.2 Materialism

Materialism is defined as a "*set of centrally held beliefs about the importance of possessions in one's life*" (Richins and Dawson, 1992, p. 308). Consumer materialism consists of three important factors: centrality, happiness and success. Importance of acquiring possessions for consumers' lives is linked to the centrality aspect, seeking pleasure through purchase of possessions is associated with the happiness factor and achieving goals via acquiring possessions is connected to the success factor (Richins and Dawson, 1992). For materialists, value of possessions reflects their self-status and their possessions portray a desired self-image (Campbell, 1987). They perceive possessions as signs of success (Fournier and Richins, 1991). Materialism as a value has always been associated with self-enhancement aspects such as hedonism and self-indulgence (Burroughs and Rindfleisch, 2002).

3.6.3 Perceived Consumer Effectiveness (PCE)

According to Ellen et al. (1991) PCE is a domain-specific belief that is similar to the concept of perceived behavioral control and it measures the extent of an individual's belief that his/her effort can make a difference in solving a particular issue. Berger and Corbin (1992) define PCE more specifically as an "*estimate of the extent to which personal consumption activities contribute to a solution to the problem*", p. 80). As per Ellen et al. (1991) PCE could be an important variable in terms of its impact on pro-environmental behaviors, because even when the values/attitudes relating to pro-environmental behaviors are favorable, there may not be positive changes in behavior, if an individual does not believe that he/she can effect a change with their behavior. Supporting this argument, Berger and Corbin (1992) state that while values/attitudes indicate individuals' perception regarding a problem, PCE signifies the assessment of themselves in the context of the problem. There has been rigorous research on PCE in relation to pro-environmental consumption behaviors. While some studies support that PCE has a direct positive effect on pro-environmental behaviors (e.g. Ellen et al., 1991; Roberts, 1996; Kim and Choi, 2005; Webb et al., 2008), others support that it has a positive moderating impact on the association between attitude/values and pro-environmental behaviors (e.g. Berger and Corbin, 1993; Lee and Holden, 1999).

3.6.4 Self-Acceptance

Increasingly self-acceptance has been given consideration as an important phenomenon in psychological health. Self-acceptance is simply "*one's happiness and/or satisfaction with him/herself. It involves an understanding of self, a realistic and subjective awareness of strengths and weaknesses*" (Bernard, 2013, p. xiv; Shepard, 1979, p. 140). According to Ryff (1989) self-acceptance is an element of psychological well-being and sometimes referred to as a

facet of self-fulfillment, and psychological maturity. Further he adds that individuals with higher self-acceptance will have a “*positive attitude toward the self; acknowledge and accept multiple aspects of self including good and bad qualities*” (Ryff, 1989, p. 1072). In their study which relates self-acceptance to consumption behaviors, Kim and Gal (2014) define self-acceptance as “*detaching one’s self-worth from one’s assessment of whether one’s actual self meets one’s ideal*” (p. 527). Kasser (2002) explains the notion of self-acceptance from the perspective of self-determination theory of intrinsic and extrinsic values. He states that while intrinsic values encourage individuals’ inherent self to grow, satisfy psychological needs and intrinsically motivate them towards behavior, extrinsic values urge individuals because of external rewards or others’ praise and therefore extrinsically motivate them towards behavior. Examples of intrinsic values include self-acceptance, affiliation, community feeling; and extrinsic values include concern for financial success, image and social recognition. Self-acceptance involves focusing on self-growth and self-regard while perceiving independence from external rewards, praise or coercive pressure. (Kasser and Ryan, 1996). In a similar vein, Kim and Gal (2014) assert that whereas individuals with self-acceptance view self-deficit information as benign to their self-worth, those with less self-acceptance perceive it as a threat to their self-worth.

CHAPTER 4

CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

In this chapter, I initially present how mindlessness affects consumption behaviors and then by addressing important findings from past research, I discuss the implications of mindfulness in consumption as well as sustainable consumption behaviors. Later, referring to mechanisms of mindfulness discussed in Chapter 2, I explain the decision making processes involved in the mindfulness—sustainable consumption behavior relationship, which builds up the conceptual model for this study. Against this backdrop, I identify cognitive personality variables, individual values and beliefs that may underlie this association. Finally, I develop hypotheses using findings from other studies, theoretical underpinnings of mindfulness and sustainable consumption behaviors.

4.1 Mindlessness in Consumption Behaviors

Extending mindlessness to consumption, Rosenberg (2004) argues that mindlessness in some consumers may be associated with instances of spendthrift purchases, excessive and/or wasteful consumption. In general, individuals carry out most of their routinized behaviors without paying much attention to the details of it and therefore their behaviors become more auto-pilot (Olendzki, 2014). As per Langer (1989; 1992), this default cognitive functioning called mindlessness is a “*mental state where there is little questioning of new information and where individuals are mentally passive and are processing the environment according to pre-existing scripts and routines*” (Moscardo and Pearce 1986, p. 93). Since this auto-pilot or automaticity in behaviors is adaptive, limits cognitive processing, and reduces the depletion of self-regulatory resources by liberating one’s constrained attention from activities they are no longer required for (Kang, Gruber, and Gray, 2014), it has been a desired outcome where habit

formation is necessary. Hence, when cognitive resources are limited and the context remains unchanged, making decisions using simple heuristics or few cues has been efficient (Klößner et al. 2003). Supporting this, Herbert (2014) contends that heuristics and automaticity relieve one from spending too much cognitive effort on daily decision making instances such as grocery shopping and product choices. Although automaticity and habitual behavior might be helpful in some instances, it might as well lead to insensible and wasteful product choices (Kristeller and Epel 2014; Moscardo and Pearce 1986). According to Jackson (2005b) a great portion of excessive consumption results not from luxurious or conspicuous consumption, but occurs through inconspicuous consumption patterns where millions of consumers make their day-to-day routine consumption decisions based on their habit. Moreover “routine” consumption decisions might lead to inefficient choices and wasteful consumption, because the consumer may be inattentive to the real context of consumption. For example, consumers who are used to purchasing baby diapers in bulk might find part of their purchases wasteful if they completely ignore the context that the baby may have outgrown the size of the diaper they buy. Similarly, a consumer who habitually relies on his wife to turn off the lights might fail to save energy during the days when his wife is away from home. In another example, a consumer might find it difficult to switch from buying produce from a supermarket to buying local produce from small businesses because of his/her habit of shopping at supermarkets only. Because of habituation in consumption, consumers find themselves being “locked in” the notion of consumerism and are not able to exert an active control over it (Marechal, 2010).

Similarly, present day consumers are at times confused with their purchase decisions due to lack of salespersons to help at the store, and are sometimes overwhelmed by the infinite number of choices and options to choose from (Davenport, Mule, and Lucker, 2011). This

situation might generate cognitive overload for a consumer while shopping for goods. Increase in cognitive load, depending on their cognitive capacity, might lead some consumers to adopt simplified strategies/heuristics processing rather than detailed comprehensive processing (Malhotra, 1982). Using simplified strategies for decision-making is somewhat associated with mindless processing, that is, consumers might tend to base their shopping decisions on simple, more evident, already existing distinctions (Petty and Cacioppo, 1986). For example, people who experience this situation may tend to buy the same product that a co-shopper purchases. Relying on previously existing categories, and not performing flexible cognitive processing, are known as mindless processing (Langer, Chanowitz, and Blank, 1985). Hence, it could be inferred that mindless processing often results in mindless consumption. Following is an example where consumers might become susceptible to their mindlessness due to social comparisons. Social comparisons may play an influential role in shifting an individual's reference point with regard to the desire for a product, which might be associated with mindless consumption. For example, when people perceive that their well-to-do peers possess a certain good that they do not own, their desire to have the product seems to reach top of their aspirations and they want to purchase it only because their well-to-do peers possess it. This scenario could shift their reference point of desire for the product from just "I like the product" to "I really want to have it now". The shift in reference point increases the deprivation of possession for the product. In order to reduce the deprivation, consumers end up purchasing products that they never wanted before their peers bought them (Hoch and Loewenstein, 1991). Conspicuous consumption patterns that emerge out of social comparisons with super-rich groups, which are attributed to mindless consumption by Sheth et al. (2011), further support these findings.

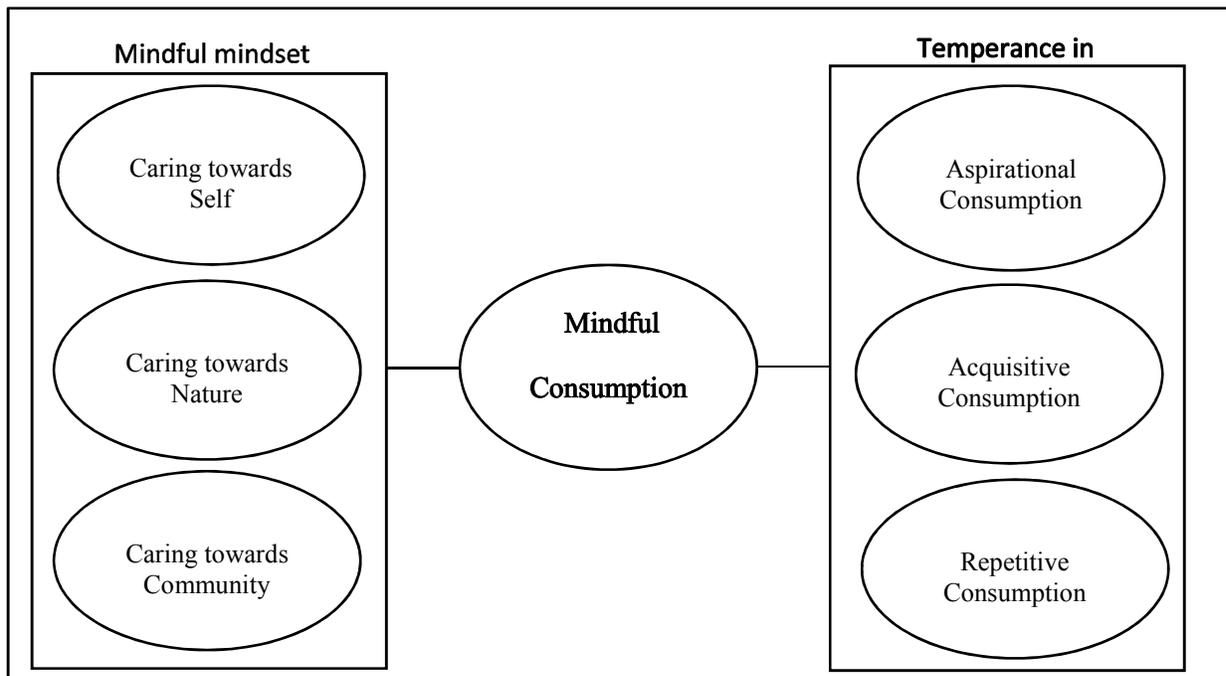
Several researchers have studied need for fulfillment as a socio-psychological motivation behind consumption (Pérez and Esposito, 2010; McInnis and Chun, 2006; Fromm, 1947). The loss of social bonds characterizing many industrialized societies may lead consumers to feel an emptiness which some strive to overcome by acquiring material goods (Ropke, 1999; Fromm, 1947). As Cushman (1990) points out, hardly any material purchases bring happiness. In a similar argument, Belk (1988) compares this situation to fetishism—a phenomenon where inanimate things are worshipped by individuals with the belief that they will bring happiness to the individuals' lives with their mystic powers. Relating to this Kabat-Zinn (1993) states that mindlessness in consumption may set path for emptiness and fulfillment through acquisitions associated with it. This is because when people are relatively mindless they may not be able to value their inner self (Kabat-Zinn, 2003), they may not view novelty in things they already possess, and they might only follow their already existing belief that new possessions will bring happiness without any reconsideration (Heller, 2011; Langer, 1992).

4.2 Applying Mindfulness to Consumption Behaviors

As seen from previous section, some of the consumer decisions associated with hyperconsumption emanate from mindlessness of human behavior. One of the important pathways to overcome issues of mindlessness is to practice mindfulness (Langer, 1989; 1992; 2005). Accordingly, mindlessness in consumption could be addressed through adopting mindfulness in consumption (Rosenberg, 2004). With similar understanding, Sheth et al. (2011) propose a market-driven and customer-focused sustainable consumption model called “Mindful consumption” (MC). Although Sheth and colleagues' mindful consumption framework does not exactly refer to the construct of mindfulness, the concept mindful mindset introduced by the authors as one component of MC resembles the features associated with mindfulness. MC

“connotes temperance in acquisitive, repetitive and aspirational consumption at the behavioral level, ensuing from and reinforced by a mindset that reflects a sense of caring toward self, community and nature” (Sheth et al., 2011, p. 30). Mindful consumption explains how a consumer’s mindful mindset, which holds different attitudes and values with regard to consumption, influences temperance behavior in different consumption patterns. Figure 1 illustrates the mindful consumption model proposed by Sheth et al. (2011). Mindful mindset reflects one’s tendency to care for self, environment, and community. In their mindful consumption model, caring for self is about an individual’s wellbeing, i.e. it is associated with life satisfaction aspects such as happiness, economic wellbeing etc. Caring for community is about the importance and concern that individuals place on the upkeep of their relationships and the wellbeing of the local community. Caring for nature is about the importance that the individuals place on the intrinsic, instrumental, and aesthetic values of nature and eco-system (Sheth et al., 2011). It is argued that the tendency of caring for self, community and nature will be negatively associated with overconsumption and this will induce temperance in three important overconsumption behaviors; acquisitive, repetitive and aspirational consumption patterns. Acquisitive consumption means purchasing items that surpass one’s needs and capacity to consume. Repetitive consumption is the increased purchase frequencies associated with disposable and fast-obsolete items. Aspirational consumption is related to the conspicuous consumption patterns found among individuals who desire to have luxury lifestyles and consumption compatible to their super-rich reference groups. Mindful mindset values and attitudes influence the above mentioned consumption patterns and the interpretation of those behaviors, therefore leading to subsequent changes in consumption behaviors (Sheth et al., 2011).

Figure 1: Mindful Consumption Model by Sheth, Sethia, and Srinivas (2011)



The discussion of the mindful mindset presented in Sheth et al. (2011) seems to imply the relevance of mindfulness in exerting a temperance on consumption behaviors. In this line of research, following studies have emphasized the role of mindfulness in consumption behaviors. Using a survey method, Amel, Manning, and Scott (2009) support that acting with awareness, which is a tenet of mindfulness, is positively associated with self-reported sustainable behaviors. They argue that mindful awareness may help individuals to recover their long-lost ecological identity while bridging the gap between ecological attitudes and behavior. In a similar vein, Ross (2015) supports that with mindfulness the likelihood of embracing voluntary simplicity lifestyle and attitudes and behaviors relating to voluntary simplicity lifestyle increase. Brown and Kasser (2005) show that dispositional mindfulness and intrinsic values were positively associated with subjective wellbeing and ecologically responsible behaviors. Having demonstrated the complementarity between subjective well-being and ecological responsible behaviors due to mindfulness, Brown and Kasser (2005) call for future research to consider processes that might

be involved in mindfulness and ecologically responsible behaviors. In their conceptual paper, Ericson, Kjonstad, and Barstad (2014) contend that mindfulness may have an indirect impact on sustainable behaviors through empathy, compassion, non-materialistic/intrinsic values, and subjective wellbeing together with a direct impact. Brown et al. (2009) find that with increased mindfulness, the gap between individuals' financial aspirations and current financial status, which they term "financial desire discrepancy", declines. Particularly, by using diverse samples such as working adults, students, and general population in the U.S., they support a mediation effect where mindfulness is negatively associated with financial desire discrepancy and thereby positively related to subjective wellbeing. In addition, using a quasi-experimental approach, they affirm that individuals who have attended a 4-week residential mindfulness meditation training showed increased mindfulness which led to decreased financial discrepancy as well as increased subjective wellbeing. Barber and Deale (2014) have examined the relevance of customers' mindfulness in their sustainable behaviors in the context of hospitality management. They argue that evaluating customers' mindfulness aids hoteliers in letting their guests know of and respond to hotels' pro-environmental practices. Specifically, they support that individuals high in mindfulness generate higher concern for others and society and search for goods and services that have less environmental impact.

Apart from sustainable consumption behaviors, some of the studies have focused on how mindfulness might affect healthy food consumption behaviors. For example, in a study involving poor eating habits among college students, Bahl et al. (2013) show that mindfulness trait was negatively associated with their mindless eating behaviors and their perceived stress levels. They also support that behaviors such as overeating and skipping meals are somewhat rare among students who practice mindfulness meditation. Based on the findings they propose that

mindfulness could be used as a tool to sustain health-enhancing behaviors among consumers. Similarly, Jordan et al. (2014) find that mindfulness trait is positively associated with less impulsive eating, and healthier snack choices. They also find that state mindfulness, induced via a lab-based 15-minute audio recording of mindfulness body scan that had individuals pay attention to their breathing and bodily sensations (Kabat-Zinn, 2002), led them to choose reduced calorie food in a spontaneous eating task. In their subsequent study, they also find that the association between state mindfulness and healthy food choice is mediated by individuals' attitude such as preference for healthy food. Related research has also studied the usefulness of mindfulness interventions in weight loss programs (Dalen et al. 2010).

4.3 Influence of Mindfulness in Consumption Behaviors

Here, I explain the mechanisms of mindfulness, specifically the re-perceiving process, central/systematic information processing, and finding fulfillment with inner-self as discussed in Chapter 2 with relevance to consumption behaviors which lays foundation for the conceptual model (Figure 2).

Mindful mindset in the model of mindful consumption introduced by Sheth et al. (2011) somewhat resembles the mindfulness concept. More specifically, the mindful mindset pertaining to a consumption context demonstrates values and attitudes in accordance with the qualities mindfulness is associated with. Because mindfulness “*allows for doubt and that allows for choice*” (Langer, 2014, p. 12), it is associated with making choices with diligent care (Brown and Ryan, 2003). Hence one could assume that individuals with increased mindfulness might pay attention to buying decisions, for example by carefully determining what product should be bought in order to avoid detrimental consequences on the natural environment, on the community and on the self. This leads them to become more cognitively flexible in terms of

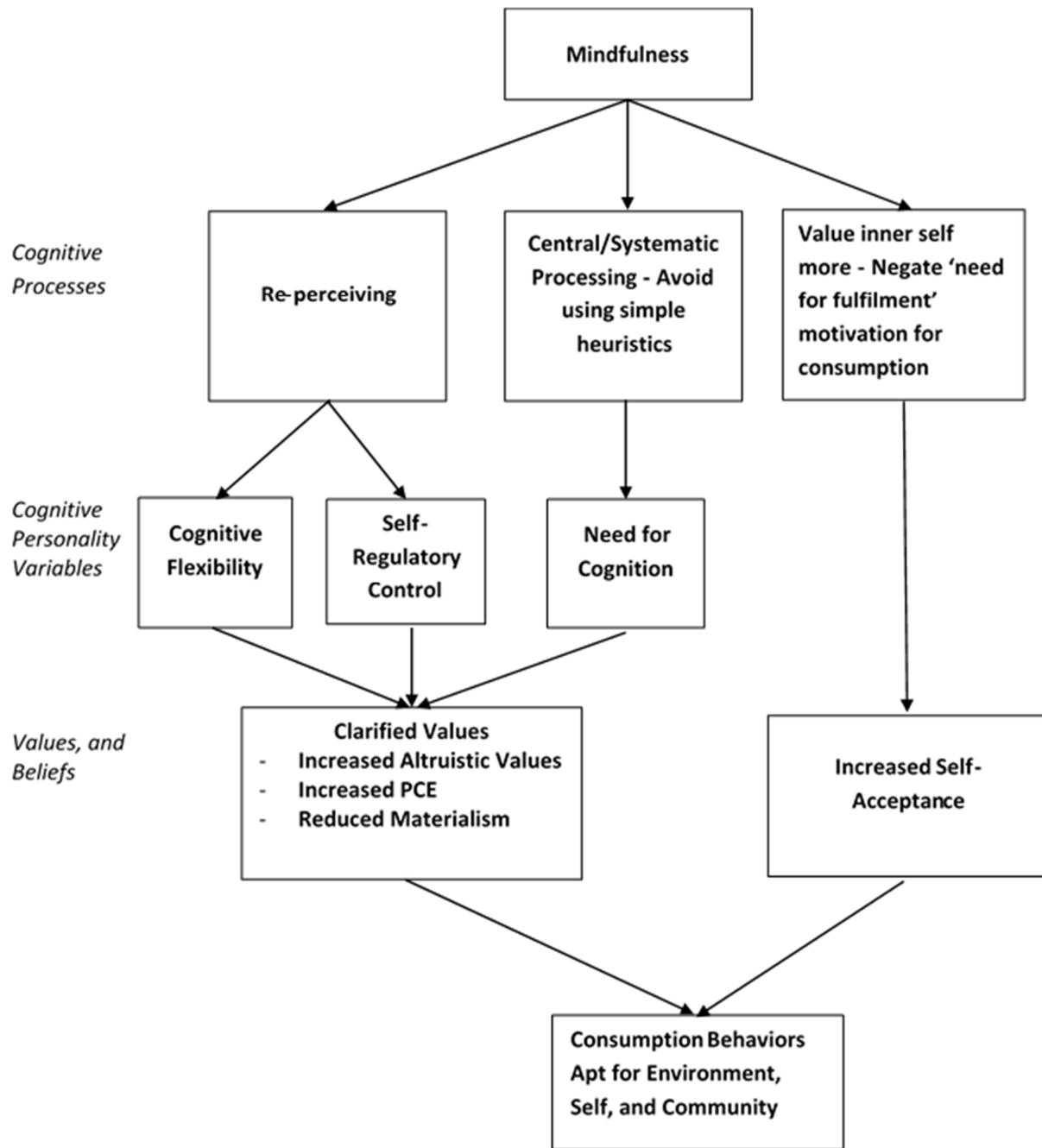
generating multiple perspectives (Langer and Moldoveanu, 2000) on consumption such as finding an alternative for consumption – for instance, looking for sharing options instead of buying a product.

Individuals who mindfully attend to aspects undergo shifts in their perspectives, that is, they experience “re-perceiving”. Re-perceiving is associated with self-regulation, cognitive flexibility, and values clarification. “*Frequently we are pushed and pulled by what we believe (based on cultural or familial conditioning) is most important, but fail to reflect upon whether it is truly important in the context of our own lives*” (Shapiro et al., 2006, p. 380). Hence, a person who is mindful about his/her consumption will choose values reflectively (acting without any influence) with greater objectivity than reflexively (being stimulated by external factors) and behave upon them accordingly (Shapiro et al., 2006). Further, when an individual is paying attention with open mind and intention, he/she may behave in a way more congruent with their values and interests (Brown and Ryan, 2003; Ryan, Kuhl, and Deci, 1997; Shapiro et al., 2006). That is, the concept of mindfulness may strengthen the relationship between values/attitudes regarding caring for self, community, and nature and temperance on consumption behaviors. Hence, mindfulness might help overcome the issue of weak association between value and behavior (Shapiro et al., 2006).

Further, when individuals are mindful, they adopt central or systematic information processing and avoid using simple heuristics to make decisions (Petty and Cacioppo, 1986). Through an experimental research involving persuasive messages of an advertisement, Dong and Brunel (2006) support that mindful individuals tend to take a central processing path even when their knowledge regarding the product is low. While addressing the relevance of mindfulness in consumerism, Rosenberg (2004) posits that mindful individuals’ behaviors are well thought-out

and result from a deliberate and conscious choice after considering the consequences of consumption. She clarifies that having greater mindfulness may help improve consumers' awareness of cognitive processing that triggers a consumption behavior. In other words, mindfulness may help exercise temperance on hyperconsumption behavior. Relating to this, Sheth et al. (2011) suggest that when planning marketing strategies for mindful consumers, marketers' initial step should be to avoid over-marketing that usually consist of aggressive promotions and hard selling techniques. When a relatively mindful consumer thinks of buying furniture or other products, that thought may have only arisen out of a need and may not be due to any other external influences such as status seeking or in response to aggressive promotions.

Figure 2: How Mindfulness Might Affect Consumption Behaviors?



Also (s)he will consider if purchase is the only option available, that is, (s)he will ponder if the furniture already held could be refurbished or another piece of furniture could be used for that purpose because mindfulness leads individuals to think about alternative options (novelty producing) (Langer, 1989).

Mindful individual should be able to find fulfillment and self-acceptance in their day to day life events that offer different patterns of experiences so that he/she may not want to acquire more and more possessions to find temporary fulfillment. when someone is mindful, he/she may be more open to aspects around them. This happens because the increased awareness and attentive thoughts of mindfulness generates openness to the situations of others, which make individuals take an impartial view of consumerist lifestyles, feel better off with what they have, establish bonds with each other, and participate in causes larger than themselves. This connectedness towards others might eradicate the emptiness that they suffer and desire to contain with excessive consumption (Rosenberg, 2004). Hence, it can be inferred that developing mindfulness in people will make them reconsider their aspirations towards hyperconsumption behavior.

4.4 Conceptual Model

In attempting to understand the association between Mindfulness and Sustainable Consumption Behaviors, this study identifies cognitive personality variables from the literature of mindfulness and values/beliefs from the literature of sustainable consumption behaviors. By examining three different types of relationships, mindfulness—cognitive personality, cognitive personality—values/beliefs, and values/beliefs—sustainable consumption behaviors current research offers a comprehensive and an in-depth view of how mindfulness might be associated with sustainable consumption.

The association between mindfulness and cognitive personality variables is conceptually backed by mechanisms of mindfulness explained in Chapter 2. As seen already, mindfulness enables individuals to intentionally attend a situation with a non-judgmental attitude and thereby encourages them to generate multiple perspectives or alter their previously held perspective – a process known as re-perceiving. Re-perceiving enhances other direct mindfulness mechanisms such as self-regulation and cognitive flexibility (Shapiro et al., 2006). In this study, the cognitive personality variables attention-based self-regulation and cognitive flexibility account for the above mechanisms resulting from mindfulness. Similarly, as discussed earlier, mindfulness may augment detailed deliberations and diminish auto pilot thoughts and decisions (Langer, 1989). Hence, in this study, the cognitive personality variable need for cognition, that is one's tendency to involve in and enjoy detailed cognitive endeavors (Cacioppo, Petty, and Kao, 1984), has been chosen as a proxy to account for the changes in systematic processing that result from mindfulness (Bahl et al., 2013).

The associations between cognitive personality variables and values/beliefs can be explained as follows: Value is defined as “*an enduring belief that a specific mode of conduct is personally or socially preferable to an opposite or converse mode of conduct or end state of existence*” (Rokeach, 1973, p. 5). Values refer to what we believe we should do, while personality refers to what we tend to do inherently. Besides, values are dynamic in nature and can be changed, but personality characteristics for the most part remain stable for a longer period. Despite these differences among the constructs, it is often argued that personality plays a key role in individuals' value system. That is, apart from social experiences, individuals develop values based on their personality too (Parks and Guay, 2009). In essence, Rokeach (1973) pinpoints personality as an antecedent to values. For example, an individual with a high degree

of curiosity (a facet of openness to experience personality) may cultivate a value consistent with his/her personality such as inquisitive values (a facet of self-direction values). It is further explained that when personalities are cognitive rather than affective in nature, they will be more associated with corresponding values, because values are primarily cognitions (Parks-Leduc, Feldman and Bardi, 2014). Consistent with this theoretical explanation this study expects that cognitive personality variables will result in certain values/beliefs. Values/beliefs variables in this research include altruistic values, materialistic values, Perceived Consumer Effectiveness (PCE), and self-acceptance.

Finally, the following excerpt offers a theoretical illumination for the link between values/beliefs and behaviors in this study. Bardi and Schwartz (2003) suggest that there are two reasons why people might want to behave in accordance with their values; need for consistency between individuals' values/beliefs and behaviors, and the rewarding experience that they obtain from behaving compatible with their values/beliefs. In fact, "*the natural way to pursue important values is to behave in ways that express them or promote their attainment*" (Bardi and Schwartz, 2003, p. 1208). According to Rokeach (1973) values are motivational concepts underlying one's goals that span across time and context. For instance, a person who holds self-direction values may tend to choose his own actions at home, be independent at school, and be creative at the workplace. Although many studies suggest that values result in consistent behaviors (Rokeach, 1973; Bardi and Schwartz, 2003), some studies suggest otherwise (e.g. Kristiansen and Hotte, 1996). In order to identify the strength of relationships between values and behaviors, Bardi and Schwartz (2003) conducted three different studies using both self-reported and peer-reported behaviors and find that among the values identified by Schwartz (1992), the values-behavior link is stronger for some value types compared to others. The strength of the value-behavior

association was greater for values including hedonism, universalism, and self-direction and behaviors expressive of them compared to the relations in the context of other values including achievement, benevolence and security. Furthermore, they find that circumstances such as normative pressures weaken the value-behavior relationship. However, as seen already, a mindful person should be able to choose values reflectively with little influence of situational conditions like social norms and behave congruent to it (Brown and Ryan, 2003; Ryan et al., 1997; Shapiro et al., 2006). That is, the concept of mindfulness may strengthen the relationship between values/beliefs and behavior. Therefore, a relationship between values and behaviors is expected. As Evans (2011) and Speth (2008) have suggested, this research includes pro-environmental behaviors, and down-shifting consumption behaviors to account for sustainable consumption behaviors. Pro-environmental behaviors in this research include; a) environmentally friendly behaviors that are behaviors based on usage reduction and avoidance of environmentally harmful products and services, and b) purchase behaviors based on perceived CSR performance of firms including consumption behaviors influenced by businesses' commitment to Corporate Social Responsibility (CSR) initiatives (Webb et al. 2008). Based on the theoretical and conceptual arguments placed above, I develop the following conceptual model for this study: Mindfulness → Cognitive Personality variables → Values/Beliefs → Sustainable consumption behaviors (Figure 3).

4.5 Hypotheses Development

Hypotheses for this study are developed conforming to the following research questions raised in Chapter 1: how do differences in individual consumers' mindfulness trait reflect variations in their sustainable consumption behaviors? How do cognitive personality variables,

individual values and beliefs affect the association between mindfulness and sustainable consumption behaviors?

4.5.1 Hypotheses: Mindfulness and Sustainable Consumption Behaviors

As Sheth et al. (2011) indicate, mindful individuals pay attention to consumption decisions and become consciously aware of the consequences their consumption has on the natural environment, community, and self. A possible reason for this is that they are cognitively more flexible in terms of generating multiple perspectives (Langer and Moldoveanu, 2000). Similarly, Rosenberg (2004) points out that mindful individuals tend to carefully think through their options; thus, their behavior results from a deliberate and conscious choice after consideration of the consequences. In this vein, several studies have shown that mindfulness (both trait mindfulness and state mindfulness) is positively and directly related to sustainable behaviors (Amel et al., 2009), voluntary simplified lifestyle (Ross, 2015); a lifestyle voluntarily adopted with conscious reduction of acquisitive consumption to enhance non-material benefits in life (Etzioni, 1998), and ecologically responsible behaviors (Brown and Kasser, 2005).

Therefore, it is hypothesized:

H1: Increased levels of mindfulness will be positively associated with individuals' pro-environmental behaviors such as a) environmentally-friendly consumption behaviors, b) purchase behaviors based on perceived CSR performance of firms and c) down shifting consumption behaviors

4.5.2 Hypotheses: Mindfulness, Cognitive Personality and Self-acceptance

The re-perceiving process drives individuals to fundamentally shift in their perceptions, consider multiple options in a given situation and therefore become cognitively flexible. This subsequently leads them to become flexible and adapt to the environment (Shapiro et al., 2006;

Carmody et al., 2009). In a study which compared a mindfulness meditation group to a meditation-naïve control group, the meditation group self-reported increased levels of trait mindfulness along with increased cognitive flexibility (Moore and Malinowski, 2009). In an attempt to empirically test Shapiro et al. (2006)'s re-perceiving process of mindfulness, participants with stress, and anxiety issues have self-reported increased levels of trait mindfulness and increased cognitive flexibility after 8 weeks of MBSR training (Carmody et al., 2009). Therefore, it is hypothesized:

H2a: Increased levels of mindfulness will be positively associated with cognitive flexibility.

Following Kabat-Zinn (1994)'s definition of mindfulness, Shapiro et al. (2006) identified three important axioms of mindfulness; intention (on purpose), attention (paying attention), and attitude (the attitudinal qualities one brings in for mindfulness meditation – for instance, compassion and non-judgmental). Since, attention based self-regulatory control primarily accentuates driving attention in specific ways to achieve a goal (Diehl et al., 2006) it will be associated with mindfulness, as it emphasizes on intentional attention paying. Also according to Shapiro and Schwartz (2000), self-regulation is an ongoing process based on a feed-back loop that occurs through intention and attention. Supporting this argument, Brown and Kasser (2003) support that both dispositional and state mindfulness predict day-to-day self-regulatory behavior. Therefore, it is hypothesized:

H2c: Increased levels of mindfulness will be positively associated with attention based self-regulatory control.

Mindfulness is seen as incorporating one's cognitive resources for a cognitive task by generating multiple views while attending to context, which produces novel ways to reflect upon

relevant information (Langer, 1989; Langer and Moldoveanu, 2000). As discussed earlier, in persuasion literature this is compared against central route to persuasion (Luttrell, Brinol, and Petty, 2014). Using experimental studies, Cacioppo et al. (1986) report that individuals who are high in need for cognition tend to think and cognitively elaborate highly on issue-relevant information, that is they adopt central route to persuasion than individual who are low in need for cognition who tend to adopt peripheral approach to persuasion. Pirson et al. (2014) suggest that because of the novelty seeking feature of mindfulness, it will have a moderate positive association with need for cognition. In a convergent analysis, Brown and Ryan (2003) show that mindfulness also incorporates aspects relating to individuals' enjoyment of cognitive thought processes - the need for cognition. Therefore, it is hypothesized:

H2b: Increased levels of mindfulness will be positively associated with need for cognition.

Finding fulfillment with inner-self could be possibly elucidated using individuals' self-acceptance value. Kabat-Zinn (1990) explains that being prepared to accept things as they are and thereby becoming more clear and informed of how to act accordingly will enhance the benefits of mindfulness. Carson and Langer (2006) suggest that through self-acceptance people portray their true self and when people live their life in a mindful manner, they make it authentic without any pretense and concern for others' judgment regarding them. This eventually leads them to accept their lives unconditionally. Therefore, it is hypothesized:

H2d: Increased levels of mindfulness will be positively associated with self-acceptance.

4.5.3 Hypotheses: Cognitive Personality, Individual Values and Beliefs

This section investigates how cognitive personality variables identified above in relation to mindfulness might influence values and beliefs that underlie sustainable consumption behaviors.

People exhibiting a pronounced openness to experience show openness and tolerance to diverse people, social concepts and appreciation of nature and beauty which are also exhibited by people who share values of universalism (Roccas, Sagiv, Schwartz, and Knafo, 2002; McCrae and Costa, 1997). Universalism is defined by Bardi and Schwartz (2003, p. 1208) as “*understanding, appreciation, tolerance and protection of the welfare of all people and for nature*”. Similarly, individuals with increased agreeableness trait, which is concerned with conforming to aspects and selflessness, is associated with values of universalism and benevolence (caring for the welfare of others) (Olver and Mooradian, 2003). Becoming cognitively flexible after a re-perceiving process entails being open and agreeable to multiple perspectives. According to Hirsh (2010) openness to experience is linked with increased cognitive flexibility. Also, as explained in Chapter 2, altruistic values correspond to Schwartz’s values of universalism and benevolence (Schwartz, 1992). Therefore, it is hypothesized:

H3a: Increased levels of cognitive flexibility will be positively associated with altruistic values.

Even when individuals are cognitively flexible about finding alternative sources of action in a situation and tend to be adaptive, one has to be efficacious or confident in his/her ability to follow a desired course of action. Hence, self-efficacy, which simply means one’s belief in his/her capabilities to accomplish desired goals, could be a component of cognitive flexibility (Martin and Rubin, 1995; Martin and Anderson, 1998). During unforeseen and difficult circumstances, making a judgment on the ways and style in which various aspects combine to create outcomes demands greater self-efficacy. This implies that people with high self-efficacy possess greater cognitive flexibility and resourcefulness (Bandura, 1999). Similarly, it is argued that in developing self-efficacy, people learn from their own as well as others’ experiences and

adapt their efforts accordingly (Bandura, 1977), which may not be possible without being cognitively flexible. Hence, it can be inferred that self-efficacy and cognitive flexibility are interdependent constructs where one positively influences the other. Martin and Anderson (2009) propose that individuals' cognitive flexibility is positively associated with self-efficacy. Self-efficacy in the context of sustainable consumption is analogous to perceived consumer effectiveness (PCE), a belief that an individual can have a positive influence on resolving social and environmental problems (Kim and Choi, 2005). Therefore, it is hypothesized:

H3b: Increased levels of cognitive flexibility will be positively associated with PCE.

When people's minds are caught in rigid categories pertaining to a situation, they barely accept any change in their lives. In explaining some of the techniques to enhance self-acceptance, Carson and Langer (2006) propose that viewing an issue from multiple perspectives may relieve them from narrow-mindedness and may drive them towards self-acceptance. Since a person with cognitive flexibility views an aspect from several perspectives and/or interprets it from the perspective of different individuals, it is hypothesized:

H3c: Increased levels of cognitive flexibility will be positively associated with self-acceptance.

Individuals high in need for cognition produce increased task appropriate thoughts (Axsom, Yates, and Chaiken, 1987), and in general thoroughly analyze material and information in a situation. They also show higher cognitive motivation to search for and obtain information, and may therefore generate stronger attitudes and values towards specific domains (Smith, Haugtvedt, and Petty, 1994) such as pro-environmental behaviors (Barbaro, Pickett, and Parkhill, 2015). In their two different studies involving samples consisting of students and representatives of the US population, Barbaro et al. (2015) support that need for cognition is positively

associated with environmental attitude and pro-environmental goal choices. Since environmental attitudes are embedded in individuals' altruistic value orientations (Stern and Dietz, 1994), it is hypothesized:

H4a: Increased levels of need for cognition will be positively associated with altruistic values

Bandura (1977) clarifies that individuals generate their beliefs or efficacy regarding their ability to perform a behavior, i.e. their self-efficacy, from several sources of information such as performance accomplishments reflecting their own experience of accomplishing a task, vicarious performance which refers to modeling others' performances, or verbal persuasion based on others' encouragement, convincing etc. He further argues that through a central processing approach of weighing and integrating the diverse sources of information in detail, people develop their self-efficacy. In a similar vein, Cacioppo, Petty, Kao, and Rodriguez (1986) postulate that individuals' self-efficacy beliefs might be one of the individual variables that underlie people's orientation towards central processing cognitive motivation. Consequently, it can be inferred that both, need for cognition and efficacy beliefs, are positively inter-related. As discussed earlier, self-efficacy beliefs could be compared with individuals' PCE beliefs relevant to sustainable consumption. Therefore, it is hypothesized:

H4b: Increased levels of need for cognition will be positively associated with PCE.

Individuals with a higher need for cognition are inclined more towards message details and complexity, whereas those with lower need for cognition are influenced by peripheral prompts. For example, a commercial for a particular product could be perceived in two different ways based on variations in individuals' need for cognition. While individuals with higher need for cognition consider the information on the product in detail, those with lower need for

cognition may base their evaluations of the product on the attractiveness of the celebrity who endorsed the product. That is, people with higher need for cognition analyze aspects under consideration based on causal and realistic associations (Hunt, Kernan, and Mitchell, 1996). People with lower need for cognition make sense of a situation based on simple heuristics and comparisons of known and inferred facts (Alba and Hutchinson, 1987). Need for cognition reduces the intensity of materialistic values since it encourages elaborate processing of product information which disrupts making unreasonable associations (Lins et al., 2013). Materialistic people may for example view a strong positive link between purchases and happiness. In exploring personality traits that could be related to materialistic values, Hunt et al. (1996) have supported an inverse relationship between need for cognition and materialism. Therefore, it is hypothesized:

H4c: Increased levels of need for cognition will be negatively associated with materialistic values.

In an experimental study investigating the antecedents of materialism, it is supported that some individuals who feel inadequate about themselves or who have doubt about their self-worth tend to hold more materialistic values, possibly because they feel that their inadequacy could be overcome through purchases or possessions (Chang and Arkin, 2002). In other words, possessions make people feel safe. If one is unsure about one's self-worth, the security that comes from possessions makes him or her feel better. Further, it is contended that materialism could be viewed as a quest for control. Some individuals may feel that they do not have any control over their lives because of life's complexities that are for instance associated with economic and technological advancements. To overcome this anxiety, they seek to purchase goods with an intention to feel freedom and control in their lives. Following this, need for control

has been postulated as another antecedent of materialism (Daun, 1983). From the definition of attention-based self-regulatory control mentioned earlier, it could be deduced that a person with increased attention-based self-regulatory control may be less prone to need for control and low self-worth. In essence, attention-based self-regulatory control might stifle the effects of need for control and thereby materialistic values. Therefore, it is hypothesized:

H5a: Increased levels of attention-based self-regulatory control will be negatively associated with materialistic values.

In addition, individuals high in self-control tend to value themselves as worthy and sustain this feeling regardless of context. It is empirically supported that people's self-control enhances positive interpersonal relations, and self-acceptance (Tangney, Baumeister, and Boone, 2004). Therefore, it is hypothesized:

H5b: Increased levels of attention-based self-regulatory control will be positively associated with self-acceptance.

4.5.4 Hypotheses: Individual Values, Beliefs and Sustainable Consumption

Altruistic values have also been identified as one of the antecedents of socially responsible behaviors (Pepper et al., 2009; Dickson, 2000). Altruistic value orientations are associated with willingness to take pro-environmental actions (Stern et al. 1993) and environmentally friendly behaviors (Minton and Rose, 1997). Using lagged panel data, a study by Thorgersen and O'lander (2002) supported that individual values relating to universalism lead to environmental behaviors.

Therefore, it is hypothesized:

H6: Increased levels of altruistic values will be positively associated with individuals' pro-environmental behaviors such as a) environmentally friendly consumption behaviors, and b) purchase behaviors based on perceived CSR performance of firms.

In discussing the phenomenon of downshifting, Brown and Cameron (2000) posit that people's values relating to altruism drive them towards reduced consumption and simplified lifestyles. Pepper et al. (2009) support that value types such as universalism are positively related to frugal consumer behaviors such as 'buying only the things I need'. Therefore, it is hypothesized:

H6c: Increased levels of altruistic values will be positively associated with downshifting consumption behaviors

Prior literature concludes that PCE, the belief that an individual person can bring about change in reducing the environmental and social issues is positively correlated to environmentally responsible consumption (e.g., Straughan and Roberts, 1999; Webb et al., 2008), socially responsible consumption (e.g., Webster, 1975; Antil, 1984; Webb et al., 2008) and voluntary simplicity (Helm and Subramaniam, 2016). It is further argued that enhancing PCE might help reduce overall consumption levels (Pereira Heath and Chatzidakis, 2012). Therefore, it is hypothesized:

H7: Increased levels of PCE will be positively associated with individuals' pro-environmental behaviors such as a) environmentally friendly consumption behaviors, b) purchase behaviors based on perceived CSR performance of firms c) downshifting consumption behaviors.

In his circumplex model of value systems, Schwartz (1992) indicates two different dimensions. They are self-enhancement vs. self-transcendence and openness to change vs.

conservation. According to Burroughs and Rindfleisch (2002), materialistic values are closely associated with self-enhancement values such as power, achievement and wealth. Self-transcendence denotes values pertaining to benevolence and universalism. It is reported that, when materialistic values are activated, the values consistent with them (i.e. the self-enhancement values) will also be activated, but values inconsistent with materialism, (i.e. the self-transcendence values) will be suppressed (Maio, Pakizeh, Cheung, and Rees, 2009). In pursuing their goals of status, image and achievement, people with materialistic values exhibit conspicuous and status consumption behaviors, for example the purchase of high energy-use wide screen TVs and fuel-inefficient luxury vehicles. Inevitably, these type of behaviors generate detrimental effects on environment and society. People who pursue self-transcendence values such as personal growth, community wellbeing and environmental protection engage in environmentally and socially friendly purchase behaviors. Accordingly, a meta-analysis on the association between materialism and pro-environmental behavior suggest a negative association between both constructs (Hurst, Dittmar, Bond, and Kasser, 2013). Therefore, it is hypothesized:

H8: Increased levels of materialism will be negatively associated with pro-environmental behaviors such as a) environmentally friendly consumption behaviors, and b) purchase behaviors based on perceived CSR performance of firms.

Materialists in general emphasize material complexity rather than material simplicity. In other words, voluntary simplifiers and downshifter deliberately deny materialistic values (Richins and Dawson, 1992; Nelson et al., 2007). Therefore, it is hypothesized:

H8c: Increased levels of materialism will be negatively associated with downshifting consumption behavior.

In differentiating between two basic goals of humans, Kasser and Ryan (1996) explain that extrinsic goals/values such as financial success, status, and image are contingent on external reaction and/or approval of others, whereas intrinsic goals/values such as self-acceptance, affiliation and community feeling are aimed at self-actualization and personal growth inherent to individuals. Numerous studies have supported that people with intrinsic values, for instance self-acceptance tend to engage in sustainable consumption behavior compared to people with extrinsic values (O'Brien, 2008). For example, Brown and Kasser (2005) conclude that intrinsic value - self-acceptance is positively associated with ecologically responsible behavior.

Therefore, it is hypothesized:

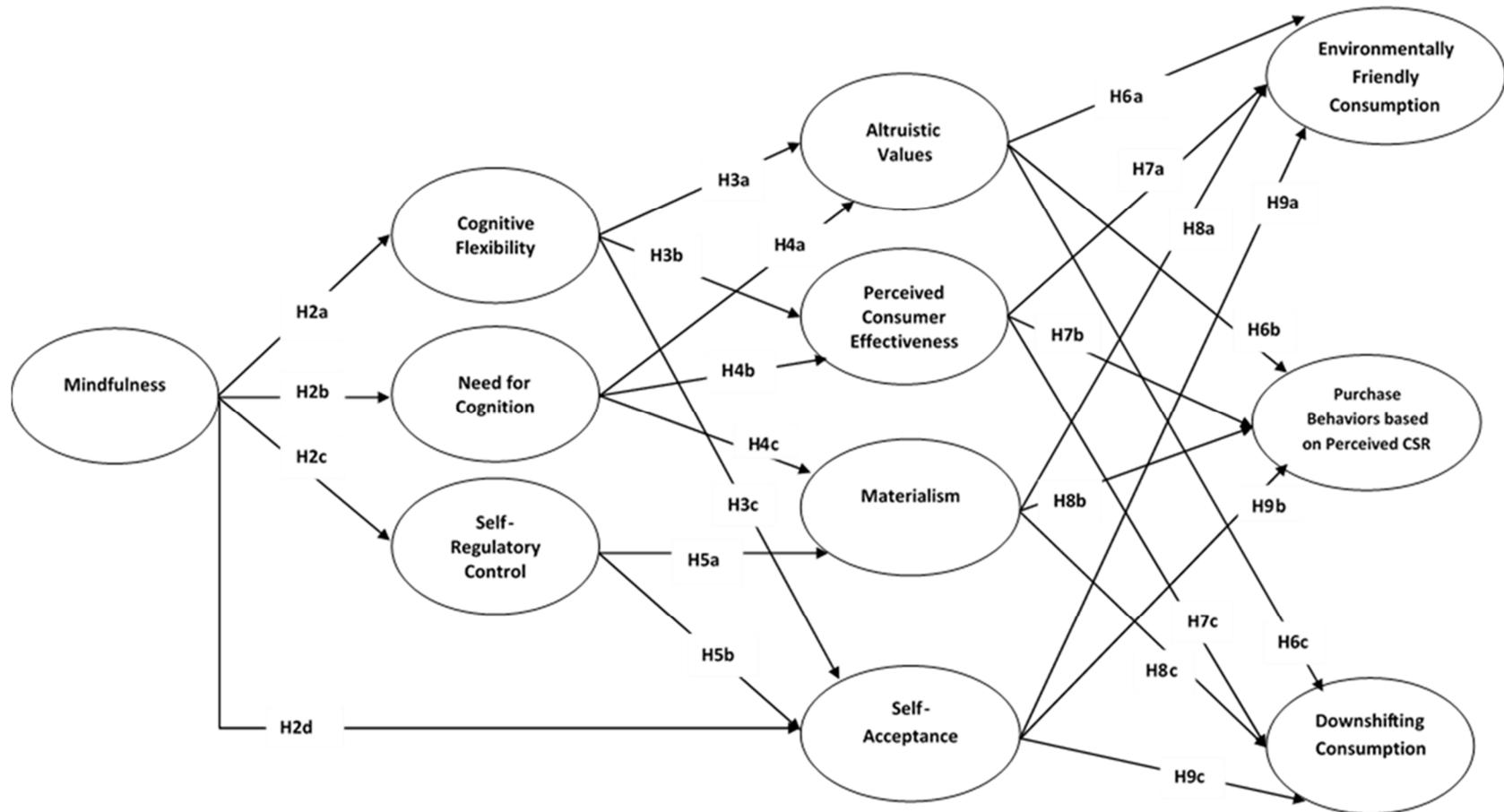
H9: Increased levels of self-acceptance will be positively associated with pro-environmental behaviors such as a) environmentally friendly consumption behaviors, and b) purchase behaviors based on perceived CSR performance of firms.

Using a series of experimental studies, Kim and Gal (2014) find that individuals' level of self-acceptance explains the difference between people who perceive consumption as a means to an end - which they term as adaptive consumption, and people who pursue consumption to elevate their status and prestige in their society - which they refer to as compensatory consumption. Put differently, they support that people low in self-acceptance values tend to display compensatory consumption - by consuming above and beyond their needs, as a way to overcome their deficit in self-worth. However, those who are high in self-acceptance values avoid compensatory consumption and tend to address the deficit through other ways which are referred to as adaptive consumption. This could mean that in general people with high self-acceptance might avoid unnecessary consumption. Further, in her study on voluntary simplifiers,

Huneke (2005) reports that some individuals have adopted this lifestyle because it matches with their intrinsic values such as self-acceptance. Therefore, it is hypothesized:

H9c: Increased levels of self-acceptance will be positively associated with downshifting consumption behavior.

Figure 3: Conceptual Model⁴ – Associations between Mindfulness and Sustainable Consumption Behaviors



⁴ The conceptual model also includes direct relationships as hypothesized: H1a – Mindfulness—Environmentally Friendly Consumption, H1b – Mindfulness—Purchase Behaviors based on Perceived CSR, H1c – Mindfulness—Downshifting Consumption

CHAPTER 5

RESEARCH METHODOLOGY

5.1 Context of the Study

While some studies suggest that mindfulness can either be enhanced through meditation-based interventions (e.g. Kabat-Zinn, 1990; 1994; 2003), and/or other forms of cognitive interventions (Langer, 1989; 2005), both socio-cognitive and meditation-based approaches to mindfulness agree that mindfulness is an innate ability naturally available in individuals at varying degrees (Brown and Ryan, 2003; 2004; Kabat-Zinn, 2003; Khoury et al., manuscript in review). Several studies have adopted the trait approach in investigating the association between mindfulness, sustainable consumption, and well-being (Brown and Kasser, 2005; Brown et al., 2009; Amel et al., 2009; Ross, 2015). Since mindfulness interventions are generally costly and difficult to implement for larger sized samples, this study focuses on general trait mindfulness found inherently in people.

It was earlier contended that, despite the similarities in their tenets, Langer's concept of mindfulness might differ from meditation-based mindfulness contingent on the target of attention and awareness, and the importance given to affective components including feelings and emotions. That is, while engagement in Langer's concept of mindfulness evolves around paying attention and awareness to the external environment, meditation-based mindfulness deals with both external and internal (bodily) cognitions. Most importantly, meditation-based mindfulness emphasizes affective aspects which research adopting Langer's perspective on mindfulness has seldom addressed. In an attempt to answer the broad research question how mindfulness is related to sustainable consumption behaviors, this research also attempts to empirically examine possible differences in the effects that each type of mindfulness has on sustainable consumption

behaviors. This comparison might reveal whether embracement of feelings and emotional aspects in mindfulness measures (meditation-based mindfulness) leads to different outcomes compared to measures focused on cognitive aspects (Langer's mindfulness). This is important because affect has played a key role in determining sustainable behaviors. Studies suggest that in order for people to perceive environmental problem as a moral imperative, their empathy towards others and future generations plays an important role (Ericson et al., 2014). Similarly, research has also related individuals' compassion towards others to their environmentally friendly actions (Evans, 2011; Ericson et al. 2014). To explore the mechanisms involved in the link between mindfulness and sustainable consumption behaviors, this study embraces a trait method in which participants self-report on different mindfulness measures developed using the socio-cognitive as well as the meditation-based approach.

5.2 Sampling and Data Collection

An online survey design was chosen to examine the proposed hypotheses. The survey was administered in Mechanical Turk (Mturk) which is a web-based crowd sourcing platform, managed by Amazon.com. Mturk was chosen due to the following reasons: compared to student samples, Mturk samples provide higher external validity because of its representative participant base and in general it offers a reliable subject pool at a lower cost (Mason and Suri, 2011). A hyperlink to the survey in Qualtrics, an online survey administration tool, was offered in Mturk so that participants could complete the survey by clicking the link. Respondents were recruited by posting information on an available Human Intelligence Task (HIT) on the Amazon Mturk website. Respondents living in the U.S. who were 18 years or older were targeted for the survey. Potential respondents read the study announcement and, if they chose to take the survey, they clicked a hyperlink to a website designed for the study. At the study website, the respondents

were presented with the disclosure document and in that they indicated their consent to participate before the study began. The consent form explained the study and respondents' rights when participating. The survey took approximately 20-25 minutes to complete. Each qualified respondent was compensated with \$1.00 for completing the survey. Appendix shows Mturk recruitment material, Consent to participate in the study, and Survey questionnaire.

Respondents first answered questions regarding their sustainable consumption behaviors, then values and beliefs, followed by cognitive personality variables, and mindfulness measures. Several studies have supported the influence of socio-demographic variables on pro-environmental behaviors (e.g. Hines et al., 1986; Brick and Lewis, 2014). Hence, the questionnaire also included variables such as income, age, gender, education, and political orientation, subsequent to the questions of main study. Description of scale items, their source and types of scales for each measure used are found in Table 3. According to Mason and Suri (2011) some of the Mturk respondents may not give enough consideration to the purpose of the study while completing the survey. Hence, in order to make respondents pay sufficient attention to the study, a number of open ended questions irrelevant for the study context (for e.g. *'Please write a global warming consequence that you can think of'*) and attention check questions (e.g. *'Just to make sure that you are not a robot, please choose 'strongly agree' for this question'*) were slotted in between the study measures. The questionnaire was checked by three people (two graduate students, and an individual unfamiliar with the subject) to check for language clarity and to determine the time it takes for an average individual to complete the survey. Based on their feedback some of the attention check questions and wording of some items were changed to improve the comprehensibility of survey. Since the study only used established measures validated in literature, a formal pre-test was not carried out. The data was collected from 1005

respondents in two batches consisting of 300 respondents in the first batch and 705 respondents in the latter batch. The first batch of data offered an opportunity to assure that the measures performed as expected. No changes were done in the questionnaire for subsequent batch of data collection.

5.3 Operational Definitions of Measures

Mindfulness

In the Western socio-cognitive-based approach, mindfulness is operationalized as the degree to which an individual pays conscious attention and is aware of context and content of information in the environment. Langer suggests that a relatively mindful person is more engaging, novelty seeking, novelty producing and more flexible in evaluating multiple options (Langer, 1989). Based on this premise, mindfulness was measured using a shortened version of the scale developed by Langer (2004). In particular, a measure consisting of 14 items as suggested by Pirson et al. (2012) was used that incorporates three-factors: novelty producing, novelty seeking, and engagement. In order to choose a scale for meditation-based mindfulness, several scales from the literature such as Mindful Attention Awareness Scale (MAAS; Brown and Ryan, 2003), the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman et al., 2007), the Freiburg Mindfulness Inventory (FMI; Walach et al., 2006), the Five-Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, and Allen, 2004), and the Toronto Mindfulness Scale (TMS; Lau et al., 2006) were considered. Scales such as FMI, KIMS, and TMS have been developed with the intention of measuring mindfulness either in individuals who have experienced mindfulness meditation, or people who are familiar with the facets of mindfulness (Feldman et al., 2007). Using these scales may not be appropriate in a trait-based study. MAAS and CAMS-R consist of

items that are free of complicated and metaphorical language meaning that they can be easily understood by people who are not familiar with principles of mindfulness meditation. Therefore, these scales can be used for measuring trait/dispositional mindfulness as well as state mindfulness after a mindfulness training (Brown and Ryan, 2003; Feldman et al., 2007).

Although MAAS has been used in research involving sustainable consumption and well-being (Brown et al., 2009; Brown and Kasser, 2005), it measures mindfulness using items referring to attention and awareness only. However, CAMS-R assesses a broad conceptualization of mindfulness with items pertaining to attention, awareness, acceptance, present-focus, and being non-judgmental. As CAMS-R, the FFMQ scale also measures mindfulness from a broader perspective with items belonging to the factors Observe, Describe, Act with awareness, Non-judgmental, and Non-react. However, unlike CAMS-R which contains ten items, FFMQ's battery of items is lengthy (39 items) (Baer et al., 2006) which might become a burden for respondents and create a response bias (Hinkin, 1995). Therefore, after careful consideration of several scales, Cognitive and Affective Mindfulness Scale - Revised (CAMS-R; Feldman et al., 2007) that comprises of ten items with four sub factors - attention, awareness, present focus, and acceptance - was selected to measure meditation-based mindfulness. According to the Eastern meditation-based approach, mindfulness was operationalized as the extent to which a person pays attention on purpose non-judgmentally and live in present (Kabat-Zinn, 1994).

Cognitive Flexibility

Cognitive Flexibility was measured as one's awareness of multiple options, willingness to adapt, be flexible, and cope with different situations while believing in one's ability to be flexible (Martin and Rubin, 1995). The scale for Cognitive Flexibility with 9 items was adopted from Martin and Rubin (1995).

Need for Cognition

Need for Cognition was operationalized as the extent to which individuals spend their thinking and cognitive resources on tasks and issues that arise in their day-to-day life. The scale for Need for Cognition originally consisted of 34 items (Cacioppo and Petty, 1982), however this scale was later shortened because of item redundancy (Cacioppo, Petty, and Kao, 1984). Present study used the shortened form of Need for Cognition scale which comprised of 18 items.

Attention-Based Self-Regulatory Control

Attention-based Self-regulatory Control⁵ was measured as individuals' ability to focus their attention, avoid unnecessary distractions, and regulate emotions in order to accomplish desired goals (Diehl et al., 2006). In this study, the scale for Self-Regulatory Control consisting of 10 items was adopted from Schwarzer, Diehl, and Schmitz (1999).

Altruistic Values

An individual's propensity to hold significant values on preserving nature, protecting and not harming the well-being of humans and other species was used as the operational measure for Altruistic Values (Stern et al., 1993). The scale for Altruistic Values included in this study consisted of 7 items adopted from Stern et al. (1999).

Perceived Consumer Effectiveness

Perceived Consumer Effectiveness was measured as the degree to which an individual believes that he/she can make a change in the environment through their consumption activities (Berger and Corbin, 1992). 4 items obtained from Webb et al. (2008) were used to measure Perceived Consumer Effectiveness.

⁵ The variable Attention Based Self-Regulatory Control has been referred to as Self-Regulatory Control throughout the study for purposes of clarity.

Materialism

Individuals' values regarding importance of possessions and wealth in their life has been operationalized as Materialism (Richins and Dawson, 1992). Materialism was measured using 9 items obtained from Richins and Dawson (1992).

Self-Acceptance

Self-Acceptance was assessed as a person's tendency to accept him/herself unconditionally regardless of their good and bad qualities. This was measured using the self-acceptance sub scale with 7 items selected from Psychological Well-being scale developed by Ryff (1989).

Environmentally Friendly Behaviors

Environmentally Friendly Behaviors was operationalized as individuals' tendency to reduce usage or avoid environmentally harmful products and services. This was assessed using the 7-item sub scale from Socially Responsible Purchase and Disposal Scale advanced by Webb et al. (2008) focusing on Environmental Purchase and Usage Criteria.

Purchase Behaviors Based on Perceived CSR

Purchase Behaviors Based on Perceived CSR was operationalized as respondents' purchase behaviors that are influenced by their view of various Corporate Social Responsibility (CSR) initiatives of firms. The 13-item scale for this measure was obtained from the sub scale 'CSR Performance' forming part of the Socially Responsible Purchase and Disposal Scale (Webb et al., 2008).

Downshifting Consumption Behaviors

Downshifting Consumption Behaviors were operationalized as the extent to which respondents exert a reduction in their overall consumption levels by adopting a simplified and or frugal

lifestyle. Current research has selected items from various scales to measure downshifting consumption behaviors. They include five items from the Frugal Purchasing Scale (Pepper et al., 2009), 8 items from the Voluntary Simplicity Scale (Huneke, 2005), 1 item from the Consumption Downshifting Scale (Nelson et al., 2007), and 1 item from the Reduced Consumption Scale (De Young, 1996).

Table 3 presents an overview of all scales and items used in this study.

Table 3: Details on Measurement Scales

Construct	Measures	Source(s)	Scale type
Langer's Mindfulness Scale (LMS)	I like to investigate things I generate few novel ideas. (R) I make many novel contributions. I seldom notice what other people are up to. (R) I avoid thought provoking conversations. (R) I am very creative. I am very curious. I try to think of new ways of doing things I am rarely aware of changes. (R) I like to be challenged intellectually. I find it easy to create new and effective ideas. I am rarely alert to new developments. (R)	Langer, 2004 Pirson et al., 2012	7-point Likert: strongly disagree (1) to strongly agree (7)
Cognitive and Affective Mindfulness Scale- Revised (CAMS-R)	It is easy for me to concentrate on what I am doing. I can tolerate emotional pain. I can accept things I cannot change. I can usually describe how I feel at the moment in considerable detail. I am easily distracted. (R) It's easy for me to keep track of my thoughts and feelings. I try to notice my thoughts without judging them. I am able to accept the thoughts and feelings I have. I am able to focus on the present moment. I am able to pay close attention to one thing for a long period of time.	Feldman, Hayes, Kumar, Greeson, and Laurenceau, 2007	7-point Likert: strongly disagree (1) to strongly agree (7)
Cognitive Flexibility	I can communicate an idea in many different ways. I avoid new and unusual situations. (R) I feel like I never get to make decisions. (R) I can find workable solutions to seemingly unsolvable problems. I seldom have choices when deciding how to behave. (R) I am willing to work at creative solutions to problems. In any given situation, I am able to act appropriately. My behavior is a result of conscious decisions that I make. I have many possible ways of behaving in any given situation. I have difficulty using my knowledge on a given topic in real life situations. (R) I am willing to listen and consider alternatives for handling a problem.	Martin and Rubin, 1995	7-point Likert: strongly disagree (1) to strongly agree (7)

	I have the self-confidence necessary to try different ways of behaving.		
Need for Cognition	<p>I prefer complex to simple problems.</p> <p>I like to have the responsibility of handling a situation that requires a lot of thinking.</p> <p>Thinking is not my idea of fun. (R)</p> <p>I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)</p> <p>I try to anticipate and avoid situations where I will have to think in depth about something. (R)</p> <p>I find satisfaction in deliberating hard and for long hours.</p> <p>I only think as hard as I have to. (R)</p> <p>I prefer to think about small daily projects than long term ones. (R)</p> <p>I like tasks that require little thought once I have learned them. (R)</p> <p>The idea of relying on thought to make my way to the top appeals to me.</p> <p>I really enjoy a task that involves coming up with new solutions to the problem.</p> <p>Learning new ways to think doesn't excite me very much. (R)</p> <p>I prefer my life to be filled with puzzles that I must solve.</p> <p>The notion of thinking abstractly appeals to me.</p> <p>I prefer a task that is intellectual, difficult, and important to one that does not require much thought.</p> <p>I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (R)</p> <p>It's enough for me that something gets the job done; I don't care how or why it works. (R)</p> <p>I usually end up deliberating about issues even when they do not affect me personally.</p>	Cacioppo, Petty, and Kao, 1984	7-point Likert: strongly disagree (1) to strongly agree (7)
Attention Based Self-Regulatory Control	<p>I can concentrate on one activity for a long time, if necessary.</p> <p>If I am distracted from an activity, I don't have any problem coming back to the topic quickly.</p> <p>If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.</p> <p>If an activity requires a problem-oriented attitude, I can control my feelings.</p> <p>It is difficult for me to suppress thoughts that interfere with what I need to do. (R)</p> <p>I can control my thoughts from distracting me from the task at hand.</p>	Diehl, Semegon, and Schwarzer, 2006	7-point Likert: strongly disagree (1) to strongly agree (7)

	<p>When I worry about something, I cannot concentrate on an activity. (R)</p> <p>After an interruption, I don't have any problem resuming my concentrated style of working.</p> <p>I usually have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. (R)</p> <p>I stay focused on my goal and don't allow anything to distract me from my plan of action.</p>		
Altruistic Values	<p>Social justice, correcting injustice, care for the weak</p> <p>Preventing pollution, conserving natural resources</p> <p>Equality, equal opportunity for all</p> <p>Unity with nature, fitting into nature</p> <p>A world of peace, free of war and conflict</p> <p>Respecting the earth, harmony with other species</p> <p>Protecting the environment, preserving nature</p>	Stern et al., 1999	5-point Likert: Does not represent my values (1), Slightly represent my values (2), Moderately represent my values (3), Considerably represent my values (4), Completely represent my values (5)
Perceived Consumer Effectiveness (PCE)	<p>What I purchase as a consumer has an effect on the nation's environmental problems</p> <p>Each consumer's behavior can have an effect on how companies treat their employees</p> <p>Since one consumer cannot have any effect on how companies behave toward the community, it does not make any difference I do. (R)</p> <p>Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies</p>	Webb, Mohr, and Harris, 2008	7-point Likert: strongly disagree (1) to strongly agree (7)
Materialism	<p>I admire people who own expensive homes, cars, and clothes.</p> <p>Some of the most important achievements in life include acquiring material possessions.</p> <p>I don't place much emphasis on the amount of material objects people own as a sign of success. (R)</p> <p>I usually buy only the things I need. (R)</p> <p>I try to keep my life simple, as far as possessions are concerned. (R)</p> <p>The things I own aren't all that important to me. (R)</p> <p>I have all the things I really need to enjoy my life. (R)</p> <p>My life would be better if I owned certain things I don't have.</p>	Richins and Dawson, 1992	7-point Likert: strongly disagree (1) to strongly agree (7)

	I'd be happier if I could afford to buy more things.		
Self-Acceptance	<p>When I look at the story of my life, I am pleased with how things have turned out.</p> <p>In general, I feel confident and positive about myself.</p> <p>I feel like many of the people I know have gotten more out of life than I have. (r)</p> <p>I like most aspects of my personality.</p> <p>In many ways, I feel disappointed about my achievements in life. (r)</p> <p>My attitude about myself is probably not as positive as most people feel about themselves. (r)</p> <p>When I compare myself to friends and acquaintances, it makes me feel good about who I am.</p>	Ryff (1989)	7-point Likert: strongly disagree (1) to strongly agree (7)
Purchase Behaviors based on Perceived CSR	<p>I try to buy from companies that help the needy.</p> <p>I try to buy from companies that hire people with disabilities.</p> <p>I avoid buying products or services from companies that discriminate against minorities.</p> <p>When given a chance to switch to a retailer that supports local schools, I take it.</p> <p>I try to buy from companies that make donations to medical research.</p> <p>I make an effort to buy from companies that sponsor food drives. When given a chance to switch to a brand that gives back to the community, I take it.</p> <p>I avoid buying products made using child labor.</p> <p>When given a chance, I switch to brands where a portion of the price is donated to charity.</p> <p>I avoid buying products or services from companies that discriminate against women.</p> <p>When I am shopping, I try to buy from companies that are working to improve conditions for employees in their factories.</p> <p>I try to buy from companies that support victims of natural disasters.</p> <p>I make an effort to buy products and services from companies that pay all of their employees a living wage.</p>	Webb, Mohr, and Harris, 2008	7-point Likert: strongly disagree (1) to strongly agree (7)
Environmentally Friendly Behaviors	<p>I avoid buying from companies that harm endangered plants or animals.</p> <p>Whenever possible, I walk, ride a bike, car pool, or use public transportation to help reduce air pollution.</p> <p>I avoid using products that pollute the air.</p>	Webb, Mohr, and Harris, 2008	7-point Likert: strongly disagree (1) to strongly agree (7)

	I avoid buying products that pollute the water.		
	I make an effort to avoid products or services that cause environmental damage.		
	I avoid buying products that are made from endangered animals.		
	I limit my use of energy such as electricity.		
Downshifting Consumption Behaviors	Trying to limit my consumption	Nelson,	7-point Likert
	Buying only the things you need	Rademacher,	1=never, 2=rarely,
	Buying things that last as long as possible	and Paek, 2007;	3=occasionally,
	Buying things without thinking about whether you need them (R)	Huneke, 2005;	4=sometimes,
	Replace your clothes before they are worn out (R)	Pepper, Jackson,	5=frequently,
	Replace household appliances when they are still functioning (R)	and Uzzell, 2009;	6=usually,
	Making rather than buying gifts	De Young, 1996	7=everytime
	Looking for ways to reuse things		
	Limiting exposure to advertisements		
	Limiting car use		
	Buying locally grown produce		
	Buying from local merchants		
	Limiting/eliminating TV		
	Being friends with neighbors		
	Being active in the community		

CHAPTER 6

DATA ANALYSIS AND RESULTS

In total, 1005 respondents completed the survey questionnaire. Of the completed responses 13 were dropped as the respondents failed in two or more than two out of three attention check questions and another 19 responses were omitted since the respondents had spent less than five minutes to complete the questionnaire. Finally, there were 973 usable responses to be analyzed using SPSS and LISREL 8.8. The sample of this research offered diversity in terms of age, education, income, and political beliefs of respondents. Table 6.1 shows demographic characteristics of the sample in detail. Of the total sample 59.3% were female. According to Buhrmester, Kwang, and Gosling (2011) traditional internet samples usually consist of a limited range of age groups with a mean (standard deviation) age of 24 (10) years. However, the mean (standard deviation) age is 38 (13) years in our Mturk sample. The US Census Bureau (2010) reports that around 27% of individuals in the US are in 25-44 years of age range, whereas this sample consisted of around 52% in that range of age. Modal education was a bachelor's degree (38.5%), this proportion is much higher compared to the 19% of the US population reported as having a bachelor's degree. Similarly, only a few respondents indicated having education less than a high school degree (0.6%) compared to 12% nationally (US Census Bureau, 2011). One could therefore argue that, compared to US population statistics, Mturk samples skew toward younger, and more educated respondents. Modal household income was \$25,000-\$39,999 (21.8%), median household income was in the range of \$40,000 – 54,999, and according to Census ACS survey (2015) this is \$55,775 for the US population in 2015. Of the total sample 48.9% of respondents reported that they possess liberal political beliefs which included 11.9% with extremely liberal beliefs, 22.7% with liberal beliefs and 14.3% with slightly liberal beliefs.

Similarly, 27.2% of respondents expressed conservative political beliefs which included 4.2% with extremely conservative beliefs, 12.8% with conservative beliefs, and 10.2% with slightly conservative beliefs. Another 21.4% expressed moderate beliefs, meaning in-between liberal and conservative political beliefs, while a small percentage of people indicated apolitical or no opinion (2.4%). In their study of a Mturk sample with 2044 respondents, Levay, Freese, Druckman (2016) show a distribution somewhat closer to this - 58% of respondents held liberal beliefs, 22% conservative beliefs, and 20% moderate political beliefs. However, it should be noted that this variation differs from the statistics of the US general population. According to a US Gallup survey (2014) regarding respondents' self-identified political ideologies, only 24% reported liberal beliefs, 34% expressed moderate beliefs while 38% of them reported conservative beliefs. A reason for this difference could be that, compared to conservatives, more liberals opt to join Mturk (Clifford, Jewell, and Waggoner, 2015).

6.1 Exploratory Factor Analysis (EFA)

Following data cleaning, an Exploratory Factor Analysis (EFA) was performed using SPSS to confirm the factor structure of variables used in the model. In conducting EFA, correlation matrix of items for each latent construct was reviewed for correlation significance, determinant values, and KMO and Bartlett's test values. For each construct, most of the items showed correlation values significant at $p < 0.001$ along with significant Bartlett measures indicating that the items are correlated to each other and qualify for factor analysis. The determinant values were greater than 0.00001 indicating that there is no multicollinearity among the items of a construct. Factors were extracted based on the following criteria: Eigen values greater than 2 (except for sub factor acceptance of variable cognitive and affective mindfulness where the Eigen value was 1.05), and standard loadings greater than 0.5 (Field, 2009). All items

intended to measure the constructs *Self-regulatory control*, *PCE*, *Altruistic values*, *Self-acceptance*, and *Purchase Behaviors based on Perceived CSR* were retained as their standard loadings were greater than 0.5. Because of poor loadings, four reverse-coded items from Langer's Mindfulness ('I generate few novel ideas', 'I seldom notice what other people are up to', 'I am rarely aware of changes', and 'I am rarely alert to new developments'), one item from Cognitive and Affective Mindfulness (*I can usually describe how I feel at the moment in considerable detail*), two items from Cognitive Flexibility ('I seldom have choices when deciding how to behave' and 'I have many possible ways of behaving in any given situation'), seven items from Need for cognition ('I would rather do something that requires little thought than something that is sure to challenge my thinking abilities', 'I find satisfaction in deliberating hard and for long hours', 'I like tasks that require little thought once I have learned them', 'I really enjoy a task that involves coming up with new solutions to the problem', 'Learning new ways to think doesn't excite me very much', 'I prefer a task that is intellectual, difficult, and important to one that does not require much thought', and 'I usually end up deliberating about issues even when they do not affect me personally'), one reverse-coded item from Materialism ('I usually buy only the things I need'), one item from Environmentally friendly behaviors ('Whenever possible, I walk, ride a bike, car pool, or use public transportation to help reduce air pollution') and four items from Downshifting consumption ('Buying things without thinking about whether they are needed', 'Replace clothes before they are worn out', 'Replace household appliances when they are still functioning', 'Limiting exposure to advertisements') were dropped. Another item from Downshifting consumption, 'Limiting/eliminating TV', had a standard loading of only 0.45 was retained because this item performed better in the measurement model as explained below. As expected, the remaining items pertaining to

constructs *Need for Cognition, Cognitive Flexibility, Self-regulatory control, PCE, Altruistic values, Self-acceptance, and Purchase Behaviors based on Perceived CSR, and Environmentally Friendly Behaviors* loaded on their respective single latent constructs. Pirson et al. (2012) have shown that Langer's mindfulness scale consisted of the three sub-factors novelty producing, novelty seeking and engagement; however, this data yielded only a single factor. The reason might be that four reverse coded items of the scale had to be removed which might have limited the variation among sub-factors. Feldman et al. (2007) proposes four separate factors for Cognitive and Affective Mindfulness scale; Attention, Awareness, Present Focus, and Acceptance. Despite the inclusion of Present Focus as a separate factor, their subsequent analyses included only one item in Present Focus. Hence, it is not clear whether it could be separated as a sub factor in the scale (Feldman et al. 2007). Current data offered evidence only for two separate factors that could be categorized as 'Attention and Awareness' and 'Acceptance'. One item, '*I try to notice my thoughts without judging them*', which was considered as part of the awareness factor by Feldman et al. (2007) loaded on Acceptance in this research. This could be due to participants' understanding of words '*...without judging*' as accepting things without being judgmental. For *Materialism*, although studies suggest that there could be three distinguishing second order factors (success, centrality, and happiness; Richins and Dawson, 1992), current data did not support this but instead yielded a single factor. Items chosen by current research to reflect tendencies of downshifting consumption also loaded on a single construct. Table 4 shows the results of EFA such as standard loadings, Eigen values, and variance explained.

Table 4: Exploratory Factor Analysis Results - Standard Factor Loadings, Eigen Values and Percentage of Variance Explained

Items	Standard loading	Eigen Value	% Variance Explained
Langer Mindfulness			
I make many novel contributions.	0.73	5.46	54.56
I avoid thought provoking conversations. (R)	0.55		
I am very creative.	0.75		
I am very curious.	0.75		
I try to think of new ways of doing things.	0.81		
I like to be challenged intellectually.	0.78		
I find it easy to create new and effective ideas.	0.77		
I like to figure out how things work.	0.77		
I am not an original thinker.	0.62		
I like to investigate things.	0.80		
Cognitive and Affective Mindfulness - Revised (CAMS-R)			
<i>Attention and Awareness:</i>			
It is easy for me to concentrate on what I am doing.	0.81	5.11	51.11
I am easily distracted. (R)	0.78		
It's easy for me to keep track of my thoughts and feelings.	0.62		
I am able to focus on the present moment.	0.70		
I am able to pay close attention to one thing for long period of time.	0.82		
<i>Acceptance:</i>			
I can tolerate emotional pain.	0.70	1.05	10.50
I can accept things I cannot change.	0.74		
I try to notice my thoughts without judging them.	0.73		
I am able to accept the thoughts and feelings I have.	0.74		
Cognitive Flexibility			
I can communicate an idea in many different ways.	0.74	3.13	44.75
I avoid new and unusual situations. (R)	0.52		
I feel like I never get to make decisions. (R)	0.54		
I can find workable solutions to seemingly unsolvable problems.	0.73		
I am willing to work at creative solutions to problems.	0.76		
In any given situation, I am able to act appropriately.	0.69		

My behavior is a result of conscious decisions that I make.	0.67		
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Need for Cognition			
I prefer complex to simple problems.	0.80	6.45	58.68
I like to have the responsibility of handling a situation that requires a lot of thinking.	0.80		
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	0.83		
I try to anticipate and avoid situations where I will have to think in depth about something. (R)	0.71		
I prefer to think about small daily projects than long term ones. (R)	0.56		
I like tasks that require little thought once I have learned them. (R)	0.71		
I really enjoy a task that involves coming up with new solutions to the problem.	0.80		
The notion of thinking abstractly appeals to me.	0.66		
I prefer a task that is intellectual, difficult, and important to one that does not require much thought.	0.80		
It's enough for me that something gets the job done; I don't care how or why it works. (R)	0.61		
Thinking is not my idea of fun.	0.80		
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Attention based Self-Regulatory Control			
I can concentrate on one activity for a long time, if necessary.	0.69	5.60	55.95
If I am distracted from an activity, I don't have any problem coming back to the topic quickly.	0.74		
If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.	0.72		
If an activity requires a problem-oriented attitude, I can control my feelings.	0.70		
It is difficult for me to suppress thoughts that interfere with what I need to do. (R)	0.72		
I can control my thoughts from distracting me from the task at hand.	0.79		
When I worry about something, I cannot concentrate on an activity. (R)	0.64		
After an interruption, I don't have any problem resuming my concentrated style of working.	0.75		
I usually have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. (R)	0.68		
I stay focused on my goal and don't allow anything to distract me from my plan of action.	0.71		
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Altruistic Values			
Social justice, correcting injustice, care for the weak	0.69	4.78	68.27
Preventing pollution, conserving natural resources	0.87		
Equality, equal opportunity for all	0.70		
Unity with nature, fitting into nature	0.83		

A world of peace, free of war and conflict	0.71		
Respecting the earth, harmony with other species	0.87		
Protecting the environment, preserving nature	0.87		
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Perceived Consumer Effectiveness (PCE)			
What I purchase as a consumer has an effect on the nation's environmental problems.	0.84	2.78	69.37
Each consumer's behavior can have an effect on how companies treat their employees.	0.78		
Since one consumer cannot have any effect on how companies behave toward the community, it does not make any difference I do. (R)	0.59		
Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies.	0.86		
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Materialistic Values			
I admire people who own expensive homes, cars, and clothes.	0.70	4.03	50.31
Some of the most important achievements in life include acquiring material possessions.	0.69		
I don't place much emphasis on the amount of material objects people own as a sign of success. (R)	0.67		
I try to keep my life simple, as far as possessions are concerned. (R)	0.59		
The things I own aren't all that important to me. (R)	0.53		
I have all the things I really need to enjoy my life. (R)	0.57		
My life would be better if I owned certain things I don't have.	0.73		
I'd be happier if I could afford to buy more things.	0.77		
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Self-Acceptance			
When I look at the story of my life, I am pleased with how things have turned out.	0.80	4.48	64.0
In general, I feel confident and positive about myself.	0.86		
I feel like many of the people I know have gotten more out of life than I have. (R)	0.67		
I like most aspects of my personality.	0.71		
In many ways, I feel disappointed about my achievements in life. (R)	0.83		
My attitude about myself is probably not as positive as most people feel about themselves. (R)	0.76		
When I compare myself to friends and acquaintances, it makes me feel good about who I am.	0.69		
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Environmentally Friendly Behaviors (EFB)			
I avoid buying from companies that harm endangered plants or animals.	0.87	4.23	70.54
I avoid using products that pollute the air.	0.85		
I avoid buying products that pollute the water.	0.89		
I make an effort to avoid products or services that cause environmental damage.	0.90		
I avoid buying products that are made from endangered animals.	0.76		

I limit my use of energy such as electricity.	0.53		
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Purchase Behaviors based on Perceived CSR (PB_CSR)			
I try to buy from companies that help the needy.	0.89	8.91	68.56
I try to buy from companies that hire people with disabilities.	0.82		
I avoid buying products or services from companies that discriminate against minorities.	0.75		
When given a chance to switch to a retailer that supports local schools, I take it.	0.78		
I try to buy from companies that make donations to medical research.	0.79		
I make an effort to buy from companies that sponsor food drives.	0.84		
When given a chance to switch to a brand that gives back to the community, I take it.	0.83		
I avoid buying products made using child labor.	0.75		
When given a chance, I switch to brands where a portion of the price is donated to charity.	0.79		
I avoid buying products or services from companies that discriminate against women.	0.78		
When I am shopping, I try to buy from companies that are working to improve conditions for employees in their factories.	0.85		
I try to buy from companies that support victims of natural disasters.	0.87		
I make an effort to buy products and services from companies that pay all of their employees a living wage.	0.82		
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Downshifting Consumption Behaviors			
Trying to limit my consumption	0.71	4.6	41.8
Buying only the things you need	0.56		
Buying things that last as long as possible	0.56		
Making rather than buying gifts	0.56		
Looking for ways to reuse things	0.70		
Limiting car use	0.53		
Buying locally grown produce	0.69		
Buying from local merchants	0.70		
Limiting/eliminating TV	0.49		
Being friends with neighbors	0.50		
Being active in the community	0.56		

Next, items retained from EFA were subjected to examine two types of empirical models; one with the Langer's mindfulness measure (LMS) from socio-cognitive based approach (Langer, 2004; Pirson et al., 2012) and another with the Cognitive and Affective Mindfulness (CAMS-R) measure from meditation-based mindfulness approach (Feldman et al., 2007). Results pertaining to these two empirical models will be compared and contrasted in later chapter, based on differences in approaches to mindfulness.

6.2 Examining the Conceptual Model with Langer's Mindfulness

Confirmatory Factor Analysis: I used two-step model validation to examine and refine the measurement model and to test the proposed structural model in LISREL 8.8. Confirmatory Factor Analysis (CFA) results confirmed the factor structure of all latent constructs obtained in EFA. All the items loaded on their respective latent constructs producing a statistically significant well fitted model. Results for the model fit was: $\chi^2(df)= 12209.84 (4087)$; RMSEA=0.052 (0.051 – 0.053), $p=0.0000$; GFI=0.75; and CFI=0.97. These statistics showed good model fit (Kline, 2005; Hooper, Coughlan, and Mullen, 2008). All the indicators' standardized loadings were greater than 0.5 except for one indicator each in constructs Materialism and Downshifting consumption where their loadings were 0.47 and 0.48 respectively. In order to maintain its content validity, that is the degree to which a measurement instrument embodies all the characteristics of a given latent construct (Haynes, Richard, and Kubany, 1995), the above two items which had loadings close to 0.5 were also retained. All the standardized factor loadings were statistically significant. Internal consistency of constructs was assessed using Average Variance Extracted (AVE) and composite reliability. Composite reliabilities were in the range of 0.85 to 0.96. AVE for all constructs exceeded the threshold of 0.5 and therefore met the standard for convergent validity (Fornell and Larcker, 1981). In order

to test for discriminant validity, AVE for all constructs were compared with the squared covariances (Table 6). All squared covariances were less than the AVE suggesting that there is discriminant validity (Fornell and Larcker, 1981). Table 5 shows CFA results consisting of standardized factor loadings, t-values for indicators, composite reliability and AVE for latent constructs.

Table 5: Langer's Mindfulness Model – Measurement Model Results

Measurement Items	Standard loading	t value	Composite Reliability	Average Variance Extracted (AVE)
Langer Mindfulness				
I make many novel contributions.	0.75	24.68	0.92	0.54
I avoid thought provoking conversations. (R)	0.66	19.13		
I am very creative.	0.74	26.44		
I am very curious.	0.71	25.39		
I try to think of new ways of doing things.	0.79	29.22		
I like to be challenged intellectually.	0.91	30.69		
I find it easy to create new and effective ideas.	0.81	29.36		
I like to figure out how things work.	0.79	27.71		
I am not an original thinker.	0.55	18.86		
I like to investigate things.	0.84	27.61		
Cognitive Flexibility				
I can communicate an idea in many different ways.	0.84	19.76	0.90	0.57
I avoid new and unusual situations. (R)	0.71	15.00		
I feel like I never get to make decisions. (R)	0.69	15.14		
I can find workable solutions to seemingly unsolvable problems.	0.84	19.52		
I am willing to work at creative solutions to problems.	0.82	23.13		
In any given situation, I am able to act appropriately.	0.78	21.03		
My behavior is a result of conscious decisions that I make.	0.56	17.18		
Need for Cognition				
I prefer complex to simple problems.	0.79	29.82	0.93	0.57
I like to have the responsibility of handling a situation that requires a lot of thinking.	0.84	31.82		
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	0.83	31.42		
I try to anticipate and avoid situations where I will have to think in depth about something. (R)	0.76	26.93		
I prefer to think about small daily projects than long term ones. (R)	0.57	18.57		

I like tasks that require little thought once I have learned them. (R)	0.73	26.02		
I really enjoy a task that involves coming up with new solutions to the problem.	0.85	32.35		
The notion of thinking abstractly appeals to me.	0.70	24.06		
I prefer a task that is intellectual, difficult, and important to one that does not require much thought.	0.79	29.49		
It's enough for me that something gets the job done; I don't care how or why it works. (R)	0.65	21.01		
Thinking is not my idea of fun.	0.78	28.72		
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Attention based Self-Regulatory Control				
I can concentrate on one activity for a long time, if necessary.	0.68	23.63	0.92	0.54
If I am distracted from an activity, I don't have any problem coming back to the topic quickly.	0.76	27.19		
If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.	0.72	25.37		
If an activity requires a problem-oriented attitude, I can control my feelings.	0.72	25.46		
It is difficult for me to suppress thoughts that interfere with what I need to do. (R)	0.76	27.39		
I can control my thoughts from distracting me from the task at hand.	0.74	27.00		
When I worry about something, I cannot concentrate on an activity. (R)	0.71	24.48		
After an interruption, I don't have any problem resuming my concentrated style of working.	0.76	27.19		
I usually have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. (R)	0.77	26.93		
I stay focused on my goal and don't allow anything to distract me from my plan of action.	0.71	24.64		
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Altruistic Values				
Social justice, correcting injustice, care for the weak	0.64	22.70	0.92	0.62
Preventing pollution, conserving natural resources	0.90	37.12		
Equality, equal opportunity for all	0.65	23.07		

Unity with nature, fitting into nature	0.84	31.80		
A world of peace, free of war and conflict	0.66	23.65		
Respecting the earth, harmony with other species	0.88	34.59		
Protecting the environment, preserving nature	0.90	35.88		
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Perceived Consumer Effectiveness (PCE)				
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What I purchase as a consumer has an effect on the nation's environmental problems.	0.84	29.81	0.85	0.60
Each consumer's behavior can have an effect on how companies treat their employees.	0.76	26.17		
Since one consumer cannot have any effect on how companies behave toward the community, it does not make any difference I do. (R)	0.57	18.59		
Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies.	0.89	33.12		
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Materialistic Values				
<hr/>				
I admire people who own expensive homes, cars, and clothes.	0.81	26.09	0.89	0.52
Some of the most important achievements in life include acquiring material possessions.	0.70	22.50		
I don't place much emphasis on the amount of material objects people own as a sign of success. (R)	0.73	24.62		
I try to keep my life simple, as far as possessions are concerned. (R)	0.70	21.06		
The things I own aren't all that important to me. (R)	0.47	15.84		
I have all the things I really need to enjoy my life. (R)	0.55	8.45		
My life would be better if I owned certain things I don't have.	0.86	30.78		
I'd be happier if I could afford to buy more things.	0.87	31.19		
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Self-Acceptance				
<hr/>				
When I look at the story of my life, I am pleased with how things have turned out.	0.80	29.16	0.91	0.58
In general, I feel confident and positive about myself.	0.86	34.57		
I feel like many of the people I know have gotten more out of life than I have. (R)	0.67	26.11		
I like most aspects of my personality.	0.73	26.11		

In many ways, I feel disappointed about my achievements in life. (R)	0.81	31.23		
My attitude about myself is probably not as positive as most people feel about themselves. (R)	0.75	28.08		
When I compare myself to friends and acquaintances, it makes me feel good about who I am.	0.70	24.24		
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Environmentally Friendly Behaviors (EFB)				
I avoid buying from companies that harm endangered plants or animals.	0.86	33.11	0.92	0.65
I avoid using products that pollute the air.	0.85	33.26		
I avoid buying products that pollute the water.	0.89	35.33		
I make an effort to avoid products or services that cause environmental damage.	0.90	35.78		
I avoid buying products that are made from endangered animals.	0.76	27.93		
I limit my use of energy such as electricity.	0.53	17.42		
<hr/>				
Purchase Behaviors based on Perceived CSR (PB_CSR)				
I try to buy from companies that help the needy.	0.89	34.91	0.96	0.66
I try to buy from companies that hire people with disabilities.	0.82	30.86		
I avoid buying products or services from companies that discriminate against minorities.	0.74	27.99		
When given a chance to switch to a retailer that supports local schools, I take it.	0.77	28.78		
I try to buy from companies that make donations to medical research.	0.79	29.92		
I make an effort to buy from companies that sponsor food drives.	0.84	32.79		
When given a chance to switch to a brand that gives back to the community, I take it.	0.83	31.37		
I avoid buying products made using child labor.	0.75	27.80		
When given a chance, I switch to brands where a portion of the price is donated to charity.	0.79	29.23		
I avoid buying products or services from companies that discriminate against women.	0.77	29.45		

When I am shopping, I try to buy from companies that are working to improve conditions for employees in their factories.	0.85	32.64		
I try to buy from companies that support victims of natural disasters.	0.86	33.52		
I make an effort to buy products and services from companies that pay all of their employees a living wage.	0.82	30.95		
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Downshifting Consumption Behaviors				
Trying to limit my consumption	0.86	25.73	0.91	0.50
Buying only the things you need	0.59	19.03		
Buying things that last as long as possible	0.67	20.10		
Making rather than buying gifts	0.48	16.91		
Looking for ways to reuse things	0.81	24.85		
Limiting car use	0.64	18.37		
Buying locally grown produce	0.87	29.86		
Buying from local merchants	0.80	27.41		
Limiting/eliminating TV	0.58	16.29		
Being friends with neighbors	0.60	18.53		
Being active in the community	0.78	20.93		

Table 6: Langer's Mindfulness Model - Correlation Matrix and AVE in Comparison with Squared Correlation

Section A: Correlation Matrix											
Constructs	1	2	3	4	5	6	7	8	9	10	11
1. LNGRMFN	1.00										
2. COGFLX	0.54	1.00									
3. NFC	0.73	0.49	1.00								
4. SRC	0.33	0.51	0.35	1.00							
5. ALTVAL	0.26	0.21	0.22	0.08	1.00						
6. PCE	0.28	0.28	0.25	0.18	0.59	1.00					
7. MAT	-0.13	-0.19	-0.17	-0.23	-0.21	-0.17	1.00				
8. SLFACCP	0.25	0.48	0.20	0.54	0.11	0.18	-0.32	1.00			
9. EFB	0.29	0.20	0.25	0.10	0.65	0.60	-0.22	0.11	1.00		
10. PBCSR	0.29	0.20	0.24	0.06	0.50	0.52	-0.17	0.13	0.77	1.00	
11. DSCB	0.27	0.25	0.24	0.21	0.46	0.39	-0.29	0.23	0.52	0.47	1.00

Section B: Average Variance Extracted Compared to Squared Correlation											
Constructs	1	2	3	4	5	6	7	8	9	10	11
1. LNGRMFN	0.58										
2. COGFLX	0.29	0.57									
3. NFC	0.53	0.24	0.58								
4. SRC	0.11	0.26	0.12	0.54							
5. ALTVAL	0.07	0.04	0.05	0.01	0.63						
6. PCE	0.08	0.08	0.06	0.03	0.35	0.60					
7. MAT	0.02	0.04	0.03	0.05	0.05	0.03	0.52				
8. SLFACCP	0.06	0.23	0.04	0.29	0.01	0.03	0.10	0.58			
9. EFB	0.09	0.04	0.06	0.01	0.42	0.36	0.05	0.01	0.65		
10. PBCSR	0.08	0.04	0.06	0.00	0.25	0.27	0.03	0.02	0.59	0.66	
11. DSCB	0.07	0.06	0.06	0.04	0.21	0.15	0.08	0.05	0.27	0.22	0.50

Note: Average variance extracted in diagonal; LNGRMFN – Langer's Mindfulness, COGFLX – Cognitive Flexibility, NFC – Need For Cognition, SRC – Self-Regulatory Control, ALTVAL – Altruistic Values, PCE – Perceived Consumer Effectiveness, MAT – Materialism, SLFACCP – Self-Acceptance, EFB – Environmentally Friendly Behaviors, PBCSR – Purchase Behaviors based on perceived CSR, DSCB – Downshifting Consumption Behaviors

Structural Model: Hypotheses of the present study were examined using structural equation modeling in LISREL. A simple bivariate correlation between all the socio-demographic variables and types of sustainable consumption behaviors revealed that age, gender, and political orientation are significantly associated with at least two of the three types of sustainable consumption behaviors (Table 7). Hence age, gender, and political orientation were included as control variables in the structural model along with the study's main variables. Education did not show significant association, while income was weakly but significantly associated with downshifting consumption behaviors.

Table 7: Correlation between Socio-demographic Variables and Sustainable Consumption Behaviors

Constructs	1	2	3	4	5	6	7	8
1. Education	1							
2. Gender	-.00	1						
3. Political Belief	-.15**	-.12	1					
4. Income	-.29**	-.02	.06	1				
5. Age	.12**	.01	.03	-.00	1			
6. Purchase Behaviors based on CSR	-.05	.15**	-.17**	-.00	.04	1		
7. Environmentally Friendly Behaviors	.03	.15**	-.24**	-.03	.10**	.73**	1	
8. Downshifting Consumption	.00	.11**	-.05	-.09**	.15**	.50**	.57**	1

**Significant at $p < 0.001$

The model showed a good fit with all indices meeting the recommended criteria. Results were: χ^2 (df)= 13304.42 (4384); RMSEA=0.053 (0.052 – 0.054), $p=0.0$; GFI=0.74; CFI=0.97. Most of the hypothesized relationships were significant. The direct association between Langer's Mindfulness and Sustainable Consumption Behaviors were positive and significant. That is, results for paths; Mindfulness-Environmentally Friendly Behavior ($\beta=.11, p<0.01$), Mindfulness-Purchase Behaviors based on Perceived CSR ($\beta=.14, p<0.01$), and Mindfulness-Downshifting Consumption ($\beta=.11, p<0.01$) were statistically significant lending support for H1a, H1b, and

H1c. There was a positive and statistically significant association between Langer's Mindfulness and Cognitive Flexibility ($\beta=.55, p<0.01$), Need for cognition ($\beta=.73, p<0.01$), and Self-regulatory control ($\beta=.33, p<0.01$) supporting hypotheses H2a, H2b, and H2c. As expected, the associations between Cognitive flexibility and Altruistic values ($\beta=.11, p<0.01$), PCE ($\beta=.19, p<0.01$), and Self-acceptance ($\beta=.30, p<0.01$) were also positive and statistically significant at $p<0.01$. Therefore, hypotheses H3a, H3b, and H3c were also supported. Similarly, Need for Cognition displayed a significant and positive relationship with Altruistic values ($\beta=.17, p<0.01$), PCE ($\beta=.16, p<0.01$), and a negative association with Materialism ($\beta=-.11, p<0.01$) in support of H4a, H4b, and H4c. In addition, the associations hypothesized between Self-Regulatory Control, and values Materialism ($\beta=-.20, p<0.01$), and Self-Acceptance ($\beta=.39, p<0.01$) were also statistically significant supporting H5a and H5b. As expected *Altruistic Values* showed a positive and significant association with sustainable consumption behaviors; *Environmentally Friendly Behaviors* ($\beta=.44, p<0.01$), *Purchase Behaviors based on Perceived CSR* ($\beta=.29, p<0.01$), and *Downshifting Consumption* ($\beta=.34, p<0.01$). Hence H6a, H6b, and H6c were also supported. Further, *PCE* exhibited a positive and significant relationship with *Environmentally Friendly Behaviors* ($\beta=.33, p<0.01$), *Purchase Behaviors based on Perceived CSR* ($\beta=.34, p<0.01$), and *Downshifting Consumption* ($\beta=.16, p<0.01$) supporting H7a, H7b, and H7c. As proposed, Materialism maintained negative and significant associations with *Environmentally Friendly Behaviors* ($\beta=-.08, p<0.01$), and *Downshifting Consumption* ($\beta=-.14, p<0.01$) which supported H8a, and H8c. Finally, the link hypothesized between *Self-Acceptance* and *Downshifting Consumption* was also positive and significant ($\beta=.11, p<0.01$) in line with H9c. However, the proposed paths between *Langer's Mindfulness and Self-Acceptance* (H2d), *Materialism and Purchase Behaviors based on Perceived CSR* (H8b), *Self-Acceptance and Environmentally*

Friendly Behaviors (H9a) as well as *Self-Acceptance and Purchase Behaviors based on Perceived CSR (H9b)* were not significant. Figure 4 shows all examined paths with its beta coefficients.

Results for the control variables were as follows: older study participants showed higher tendencies of *Downshifting Consumption Behaviors*. However, *Age* did not show any significant association with other types of sustainable consumption behaviors. Females exhibited increased *Purchase Behaviors Based on Perceived CSR*. But other types of sustainable behaviors did not show any significant relationships with *Gender*. More conservative individuals showed increased *Downshifting Consumption Behaviors*. However, other types of sustainable behaviors did not display any significant association with *Political Beliefs*.

6.3 Comparing Direct and Indirect Effects Between Langer's Mindfulness and Sustainable Consumption Behaviors

In this section, I compare the direct as well as indirect relationships involved in the linkage between Langer's Mindfulness and each type of Sustainable Consumption Behaviors. Concerning this particular association, Table 8 shows the direct effects, indirect effects through cognitive personality, values, and belief variables and total effects. In addition, Table 9 shows the indirect effects in terms of each individual path involved. Indirect path effects were calculated for all indirect individual paths that displayed significant relationships.

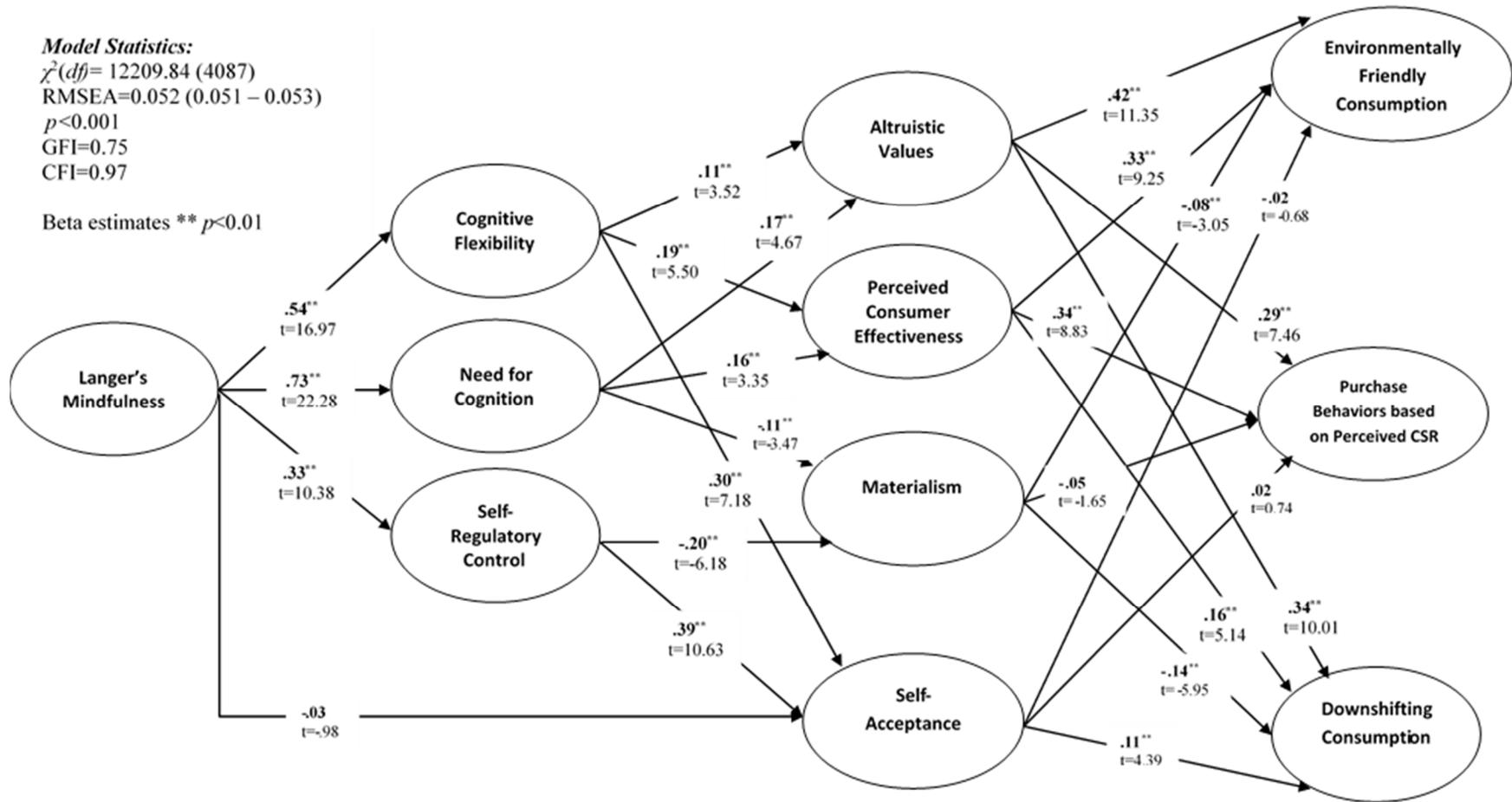
Table 8: Langer's Mindfulness Model - Direct, Indirect, and Total Effects

Constructs	Direct Effects	Indirect^a Effects	Total Effects
Environmentally Friendly Behaviors	0.11** t=4.52	0.15** t=7.69	0.25** t=8.86
Purchase Behaviors Based on Perceived CSR	0.14** t=5.10	0.12** t=7.51	0.26** t=8.96
Downshifting Consumption Behaviors	0.11** t=5.08	0.13** t=8.76	0.24** t=9.63

Indirect Effects in this table shows the cumulative indirect effects by all indirect paths tested between Langer's Mindfulness and Sustainable Consumption Behaviors.

**significant at $p < 0.01$.

Figure 4: Langer’s Mindfulness Structural Model⁶



⁶ Direct Relationships: Mindfulness—Environmentally Friendly Consumption (H1a: $\beta=.11$, $p < 0.01$), Mindfulness—Purchase Behaviors based on Perceived CSR (H1b: $\beta=.14$, $p < 0.01$), Mindfulness—Downshifting Consumption (H1c: $\beta=.11$, $p < 0.01$)

Table 9: Langer's Mindfulness Model – Beta Coefficients of Indirect Paths

Indirect Paths	β	t value
<i>Environmentally Friendly Behaviors:</i>		
LNGRMFN → COGFLX → ALTVAL → EFB	0.03	3.39
LNGRMFN → COGFLX → PCE → EFB	0.03	4.66
LNGRMFN → NFC → ALTVAL → EFB	0.05	4.32
LNGRMFN → NFC → PCE → EFB	0.03	3.77
LNGRMFN → NFC → MAT → EFB	0.01	2.34
LNGRMFN → SRC → MAT → EFB	0.01	2.73
<i>Purchase Behaviors based on Perceived CSR:</i>		
LNGRMFN → COGFLX → ALTVAL → PBCSR	0.02	3.18
LNGRMFN → COGFLX → PCE → PBCSR	0.03	4.59
LNGRMFN → NFC → ALTVAL → PBCSR	0.03	3.90
LNGRMFN → NFC → PCE → PBCSR	0.04	3.73
<i>Downshifting Consumption Behaviors:</i>		
LNGRMFN → COGFLX → ALTVAL → DSCB	0.02	3.35
LNGRMFN → COGFLX → PCE → DSCB	0.01	3.49
LNGRMFN → COGFLX → SLFACCP → DSCB	0.01	3.08
LNGRMFN → NFC → ALTVAL → DSCB	0.04	4.22
LNGRMFN → NFC → PCE → DSCB	0.02	3.06
LNGRMFN → NFC → MAT → DSCB	0.01	3.06
LNGRMFN → SRC → MAT → DSCB	0.01	4.14
LNGRMFN → SRC → SLFACCP → DSCB	0.01	3.14

LNGRMFN – Langer's Mindfulness, COGFLX – Cognitive Flexibility, NFC – Need For Cognition, SRC – Self-Regulatory Control, ALTVAL – Altruistic Values, PCE – Perceived Consumer Effectiveness, MAT – Materialism, SLFACCP – Self-Acceptance, EFB – Environmentally Friendly Behaviors, PBCSR – Purchase Behaviors based on perceived CSR, DSCB – Downshifting Consumption Behaviors

Regarding the main relationship between Langer's Mindfulness and Sustainable Consumption Behaviors, both the direct link and indirect links are statistically significant. Based on the magnitude of betas, it could be inferred that, of the total effects Mindfulness has on

Environmentally Friendly Behaviors, almost 60% is described by indirect effects through other intervening variables. The same phenomenon was observed in other behaviors—about 46% in Purchase Behaviors based on Perceived CSR and 54% in Downshifting Consumption Behaviors. Among the indirect paths investigated between Langer’s Mindfulness and Environmentally Friendly Behaviors, the path Mindfulness → Need For Cognition → Altruistic Values → Environmentally Friendly Behaviors seemed to be the strongest ($\beta=.05, p<0.01$). Similarly, of the indirect paths relating Mindfulness to Purchase Behaviors based on Perceived CSR, the link through variables *Need-For-Cognition* and *PCE* appeared to be the strongest ($\beta=.04, p<0.01$). Relating to Downshifting Consumption Behaviors, the path through *Need-For-Cognition* and *Altruistic Values* was identified as the strongest ($\beta=.04, p<0.01$).

6.4 Examining the Conceptual Model with Cognitive and Affective Mindfulness (CAMS-R)

As in the previous section, additional analyses were carried out in order to examine the proposed conceptual model using Cognitive and Affective Mindfulness (Feldman et al., 2007) – a measure developed based on the Eastern meditation-based mindfulness approach.

Confirmatory Factor Analysis: As with Langer’s Mindfulness model, a two-step model validation was used to examine and refine the measurement model and to test the proposed structural model. Based on initial Confirmatory Factor Analysis (CFA) results, items in some of the scales were dropped because of their loading on more than one factor. Accordingly, an item from ‘Attention and Awareness’ of CAMS-R, three items from Cognitive Flexibility, one item from Self-Regulatory Control, two items from Materialism, one item from Self-Acceptance, one item from Environmentally Friendly Behaviors, and two items from Downshifting consumption behaviors were dropped from further analyses. All other items confirmed the factor structure obtained in EFA and loaded on their respective latent constructs. Both the ‘Acceptance’ factor of

CAMS-R and Self-Regulatory Control were removed from subsequent analyses because the inter-correlation between Attention and Awareness' factor of CAMS-R with Acceptance factor of CAMS-R and Self-Regulatory Control were higher than the average variance explained by those two variables and failed to support convergent validity (Fornell and Larcker, 1981). The final CFA generated a statistically significant well fitted measurement model. Results for the model fit were: $\chi^2(df) = 7153.43 (2203)$; RMSEA=0.055 (0.054 – 0.056), $p=0.0000$; GFI=0.79; and CFI=0.97. As Hooper et al. (2008) suggested these statistics indicate a good model fit. All the items' standardized loadings were greater than 0.5 except for one item in each of the constructs Materialism and Downshifting consumption which exhibited loadings of 0.44 and 0.47 respectively. As in Langer's mindfulness empirical model, in order to maintain their content validity and since their loadings were only a little less than 0.5, they were retained for further analyses. All the standardized factor loadings were statistically significant. Internal consistency of constructs was assessed using Average Variance Extracted (AVE) and composite reliability. Composite reliabilities ranged between 0.73 and 0.96. AVE for all constructs except Cognitive Flexibility and Downshifting Consumption Behaviors exceeded the threshold of 0.5 and therefore, met the standard for convergent validity (Fornell and Larcker, 1981). AVE for Cognitive Flexibility and Downshifting Consumption were in the range of 0.4 and their composite reliabilities were 0.73 and 0.86 respectively. Since the composite reliabilities were above the acceptable range of 0.7 (Hair, Ringle, and Sarstedt, 2011; Nunnally and Bernstein, 1994) and to obtain an empirical model that can be compared with Langer's mindfulness empirical model, both constructs Cognitive Flexibility and Downshifting Consumption were retained. AVE for all constructs were compared with the squared correlations. Since the squared correlations were less than the AVE, it was determined that there is discriminant validity for all

constructs (Fornell and Larcker, 1981). Table 10 shows CFA results consisting of standardized factor loadings, t values for indicators, composite reliability and AVE for latent constructs.

Table 10: Cognitive and Affective Mindfulness (CAMS) Model – Measurement Model Results

Measurement Items	Standard loading	t value	Composite Reliability	Average Variance Extracted (AVE)
Cognitive and Affective Mindfulness (Factor: Attention and Awareness)				
It is easy for me to concentrate on what I am doing.	0.85	30.88	0.86	0.60
I am easily distracted.	0.70	23.71		
I am able to focus on the present moment.	0.74	25.47		
I am able to pay close attention to one thing for long period of time.	0.80	28.34		
Cognitive Flexibility				
I can communicate an idea in many different ways.	0.71	22.13	0.73	0.40
I avoid new and unusual situations. (R)	0.61	14.93		
I can find workable solutions to seemingly unsolvable problems.	0.72	22.51		
My behavior is a result of conscious decisions that I make.	0.50	14.46		
Need for Cognition				
I prefer complex to simple problems.	0.80	29.74	0.93	0.56
I like to have the responsibility of handling a situation that requires a lot of thinking.	0.84	31.55		
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	0.84	31.59		
I try to anticipate and avoid situations where I will have to think in depth about something. (R)	0.74	26.12		
I prefer to think about small daily projects than long term ones. (R)	0.57	19.13		
I like tasks that require little thought once I have learned them. (R)	0.74	26.41		
I really enjoy a task that involves coming up with new solutions to the problem.	0.85	32.28		
The notion of thinking abstractly appeals to me.	0.66	22.89		
I prefer a task that is intellectual, difficult, and important to one that does not require much thought.	0.78	29.02		
It's enough for me that something gets the job done; I don't care how or why it works. (R)	0.60	20.46		
Thinking is not my idea of fun.	0.77	28.46		
Altruistic Values				

Social justice, correcting injustice, care for the weak	0.64	21.70	0.92	0.64
Preventing pollution, conserving natural resources	0.90	35.99		
Equality, equal opportunity for all	0.65	22.18		
Unity with nature, fitting into nature	0.85	32.38		
A world of peace, free of war and conflict	0.66	22.79		
Respecting the earth, harmony with other species	0.88	34.62		
Protecting the environment, preserving nature	0.90	36.11		
Perceived Consumer Effectiveness (PCE)				
What I purchase as a consumer has an effect on the nation's environmental problems.	0.84	30.97	0.85	0.60
Each consumer's behavior can have an effect on how companies treat their employees.	0.76	26.83		
Since one consumer cannot have any effect on how companies behave toward the community, it does not make any difference I do. (R)	0.57	18.58		
Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies.	0.88	33.53		
Materialistic Values				
I admire people who own expensive homes, cars, and clothes.	0.78	25.49	0.88	0.56
Some of the most important achievements in life include acquiring material possessions.	0.70	22.58		
I don't place much emphasis on the amount of material objects people own as a sign of success. (R)	0.74	24.07		
The things I own aren't all that important to me. (R)	0.44	14.75		
My life would be better if I owned certain things I don't have.	0.84	27.60		
I'd be happier if I could afford to buy more things.	0.91	29.83		
Self-Acceptance				
When I look at the story of my life, I am pleased with how things have turned out.	0.81	29.68	0.90	0.60
In general, I feel confident and positive about myself.	0.82	30.25		
I feel like many of the people I know have gotten more out of life than I have. (R)	0.71	24.56		
In many ways, I feel disappointed about my achievements in life. (R)	0.85	31.83		
My attitude about myself is probably not as positive as most people feel about themselves. (R)	0.76	27.31		

When I compare myself to friends and acquaintances, it makes me feel good about who I am.	0.67	23.06		
Environmentally Friendly Behaviors (EFB)				
I avoid buying from companies that harm endangered plants or animals.	0.86	33.13	0.93	0.73
I avoid using products that pollute the air.	0.85	32.76		
I avoid buying products that pollute the water.	0.89	35.34		
I make an effort to avoid products or services that cause environmental damage.	0.90	36.02		
I avoid buying products that are made from endangered animals.	0.76	27.40		
Purchase Behaviors based on Perceived CSR (PB_CSR)				
I try to buy from companies that help the needy.	0.89	35.32	0.96	0.66
I try to buy from companies that hire people with disabilities.	0.82	30.93		
I avoid buying products or services from companies that discriminate against minorities.	0.74	26.77		
When given a chance to switch to a retailer that supports local schools, I take it.	0.77	28.44		
I try to buy from companies that make donations to medical research.	0.79	29.38		
I make an effort to buy from companies that sponsor food drives.	0.84	32.43		
When given a chance to switch to a brand that gives back to the community, I take it.	0.83	31.63		
I avoid buying products made using child labor.	0.75	27.08		
When given a chance, I switch to brands where a portion of the price is donated to charity.	0.79	29.31		
I avoid buying products or services from companies that discriminate against women.	0.77	28.49		
When I am shopping, I try to buy from companies that are working to improve conditions for employees in their factories.	0.85	32.75		
I try to buy from companies that support victims of natural disasters.	0.86	33.75		
I make an effort to buy products and services from companies that pay all of their employees a living wage.	0.82	30.80		
Downshifting Consumption Behaviors				
Trying to limit my consumption	0.78	26.90	0.86	0.41
Buying only the things you need	0.58	18.20		
Making rather than buying gifts	0.50	16.62		
Looking for ways to reuse things	0.61	20.88		

Limiting car use	0.58	18.29
Buying locally grown produce	0.82	29.25
Buying from local merchants	0.79	27.60
Limiting/eliminating TV	0.47	14.965
Being active in the community	0.51	16.96

Table 11: CAMS Model - Correlation Matrix and AVE in Comparison with Squared Correlation

<i>Correlation Matrix</i>											
Constructs	1	2	3	4	5	6	7	8	9	10	
1. CAMS-R	1.00										
2. COGFLX	0.58	1.00									
3. NFC	0.36	0.63	1.00								
4. ALTVAL	0.15	0.25	0.22	1.00							
5. PCE	0.17	0.32	0.25	0.59	1.00						
6. MAT	-0.22	-0.20	-0.18	-0.18	-0.15	1.00					
7. SLFACCP	0.52	0.51	0.21	0.09	0.15	-0.34	1.00				
8. EFB	0.15	0.23	0.24	0.64	0.59	-0.19	0.09	1.00			
9. PBCSR	0.10	0.25	0.24	0.49	0.52	-0.15	0.11	0.77	1.00		
10. DSCB	0.22	0.29	0.24	0.51	0.44	-0.28	0.21	0.58	0.53	1.00	
<i>Section B: Average Variance Extracted Compared to Squared Correlation</i>											
Constructs	1	2	3	4	5	6	7	8	9	10	
1. CAMS-R	0.60										
2. COGFLX	0.34	0.40									
3. NFC	0.13	0.39	0.56								
4. ALTVAL	0.02	0.06	0.05	0.63							
5. PCE	0.03	0.10	0.06	0.35	0.60						
6. MAT	0.05	0.04	0.03	0.03	0.02	0.56					
7. SLFACCP	0.22	0.26	0.05	0.01	0.02	0.11	0.60				
8. EFB	0.01	0.05	0.06	0.41	0.35	0.03	0.01	0.73			
9. PBCSR	0.01	0.06	0.06	0.25	0.27	0.02	0.01	0.59	0.66		
10. DSCB	0.05	0.09	0.06	0.26	0.20	0.08	0.04	0.34	0.28	0.41	

Note: Average variance extracted in diagonal; CAMS-R – Cognitive and Affective Mindfulness - Revised, COGFLX – Cognitive Flexibility, NFC – Need For Cognition, ALTVAL – Altruistic Values, PCE – Perceived Consumer Effectiveness, MAT – Materialism, SLFACCP – Self-Acceptance, EFB – Environmentally Friendly Behaviors, PBCSR – Purchase Behaviors based on perceived CSR, DSCB – Downshifting Consumption Behaviors

Structural Model: As in Langer's Mindfulness model, hypotheses were examined using structural equation modeling. Age, Gender, and Political beliefs were also included as control variables in the structural model. Modification indices of initial structural model stated adding an additional path between Altruistic Values and Political Beliefs. The model generated a good fit with all the statistics meeting suggested criteria: χ^2 (df)= 7874.10 (2413); RMSEA=0.055 (0.054 – 0.056), $p=0.0$; GFI=0.78; CFI=0.97. Most of the proposed relationships were significant. Supporting hypotheses H2a, and H2b, both *Cognitive Flexibility* ($\beta=.56, p<0.01$), and *Need for cognition* ($\beta=.35, p<0.01$) had positive and significant associations with *Cognitive and Affective Mindfulness*. Unlike in Langer's Mindfulness model, the direct relation between *Cognitive and Affective Mindfulness* and *Self-Acceptance* was positive and significant ($\beta=.32, p<0.01$) which offered support for H2d. The relationships between *Cognitive flexibility* and *Altruistic values* ($\beta=.15, p<0.01$), *PCE* ($\beta=.23, p<0.01$), and *Self-Acceptance* ($\beta=.29, p<0.01$) were also positive and statistically significant at $p<0.01$, which lent support for H3a, H3b, and H3c. Similarly, there were positive and significant relationships between *Need for Cognition*, and *Altruistic values* ($\beta=.12, p<0.01$), and *PCE* ($\beta=.11, p<0.01$). In addition, *Need For Cognition* also exhibited a negative link with *Materialism* ($\beta=-.20, p<0.01$). Thus, hypotheses H4a, H4b, and H4c were also supported. As expected, *Altruistic Values* showed a positive and significant relation with sustainable consumption behaviors; *Environmentally Friendly Behaviors* ($\beta=.43, p<0.01$), *Purchase Behaviors based on Perceived CSR* ($\beta=.30, p<0.01$), and *Downshifting Consumption* ($\beta=.39, p<0.01$). This provided support for H6a, H6b, and H6c. Further, *PCE* displayed a positive and significant influence on *Environmentally Friendly Behaviors* ($\beta=.32, p<0.01$), *Purchase Behaviors based on Perceived CSR* ($\beta=.34, p<0.01$), and *Downshifting Consumption* ($\beta=.19, p<0.01$), thus supporting H7a, H7b, and H7c. As postulated, *Materialism* exhibited

negative and significant associations with *Environmentally Friendly Behaviors* ($\beta=-.06, p<0.01$), and *Downshifting Consumption* ($\beta=-.14, p<0.01$) which supported H8a, and H8c. Nonetheless, the direct association between *Cognitive and Affective Mindfulness* and *Sustainable Consumption Behaviors* were not significant. Also, the proposed paths between *Materialism and Purchase Behaviors based on Perceived CSR (H8b)*, *Self-Acceptance and Environmentally Friendly Behaviors (H9a)*, *Self-Acceptance and Purchase Behaviors based on Perceived CSR (H9b)*, as well as *Self-Acceptance and Downshifting Consumption Behaviors (H9c)* were not significant. Results for the control variables were as follows: older study participants showed higher tendencies of *Downshifting Consumption Behaviors*. Age did not show any significant association with other types of sustainable consumption behaviors. Females exhibited increased *Purchase Behaviors Based on Perceived CSR*. But other types of sustainable behaviors did not show any significant relationships with *Gender*. More conservative study participants showed increased *Downshifting Consumption Behaviors*. Other types of sustainable behaviors did not display any significant association with *Political Beliefs*. Nevertheless, two additional paths were added based on suggestions of modification indices. Path 1 connected *Age* and *Cognitive and Affective Mindfulness* (Attention and Awareness), Path 2 connected *Political Beliefs and Altruistic Values*. Older study participants exhibited increased mindfulness. Higher *Altruistic Values* were exhibited by individuals with more liberal *Political Beliefs*.

6.5 Comparing Direct and Indirect Effects Between Cognitive and Affective Mindfulness and Sustainable Consumption Behaviors

In this section, the direct and indirect effects involved in the association between Cognitive and Affective Mindfulness and each type of Sustainable Consumption Behaviors are discussed. Table 12 shows the direct effects, indirect effects and total effects concerned with the above association. The indirect effects in terms of each individual paths are shown in Table 13.

Indirect path effects were calculated for all indirect individual paths that exhibited significant relationships.

Table 12: CAMS Model - Direct, Indirect, and Total Effects

Constructs	Direct Effects	Indirect^a Effects	Total Effects
Environmentally Friendly Behaviors	0.04 t=1.19	0.10** t=4.57	0.14** t=4.52
Purchase Behaviors Based on Perceived CSR	-0.02 t=-0.50	0.11** t=5.33	0.09** t=3.08
Downshifting Consumption Behaviors	0.06 t=1.62	0.11** t=5.43	0.17** t=5.41

^a Indirect Effects in this table show the cumulative indirect effects by all indirect paths tested in between Langer's Mindfulness and Sustainable Consumption Behaviors.

** significant at $p < 0.01$.

Table 13: CAMS Model – Beta Coefficients of Indirect Paths

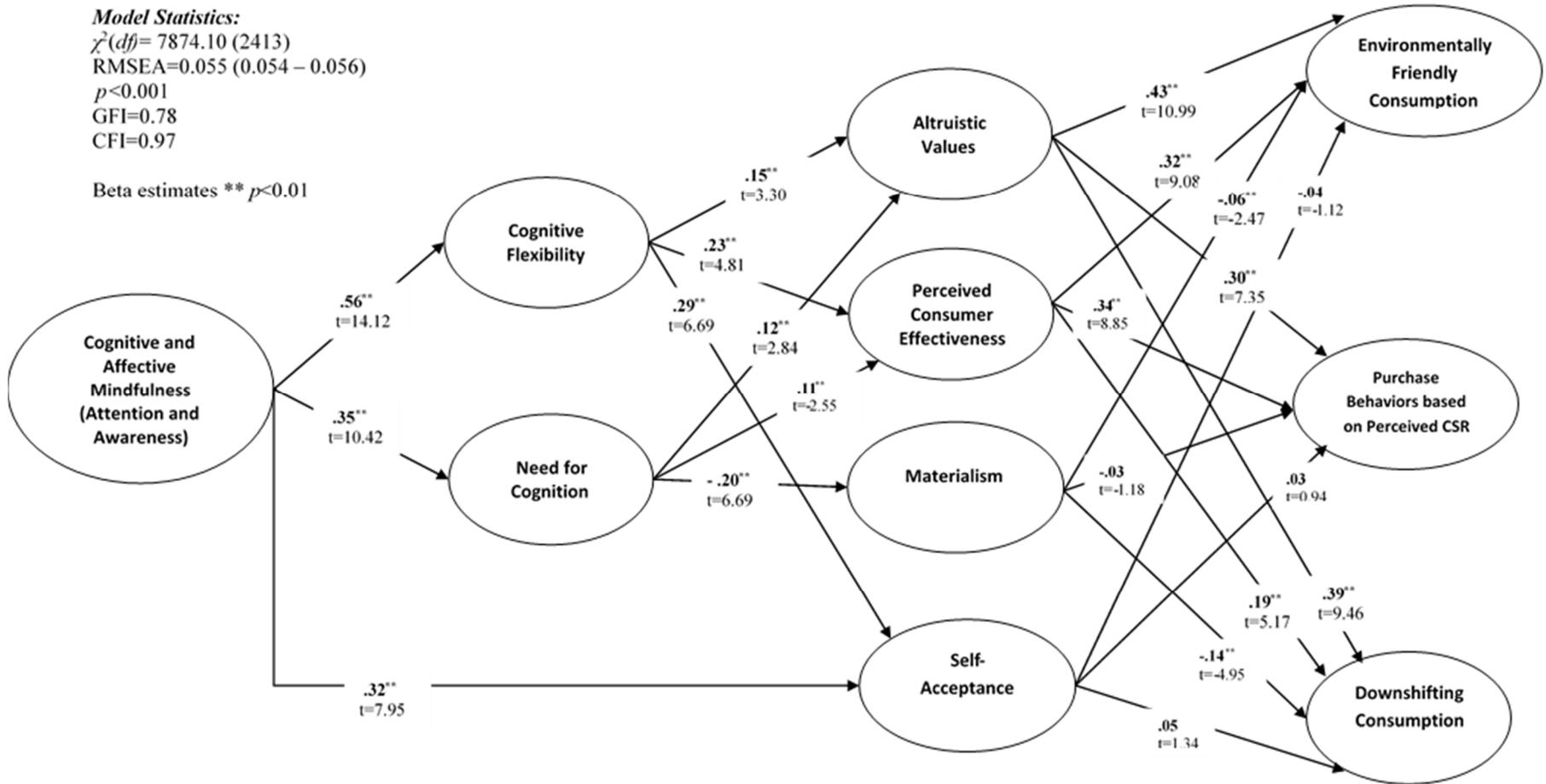
Indirect Paths	β	t value
<i>Environmentally Friendly Behaviors:</i>		
CAMFN → COGFLX → ALTVAL → EFB	0.04	3.16
CAMFN → COGFLX → PCE → EFB	0.04	4.18
CAMFN → NFC → ALTVAL → EFB	0.02	2.70
CAMFN → NFC → PCE → EFB	0.01	2.41
CAMFN → NFC → MAT → EFB	0.00	2.27
<i>Purchase Behaviors based on Perceived CSR:</i>		
CAMFN → COGFLX → ALTVAL → PBCSR	0.02	3.01
CAMFN → COGFLX → PCE → PBCSR	0.04	4.15
CAMFN → NFC → ALTVAL → PBCSR	0.01	2.61
CAMFN → NFC → PCE → PBCSR	0.01	2.40
<i>Downshifting Consumption Behaviors:</i>		
CAMFN → COGFLX → ALTVAL → DSCB	0.03	3.11
CAMFN → COGFLX → PCE → DSCB	0.02	3.48
CAMFN → NFC → ALTVAL → DSCB	0.02	2.67

CAMFN → NFC → PCE → DSCB	0.01	2.25
CAMFN → NFC → MAT → DSCB	0.01	3.78

CAMFN – Cognitive and Affective Mindfulness, COGFLX – Cognitive Flexibility, NFC – Need For Cognition, ALTVAl – Altruistic Values, PCE – Perceived Consumer Effectiveness, MAT – Materialism, SLFACCP – Self-Acceptance, EFB – Environmentally Friendly Behaviors, PBCSR – Purchase Behaviors based on perceived CSR, DSCB – Downshifting Consumption Behaviors

While the indirect associations between Cognitive and Affective Mindfulness and Sustainable Consumption Behaviors were significant, the direct relationships were not significant. In all three domains of Sustainable Behaviors, paths through variables Cognitive Flexibility and Altruistic Values or PCE were stronger than other paths ($\beta=0.03-0.04, p<0.01$).

Figure 5: Cognitive and Affective Mindfulness (CAMS) Structural Model⁷



⁷ Direct Relationships were not significant

CHAPTER 7

DISCUSSION AND IMPLICATIONS

The main goal of the study was to investigate how consumers' inherent capability known as mindfulness might be associated with various sustainable consumption behaviors. Using diverse mechanisms of the mindfulness concept, current research identified cognitive personality variables, values, and beliefs that underlie the above association. In a snapshot, the main findings of this research suggest that regardless of the way the mindfulness trait is measured – whether socio-cognitive based or meditation based – it shows a positive association with sustainable behaviors that encompass both pro-environmental as well as downshifting consumption behaviors. Another finding is that mindfulness is not only positively associated with sustainable behaviors, but also linked to values and beliefs underlying sustainable consumption behaviors via cognitive personality variables. Extending these findings one could argue that by fine-tuning individuals' mindfulness trait either through cognitive interventions or through meditative approaches, paths toward consumption behaviors that are apt for self, community, and environment could be established. Although previous research has dealt with this relationship both conceptually (Rosenberg, 2004) and empirically (Brown and Kasser, 2005; Bahl et al., 2013; Ross, 2015), only few studies have investigated the decision-making processes associated with mindfulness that could elucidate how mindfulness is possibly linked to sustainable consumption behaviors. In addition, several researchers (Brown and Kasser, 2005; Ericson et al., 2014) have indicated that the processes involved in mindfulness and sustainable consumption behaviors should be studied in detail. Even though mechanisms of mindfulness, specifically values clarification, and re-perceiving (Shapiro et al., 2006) have been empirically examined in stress-relief initiatives (Carmody et al., 2009), this research is one of few to examine such

processes in consumption behaviors, thereby offering a comprehensive understanding of mindfulness in the context of sustainable consumption behaviors while attempting to give a theoretical explanation behind this association. By addressing the broad definition of sustainable consumption behaviors that encompass both pro-environmental and downshifting consumption behaviors (Evans, 2011; Speth, 2008), this research tests how mindfulness influences environmentally friendly behaviors, purchase behaviors based on perceived CSR, and downshifting consumption behaviors in a single empirical model. Furthermore, researchers assert that downshifting consumption is the most fundamental and efficient approach to sustainable consumption compared to other “green” approaches that enhance consumption of green products, but do not necessarily decrease overall consumption and resource-usage (Prothero et al., 2011; Speth, 2008; Pretty et al., 2007; Schor, 2010, 1999; De Geus, 2003). Evidence of both direct as well as indirect associations between mindfulness and downshifting consumption behaviors in this research is another contribution in this regard. This finding also complies with the mindful consumption model in which Sheth et al. (2011) postulate that a consumer’s “mindful mindset” that cares for self, environment and community exercises temperance in different consumption patterns.

7.1 Comparing Langer’s Mindfulness Model and Cognitive and Affective Mindfulness

Model

Current study tested two empirical models comprising of mindfulness measures derived from both socio-cognitive and meditation-based approaches. Empirical examination of the conceptual model supports that, while Langer’s mindfulness (LM) – one that is grounded on the socio-cognitive based approach - is directly associated with sustainable consumption behaviors, there are additional indirect relationships through intervening variables, namely cognitive

personality variables, values, and beliefs. Nevertheless, the empirical model with Cognitive and Affective Mindfulness (CAM) – one that is built on the meditation-based approach, showed that mindfulness, for the most part, is significantly associated with sustainable consumption behaviors only through intervening variables identified in the study; there was no direct association between CAM and sustainable behaviors. The discrepancies in direct effects among both models could be due to a characteristic of Langer’s mindfulness that was not readily evident in cognitive and affective mindfulness. While this feature of Langer’s mindfulness did not account for the variance in intervening variables such as cognitive personality and values/beliefs variables, it did predict the differences in sustainable behaviors. For instance, the novelty seeking and novelty producing tenets of LM (Langer, 1989) – although they might be partially associated with cognitive flexibility (Hirsh, 2010) and need for cognition (Olson, Camp, and Fuller, 1984) - may have led to the direct relationships with sustainable behaviors. Langer (1992) contends that by paying close attention to and by being aware of surroundings, mindfulness cultivates “novelty seeking” and “novelty producing” ability in individuals. Accordingly, this may drive them to deviate from traditional consumption options and move towards sustainable consumption. That is, consumers will learn to find novelty in goods that they already have and will avoid becoming susceptible to the consumer treadmill; they will also be able to find new purposes in products they already possess and thereby circumvent any additional purchases. In the CAM model, mindfulness was positively related to self-acceptance, and in the LM model, this association was not significant. This difference could be attributed to features such as present focus in CAM. According to Jimenez, Niles, and Park (2010), individuals showed self-acceptance in mindfulness interventions which focus on/increasing present moment experience while mitigating conditional past and uncertain future experiences. In addition, dropping the

acceptance factor in the CAM model may have reduced the content validity of cognitive and affective mindfulness in this study which could have limited its potential in directly explain the variance of sustainable behaviors. Most of the indirect relationships involving cognitive personality and values/beliefs in both the models showed similar relationships as expected (any differences in them will be discussed in next section as applicable), supporting that, although the approach to mindfulness is distinct, their tenets share commonalities as discussed earlier. For instance, in both models, mindfulness was positively related to cognitive flexibility and need for cognition. Possibly, this could be attributed to attention and awareness in the CAM model and engagement in the LM model. Although the above discussion contributes to the understanding of how both empirical models differ from each other in explaining the hypothesized relationships, the contribution is somewhat limited, since the acceptance factor of CAM which consisted of mostly affect-related attributes was dropped from the analysis, meaning that any differences or deviations from the LM model that could arise from affective features could not be found.

The following discussion on the results of indirect relationships focuses mainly on the LM model, since the LM empirical model included all of the hypothesized relationships. However, any deviations from the CAM model - in terms of significance and magnitude of relationships - are also discussed as applicable.

7.2 Results of Indirect Relationships

7.2.1 Mindfulness and Cognitive Personality Variables

By discussing this part of the findings, the current study offers a clear picture of the cognitive personality variables associated with mindfulness that are relevant for sustainable behaviors. Findings supported that mindfulness had a positive and significant association with cognitive flexibility, need for cognition and self-regulatory control. Similar results were reported

by Carmody et al. (2009) in an MBSR program in which participants learned mindfulness practices that helped them in alleviating their stress symptoms. In their experiment, there was a significant improvement in subjects' cognitive, and emotional flexibility and self-regulation between the pre and post treatment periods. The relation between mindfulness and sustainable behaviors through cognitive flexibility can be further explained as follows. Hinvest (2009) describes that our brain is hard-wired in a manner to seek pleasure in order to continuously motivate us. Put differently, seeking pleasure is an inevitable characteristic of human beings. It is argued that when mindful individuals are fully engaged with the occurrences in the environment, they might be able to generate multiple perspectives (Langer and Moldoveanu, 2000) which will lead them to reconsider their attitudes regarding what they value, and how they find pleasure. This might result in behavioral changes such as downsizing their consumption, saving money, stepping off the consumer treadmill, and deferring gratification.

As discussed earlier, the variable need for cognition reflects increased elaboration or systematic thinking (Petty and Cacioppo, 1986). According to Luttrell, Brinol, and Petty (2014) tenets of mindfulness that are more relevant for increased elaboration are "*thinking about alternatives, being open to new information, perceiving change, and the nonjudgment of one's thoughts*" (p.261). Compatible with this, mindfulness was positively associated with need for cognition in this study. Compared to cognitive and affective mindfulness, Langer's mindfulness showed a stronger association with need for cognition indicating that mindfulness based on the socio-cognitive approach is more related to central route to persuasion or systematic processing (Petty and Cacioppo, 1986; Langer et al., 1978). Bahl et al. (2013) state that, whereas mindfulness based on the socio-cognitive approach entails deliberation and avoidance of auto-

pilot actions, mindfulness in its traditional (meditation-based) form is about pure awareness with little elaboration of past events and information.

Although self-regulatory control was dropped in the cognitive and affective mindfulness model because of collinearity issues, it was positively associated with mindfulness in Langer's mindfulness model. Reviewing past literature, Ostafin et al. (2015) argue how dispositional mindfulness might facilitate self-regulation in individuals. For instance, lab studies of brain responses in terms of positive deflection for a particular stimulus that could trace individuals' emotion regulation for an affective task, reveal that those with increased levels of trait mindfulness are able to regulate their emotions in better ways, which is a form of self-regulation (Brown, Goodman, and Inzlicht, 2012). Similarly, Ostafin (2015) argues that individuals high in trait mindfulness are able to decouple or view their automatic or habitual responses separate from the event/context that induces them, meaning they exhibit self-regulation.

7.2.2. Cognitive Personality and Values/Beliefs Variables

This section of findings makes another academic contribution by discussing how cognitive personality variables that emanate from mindfulness connect with values/beliefs that precede sustainable behaviors. According to the re-perceiving mechanism of mindfulness (Shapiro et al., 2006; Carmody et al., 2009) which explained the conceptual model of this study, mindful individuals who exhibited increased cognitive flexibility and self-regulation displayed refined values and beliefs such as increased levels of altruistic values, self-acceptance, perceived consumer effectiveness, and reduced materialism. In addition, need for cognition also showed a significant relationship with altruistic values, perceived consumer effectiveness, and was negatively related to materialism. Past research has addressed the importance of cognitive flexibility (Isen, 2001; Bagozzi et al., 2002; Kardes et al., 2011), need for cognition

(Baumgartner and Steenkamp, 1996; Schmidt and Spreng, 1996; Cotte and Wood, 2004; Anseel et al., 2009), and self-regulatory control (Baumeister, 2002; Haws et al., 2011; Gollwitzer and Sheeran, 2006; Faber and Vohs, 2004) in different areas of consumer behavior. Current research recognizes the way these variables become relevant in sustainable consumption behaviors using the mindfulness concept. An important contribution here is that by identifying cognitive personality variables related to mindfulness that have been rigorously researched in consumer research, this study takes one further step in ‘clearing the air’ with regard to the application of mindfulness in regulating consumption behaviors.

Evidence of a positive association between cognitive flexibility and altruistic values in this study can be further illuminated by an experimental study conducted by Schultz (2000) in which participants who were exposed to a ‘perspective taking’ task exhibited increased levels of altruistic values. Perspective taking was manipulated by showing pictures of nature and living beings being harmed by environmental pollution. This created a situation where participants were able to think through the consequences of climate change and pollution (as evident from the manipulation test) and subsequently expressed higher altruistic values. This implies that person with increased mindfulness, who has a cognitive motivation to take multiple perspectives in a given situation, should be able to ‘put him/herself in others’ shoes’ (Langer, 1992) which includes instances of environmental issues and exhibit attitudes and values regarding them. Sometimes, it is argued that perspective taking generates empathy towards others and ‘other inclusion in self’ (Batson et al., 1995; Davis et al., 1996) and that this subsequently leads to altruistic values (Schultz, 2000). Therefore, it could also be deduced that cognitive flexibility resulting from increased mindfulness might be associated with empathy or empathic concern, an affective feature enhanced through mindfulness-based meditation (Tan, Lo, and Macrae, 2014).

Another important and significant relationship was demonstrated between need for cognition and altruistic values. While emphasizing the consideration of need for cognition in sustainable behavior research, Barbaro et al. (2015) postulate that although need for cognition is a domain-general cognitive trait, it could lead to domain-specific phenomena such as environmental attitudes and pro-environmental goal choices. As they argue, individuals high in need for cognition seek out and gain more information, and as a result they acquire strong accessible attitudes in specific domains which lead them to choose specific goals. Since central processing as shown by individuals with need for cognition generates enduring attitude change, public service announcements regarding specific domains such as pro-environmental attitudes tend to adopt persuasion strategies that urge the targeted audience to process their information systematically (Bator and Cialdini, 2000). These observations further support the finding of a positive association between need for cognition and altruistic values.

Berger and Corbin (1992) have indicated the need to examine domain-general trait measures associated with Perceived Consumer Effectiveness (PCE) because of its unique role in influencing sustainable behaviors. Addressing this, the current study finds that cognitive flexibility is positively related to PCE. It could be that, when cognitively flexible individuals are able to generate multiple options regarding a situation or are able to switch easily from a default option (Martin and Rubin, 1995; Miyake et al., 2000), they will be more confident in their ability to make a change because they are aware that there is more than a single way to respond. Put differently, a cognitively flexible individual might be open to perspectives of different people and institutions, inclined to learn from others' experiences, and to change their mind accordingly. This will lead them to perceive effectiveness in their efforts to make a change because, according to Bandura (1977), people may develop their efficacious beliefs through others' experiences.

A positive and significant link was observed between need for cognition and PCE. This might be because, compared to people with lower need for cognition, those with higher need for cognition have a cognitive tendency to scrutinize information in hand, seek for more information (Cacioppo, Petty, Feinstein, and Jarvis, 1996), and therefore might develop greater beliefs regarding their capabilities to bring about change. Consistent with these results, Anseel et al. (2009) support that people with need for cognition act according to feedback that they have obtained in their previous experience. Applying this to Bandura's (1977) suggestions, this might imply that individuals with higher need for cognition are able to improve their efficacious beliefs based on their own experiences. Also, given that there is enough information in terms of awareness programs and business initiatives that request people to follow sustainable pathways, one could argue that a person with higher need for cognition will be able to generate greater PCE because of their tendency to search for more information and process it in a detailed manner.

Consistent with findings by Hunt et al. (1996) and Lins et al. (2013), a negative and significant association was observed between need for cognition and materialism. Since mindfulness was positively associated with need for cognition, this study also supports research that has shown that mindfulness is negatively related to materialism (Ross, 2015; Brown, Kasser, Ryan, and Konow, 2004). In another study involving TV commercial viewing, individuals with higher need for cognition cultivated greater materialistic views when the messages were more materialistic in nature (Shrum, Burroughs, and Rindfleisch, 2005). Hence, it could be that need for cognition, in general, is negatively related to dispositional materialistic values, but might actually generate situational materialistic values depending on how the message is delivered. According to Kim (2013), materialistic values are enduring in nature but they can also be cultivated momentarily.

The presence of a negative and significant association between self-regulatory control and materialism was consistent with previous studies. Through an experimental manipulation, Nepomuceno, and Laroche (2015) show that self-control – a construct equivalent to self-regulatory control - might help overcome materialistic values that lead to unnecessary consumption. It was also shown that impulsive trait, which is a construct inversely related to self-regulatory control, has a positive link with materialistic values (Lins et al., 2013). Some studies have demonstrated that situational materialistic values lead to self-control failure (Kim, 2013). Having reviewed several studies on self-control and materialism, Goldsmith, Flynn, and Jackson (2015) argue that the relationship between both variables could be best postulated as reciprocal in nature, in that they influence each other.

There was a positive and significant association between cognitive flexibility and self-acceptance. It could be that cognitive flexibility motivates an individual to view an event or situation from the perspective of different people, understand their situations, and thereby leads to accepting him/herself regardless of their status in society. Conforming to these findings, Jeffcoat and Hayes (2013) asserts that perspective taking or psychological flexibility – an important feature exhibited by cognitive flexibility - aids in attaining self-acceptance and compassion. Similarly, there was also a positive and significant link between self-regulatory control and self-acceptance. Related findings were reported by Tangney et al. (2004) who assert that people with higher self-control tend to accept themselves, value their self-worth, and, for the most part, maintain this association across time and different situations. It might be that self-regulatory control, which leads individuals to focus their attention on a situation and regulate their behavior in par with the desired goals, leaves individuals with no regret about their past behaviors (Baumeister, 2002) and therefore results in accepting themselves (Tartakovsky, 2016).

7.2.3. Value/Beliefs and Sustainable Consumption Behaviors

Researchers have attempted to explain that boundary conditions such as consumers' knowledge, opportunities, and resource availability limit the functioning of the attitude-behavior relationship in sustainable behaviors (Guagnano, Stern, and Dietz, 1995; Thøgersen, 2005). Thus, they realize a need to address the gap in the values/attitude-behavior link (Prothero et al., 2011). By relating cognitive personality variables with the values and beliefs that underlie sustainable behaviors through values clarification and re-perceiving processes (Shapiro et al., 2006), this research also attempts to address the issue of the values-behavior relationship in sustainable consumption.

Values exhibited a positive and significant association with sustainable behaviors; Environmentally Friendly Consumption (EFC), Purchase Behaviors based on Perceived CSR (PB_CSR), and Downshifting Consumption (DC) (Pepper et al., 2009; Dickson, 2000; Stern et al., 1995; Thøgersen and O'lander, 2002; Kollmuss and Agyeman, 2002). By showing both pro-environmental consumption (both EFC and PB_CSR) and downshifting consumption in one model, the current research emphasized the importance of the altruistic values individuals place on protecting and enhancing the well-being of the environment and other living beings (Stern et al., 1999) in the context of a broader definition of sustainable consumption (Evans, 2011; Speth, 2008).

Similarly, PCE showed a positive and significant association with EFC, PB_CSR, and DC (Pereira Heath and Chatzidakis., 2012; Straughan and Roberts, 1999; Webb et al., 2008; Webster, 1975; Antil, 1984). The associations of PCE with EFC and PB_CSR were somewhat stronger than the relationship with DC. Since the information and sources that encourage EFC and PB_CSR are readily available compared to the information regarding particular ways of DC

(Sheth et al., 2011), people might be able to generate stronger beliefs regarding their ability to make a change in their pro-environmental consumption. Thus, PCE leads individuals to exhibit more pro-environmental consumption behaviors and somewhat less downshifting consumption behaviors.

Materialism also showed an interesting relationship with the behaviors. As expected, it showed a negative and significant association with sustainable behaviors (Brown et al., Hurst et al., 2013). However, the associations with EFC and PB_CSR were weak compared to the link between materialism and DC. Since materialists enjoy acquisitions in general (Richins and Dawson, 1992), their inclination towards environmental friendly purchasing/consumption and purchase behaviors based on perceived CSR would be higher compared to downshifting consumption tendencies. After all, the latter involve overall reduction in consumption levels. This discrepancy again explains one of the basic differences between pro-environmental consumption behaviors and reduced consumption behaviors.

Against the backdrop of the growing trend of simplified lifestyles and the sharing economy, the variable self-acceptance has been drawing attention in consumer behavior research recently because of its psychological influence in enhancing need-oriented consumption while mitigating excessive consumption patterns (Kim and Gal, 2014). Accordingly, by supporting a positive and significant association among self-acceptance and downshifting consumption, current research becomes one of the few to elaborate on the relevance of self-acceptance in this fundamental form of sustainable consumption behaviors (Speth, 2008). Nevertheless, the association postulated between self-acceptance, EFB and PB_CSR were not significant. Because self-acceptance is a facet of self-fulfillment or psychological maturity (Ryff, 1989), it has a tendency to negate the need for fulfillment motive that underlies relentless acquisition. Having

supported a negative association between self-acceptance and compulsive buying, Roberts and Pirog (2004) state that those who hold self-acceptance values do not expect a psychological boost from purchases they make. Thus, self-acceptance was not related to EFB and PB_CSR because they fundamentally involve purchases even if they are sustainable options.

7.3 Managerial and Policy Implications

Using mindfulness-related mechanisms, namely re-perceiving, systematic processing, and ability to overcome need for fulfillment motive, this research empirically supported that trait mindfulness is positively associated with sustainable consumption behaviors that included both pro-environmental as well as downshifting consumption behaviors. Compared to previous research on mindfulness and sustainable consumption behaviors (Brown and Kasser, 2005; Brown et al., 2009; Amel et al., 2009; Ericson et al., 2014; Ross, 2015), this research offers a more detailed picture, particularly about the links and mediators involved in this association. By identifying mindfulness-related cognitive personality variables (cognitive flexibility, need for cognition, and self-regulatory control) and values/beliefs variables (altruistic values, PCE, materialism, and self-acceptance) that underlie sustainable behaviors, this study may offer insights for policy makers and practitioners in maneuvering consumers' mindfulness and their sustainable behaviors to bring about change in their sustainable consumption behaviors.

Marketing initiatives that can boost consumers' cognitive flexibility through the perspective taking approach (Schultz, 2000), for example by incorporating perspectives of different individuals involved in the making of a product, consumers' altruistic values, their beliefs towards creating a change in the environment, and their tendencies of self-acceptance, could be increased along with their sustainable behaviors. According to Barber and Deale (2014) hotel guests who are exposed to information regarding a product's sustainable claims in a

mindful manner generally develop awareness and behaviors favorable towards sustainable consumption. Hence, marketers should be encouraged to present concrete, specific, and realistic information about a product's impact on environment and society, so that mindful consumers might be able to develop values and beliefs that enhance sustainable consumption through detailed processing of information. Individuals high in need for cognition have a tendency to search for detail-oriented information and thus develop stronger attitudes consistent with their behavior (Barbaro et al., 2015). Offering information regarding the functionality of the product rather than the aesthetic appeal or attractiveness of the product might urge consumers to become more mindful and situationally less materialistic (Hunt et al., 1996), possibly leading to increased sustainable behaviors, particularly emergent consumption behaviors such as access-based consumption. Access-based consumption is a trending consumption pattern where there will be a market-mediated transaction without any transfer of ownership (Bardhi and Eckhardt, 2012)

This study's finding that mindfulness has a positive relation with self-regulatory control reiterates the notion that mindful individuals might be less susceptible to automaticity or habitual responses (Ostafin, 2015). Such habitual responses sometimes lead to unnecessary and wasteful purchases (Rosenberg, 2004; Ericson et al., 2014) which is sometimes referred to as a barrier for converting attitudes into behaviors (Marechal, 2010; Thøgersen, 1994a). However, instances of habits being a useful tool in encouraging sustainable behaviors have also been reported. According to Boldero (1995), individuals who have recycled in the past can develop a habit of recycling which is positively associated with their future recycling behavior. Hence, habits per se may not pose a threat to sustainability, rather it is the specific type of habit which will determine whether it is beneficial or detrimental to sustainable consumption. To this end, mindfulness and self-control, in terms of sufficient attention and awareness, should help making a change in the

old habit until it has been established to form a new habit that will consequently encourage sustainable behaviors (Dahlstrand and Biel, 1997).

The effect of mindfulness on downshifting consumption through self-acceptance is another interesting finding of this research. Mindful individuals are able to negate the need for fulfillment motivation underlying consumerism (Rosenberg, 2004) because of intrinsic values such as self-acceptance and self-growth (Kasser, 2002); as a result, they adopt only need-oriented (Kim and Gal, 2014) and downshifting consumption patterns. According to Bennet and O'Reilly (2010), there is a particular segment of consumers who exhibit intrinsic values that serve to establish bonds with the environment and community, to take personal responsibility for every action associated with the environment and community, and to involve them in causes larger than oneself. Hence, they right-size their purchases and adopt a voluntary simplified lifestyle while rejecting lifestyles such as "keeping up with the Joneses". In addition, the downturn of the economy in the recent past, an increase in consumers' realization of a need to protect the environment, and a lack of free credit have urged some consumers to adopt a reduced consumption path. Furthermore, studies suggest that some consumers adopt frugality and cautious attitudes toward spending while learning to live within their incomes (Hampson and McGoldrick, 2013; Sheth et al., 2011; Gerzema and D'Antonio, 2011; Flatters and Willmott, 2009). Practitioners catering to consumers of this nature should develop their marketing messages in a manner to serve only their needs, but not to engage in futile ways to increase their self-worth or growth by product acquisition. Consistent with this suggestion, Sheth et al. (2011) prescribed that marketing for mindful consumers should entail techniques different from traditional aggressive pricing, promotion, and other hard sell-techniques. With the increasing trend of the sharing economy and collaborative consumption (Sundararajan, 2013), Sheth et al.

(2011) recommend to investigate mindful consumption “*as a catalyst for and a foundation of new business opportunities in services, product-service systems, and shared-use networks*” (p. 35). To this end, policy makers should have in mind that encouraging mindfulness and self-acceptance among consumers may help them to step off the consumer treadmill that constantly gives rise to relentless consumption.

One might argue that in relation to concepts such as exploratory buying behavior (Baumgartner and Steenkamp, 1996), consumer innovativeness (Cotte and Wood, 2004), and positive evaluation of new products (Bagozzi et al., 2002) which are all associated with cognitive flexibility and need for cognition, mindfulness might lead to excessive consumption patterns rather than sustainable behaviors. However, this may not necessarily be the case. Cognitive flexibility that results from mindfulness drives individuals towards perspective taking (Langer, 1989) and this in general creates empathy (Batson et al., 1995; Davis et al., 1996). Being able to empathize with others should trigger consumption behaviors that are conducive to self, society and environment as in sustainable consumption. In addition, novelty seeking and novelty generating tenets of mindfulness can also be used in finding novelty in things one already possesses, finding new purposes in already held goods, and adopting new emerging consumption trends such as mindful consumption. Similarly, self-control that is associated with mindfulness displays a tendency to forbid impulsive trait; therefore, the chances of making impulsive and compulsive purchases will be lower (Baumeister, 2002). Thus, marketers looking for opportunities in business models such as shared-use, renewable energy, green building, and organics should understand that encouraging sustainable consumption among consumers is contingent upon how they formulate strategies and design messages to trigger mindful

individuals to use their cognitive personality variables to develop values and beliefs towards sustainable behaviors.

Having realized the impact of mindfulness on individuals' health, subjective wellbeing (e.g., Brown and Kasser, 2005; Carmody et al., 2009) and sustainable consumption behaviors as illustrated in this research, consumers should be encouraged to live and act more mindfully. Based on the results shown by both approaches to mindfulness (meditation and cognitive-based) it could be inferred that tenets of mindfulness elucidated by both schools of thought converge in terms of their impact on sustainable behaviors. Hence, mindfulness can be cultivated through meditation practice (e.g., Brown and Ryan, 2003; Sauer et al., 2013) and cognitive interventions (e.g. Langer, 1992). Langer (2014) suggests that, since meditation may be unfamiliar or may not be convenient for most individuals, mindfulness without meditation should be inculcated into our day-to-day lives as it is an already available option, does not demand much effort, and results in greater health and well-being. Public policy agendas should consider diffusing the practice of mindfulness among consumers in order to foster gradual strategies that will address overconsumption and related detrimental effects. This could be achieved by coupling technological advancements with practice of mindfulness. For example, making effective 'mindfulness apps' available in the market might trigger present day consumers to practice mindfulness in their day-to-day life which will help foster their trait mindfulness and apply it towards their consumption behaviors.

7.4 Study Limitations

The following concerns regarding the chosen research methodology should be given consideration while interpreting the study results. One such limitation is the self-reported measures that I used in the survey. According to Kormos and Gifford (2014), self-report measures in the

context of sustainable consumption behaviors are cost effective, flexible and convenient to use when the behaviors are not readily observable. However, based on a meta-analysis with pro-environmental behaviors, they explain that self-report measures are only weakly related to objective or actual behaviors due to reasons such as over-reporting. The current study included a range of sustainable behaviors categorized into three different groups. Measuring such large number of actual behaviors through observation was not perceived as a feasible research option.

Another limitation with regard to the self-report measures is that they are susceptible to social desirability bias or common method variance which represents “*the variance that is attributable to the measurement method rather than to the constructs the measures represent*” (Podsakoff et al., 2003, p. 879). As a result, common method bias might affect the estimates of the associations between constructs (Lindell & Whitney 2001). Although the self-report method adopted in this study is consistent with other studies on mindfulness and sustainable behaviors (Brown and Kasser, 2005; Ross, 2015; Bahl et al., 2013), several procedures were undertaken to minimize this effect. Particularly, by placing the behavioral outcomes and mindfulness measures sufficiently apart from each other, they were proximally separated to avoid any influence of recalling of previous items on responding to independent measures; attention check and distraction questions were included as psychological separation; while maintaining respondent anonymity, they were also informed that there are no right or wrong answers and they should respond to questions honestly (Podsakoff et al. 2003). Future research in this regard may collect data from different sources. Also, including a time lag between measuring dependent and independent variables may address this issue to some extent.

The use of an Mturk sample could be another limitation of this study. Although it is contended that it is more representative of the U.S. general population than student and other

online consumer panel data (Buhrmester et al. 2011), this study's sample was younger, more educated and reported lower income compared to the statistics of US general population. Various sampling procedures may help overcome this concern in future studies.

The most widely used mindfulness scale with regard to the socio-cognitive based mindfulness is the Langer's mindfulness. However, there are several mindfulness scales that are relevant for meditation-based mindfulness that highlight different tenets of mindfulness (Sauer et al. 2013). Although the current study used CAMS-R scale that consisted of all frequently displayed features of mindfulness, items pertaining to affect had to be dropped due to multicollinearity issues. This limited the scope of understanding the role of affect. Hence, it is recommended that the study should be replicated with other meditation-based mindfulness scales in order to obtain a clearer picture of the relationships with affective components of mindfulness and the differences meditation-based mindfulness might show compared to the results of Langer's Mindfulness.

Finally, a limitation inherent to studies in sustainable consumption is the unlimited range of behaviors that could be included as behavioral measures. Although this study attempted to include behaviors based on the most frequently used categories of pro-environmental behaviors (environment-based and society-based; Webb et al., 2008) along with downshifting behaviors to account for a broad definition of sustainable consumption, there could be various other behaviors that can also be accounted as sustainable consumption behaviors. Examples are environmental citizenship behaviors such as being an active member in environmental protection group (Markle, 2013), or costly pro-environmental behaviors such as buying an electric car or installing solar panels (Tobler, Visschers, and Siegrist, 2012). Future research should investigate whether being mindful also leads to these not-so-frequent sustainable consumption behaviors. Another limitation

in this respect is that the items for downshifting consumption behaviors have been adopted from various scales including voluntary simplicity, frugal consumption etc. Because of the interesting relationships it posed and the trend of the current economy towards reduced and frugal consumption (Hampson and McGoldrick, 2013; Sheth et al., 2011; Gerzema and D'Antonio, 2011; Flatters and Willmott, 2009), future research should consider developing a firm theory-based scale for downshifting consumption.

7.5 Future Research Directions

This study focused on individuals' mindfulness measured as a dispositional variable. Comparing state mindfulness, which is either triggered via meditation or cognitive interventions, with trait mindfulness might help uncover the differences among them. Particularly, the strength of the relationships between mindfulness, cognitive personality variables, and thereby sustainable behaviors could be examined. Also, experimental research involving observations of pre and post mindfulness meditation or interventions with sustainable consumption behaviors may predict causality effects. Studies as such are common in medical and clinical disciplines (e.g. Carmody et al., 2009), but are rare in consumer behavior research.

Cognitive personality variables identified in this study with relevance to mindfulness and sustainable behaviors open up several avenues for future research. Given the significance of need for cognition in this research and the relevance of individuals' knowledge in sustainable behaviors (Ellen, 1994), future research may consider exploring whether people's tendency to analyze and scrutinize information in hand generate knowledge regarding sustainable alternatives in consumption. According to Anseel et al. (2009), need for cognition plays an important role in individuals' tendency to react or behave based on the feedback from their previous experience. Having supported an association between need for cognition and sustainable behaviors, the

current study recommends investigating if mindful individuals reflect or react upon feedback for instance regarding their utility expenses through need for cognition. In addition, given the importance of self-regulatory control in both pro-environmental and downshifting behaviors as supported in this research, upcoming studies should determine how mindful individuals through self-regulatory control adopt different strategies in consumer decision-making such as financial and food consumption patterns, and how mindfulness might help overcome impulsive buying. Because of the fascinating relationships that cognitive flexibility exhibited with values and beliefs of sustainable consumption behaviors, upcoming research should consider developing a consumption-oriented scale for cognitive flexibility. It was observed that self-acceptance was related to downshifting consumption behaviors only. Future research should investigate the tenets of mindfulness that are more closely associated with values like self-acceptance and the relevance of self-acceptance in differentiating between reduced and other green consumption behaviors. Apart from self-acceptance, Ericson (2014) suggested that affective qualities including empathy and compassion might also underlie the association between mindfulness and sustainable behaviors. Given that perspective taking increases individuals' empathy towards others (Batson et al., 1995; Davis et al., 1996), forthcoming studies could explore the associations involved among mindfulness, cognitive flexibility, empathy, and sustainable behaviors based on a perspective taking approach.

7.6 Conclusion

As application of mindfulness gains momentum in several disciplines of research such as health, education, and consumer behavior (e.g. Shapiro et al., 2006; Langer, 1997; Dong and Brunel, 2006), it is reported that mindfulness – either as a trait or as a state measure - positively affects sustainable consumption behaviors (e.g. Brown and Kasser, 2005; Amel et al., 2009;

Brown et al., 2009; Ross, 2015; Barber and Deale, 2014). However, research illuminating the underlying processes involved in this relationship has been sparse. To this end, using re-perceiving mechanism, systematic processing, and ability to overcome need for fulfillment which are all related to mindfulness, this research showed that individuals' mindfulness - measured as a trait variable - was associated with cognitive personality variables, values, and beliefs and thereby sustainable consumption behaviors that consisted of both pro-environmental and downshifting behaviors. Detailed account of the processes involved in the mindfulness—sustainable consumption relationship might offer a systematic and nuanced review for practitioners to improve sustainability initiatives in their businesses. Future research should consider examining the relationships with different measures of mindfulness, through both trait and state mindfulness approaches. Validating the results with data from multiple sources may affirm the significance of mindfulness in sustainable consumption behavior and consumer well-being as a whole.

APPENDIX

Mturk Recruitment Material

On the Mturk website, in order to announce the available HITs (Human Intelligence Tasks) the following text was inserted.:

Description: The purpose of the study is to examine consumers' behaviors, attitudes and values with regard to sustainable consumption practices. You have to be 18 years of age or older to participate and reside in the United States. An Institutional Review Board responsible for human subjects research at The University of Arizona approved this research project.

Potential participants then clicked a link to a new browser window where the following text was used to recruit/instruct potential study participants.

Dear Participant,

This academic study seeks to learn about consumers' behaviors, attitudes, and values with regard to sustainable consumption relating it to their present moment consciousness. The survey will take no longer than 30 minutes. For statistical purposes, it is important that you complete all questions, even though you might have the impression that some questions come up repeatedly or are off-topic.

The survey data is used exclusively for scientific purposes. Data will be treated confidentially. Your participation is anonymous, data does not allow for inferences about your identity. An Institutional Review Board responsible for human subjects research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Thank you very much for supporting our research!

To participate in the survey, please click the link below.

Notes: You have to be 18 years of age or older to participate and you have to reside in the United States and take the survey in the United States (we check location of IP addresses). You can only participate once in this HIT. At the end of the survey, you have to choose a 5 digit alphanumeric code (e.g. AC145). To enable compensation, please enter your this code in the field below and click "Submit".

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the code into the box.

The University of Arizona Consent to Participate in Research Study

Title: Mindfulness and Sustainable Consumption Behavior

Principal Investigator: Brintha Subramaniam, Doctoral Student

Sponsor: Retailing and Consumer Sciences, University of Arizona

This is a consent form for research participation. It contains important information about this study and what to expect if you decide to participate. Please consider the information carefully.

1. Why is this study being done?

The purpose of this study is to examine how mindfulness relates to certain consumer attitudes, values and behaviors, in particular those related to environmental sustainability.

2. How many people will take part in this study?

We will recruit up to 1250 study participants from Amazon Mturk.

3. What will happen if I take part in this study?

Your participation in this study will take approximately 25-30 minutes. You will respond to questions about your consumption behaviors relating to you, environment and society.

4. Can I stop being in the study?

Your participation is voluntary. You may refuse to participate in this study. If you decide to take part in the study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you and you will not lose any of your usual benefits. Your decision will not affect your future relationship with The University of Arizona. If you are a student or employee at the University of Arizona, your decision will not affect your grades or employment status.

5. What risks, side effects or discomforts can I expect from being in the study?

Participation in this study presents no more than minimal risk to participants. In the event that a participant identifies some level of risk to him/herself, the principal investigator will seek the appropriate remedy (i.e. psychological counseling) and report the change to the IRB. Respondents will also be informed that their participation is voluntary, that they may choose not to continue the survey at any time. This information will be stated during recruitment, on the survey disclosure form, and on the study website.

6. What benefits can I expect from being in the study?

You will not receive any direct benefit from taking part in this study.

7. What other choices do I have if I do not take part in the study?

You may choose not to participate without penalty or loss of benefits to which you are otherwise entitled.

8. Will my study-related information be kept confidential?

Information you provide will be stored in a locked file cabinet and in computer files protected with a password. Only members of the research team will have access to those files. Your records will be confidential. You will not be identified by name or by other specific identifying

information in any reports or publications resulting from the study. We will not share your individual answers. Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

-The University of Arizona Institutional Review Board or Office of Responsible Research Practices

9. What are the costs of taking part in this study?

Aside from your time, there are no costs for taking part in the study.

10. Will I be paid for taking part in this study?

You will receive \$ 1.00 for completing the questionnaire.

11. What are my rights if I take part in this study?

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By agreeing to this form, you do not give up any personal legal rights you may have as a participant in this study. You will be provided with any new information that develops during the course of the research that may affect your decision whether or not to continue participation in the study. You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. An Institutional Review Board responsible for human subjects' research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

12. Who can answer my questions about the study?

For questions, concerns, or complaints about the study you may contact Brintha Subramaniam at brinthas@email.arizona.edu. For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Human Subjects Protection Program at 520-626-6721 or online at <http://orcr.arizona.edu/hspp>.

I have read this form, and I am aware that I am being asked to participate in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I voluntarily agree to participate in this study.

I wish to participate

I do not wish to participate

Survey Questionnaire

1. In this first part of the study, we are interested in your activities and behaviors with regard to the environment. How often do you engage in the following activities?

	never	rarely	some- times	usually	alwa ys
When you visit the grocery store, how often do you use reusable bags?	1	2	3	4	5
How often do you walk, bicycle, carpool, or take public transportation instead of driving a vehicle by yourself?	1	2	3	4	5
How often do you compost your household food garbage?	1	2	3	4	5
How often do you eat organic food?	1	2	3	4	5
How often do you eat local food (produced within 100 miles)?	1	2	3	4	5
How often do you turn your personal electronics off or in low-power mode when not in use?	1	2	3	4	5
How often do you act to conserve water, when showering, cleaning clothes, dishes, watering plants, or other uses?	1	2	3	4	5
When you are in PUBLIC, how often do you sort trash into the recycling?	1	2	3	4	5
When you are in PRIVATE, how often do you sort trash into the recycling?	1	2	3	4	5

2. With the next set of questions, we aim to understand how important environmental and social issues are to you when you buy products or services. Please consider your actual behaviors when answering these questions and not what you think you should be doing.

With regard to your purchases, how much do you agree or disagree with the following statements?

	strongly disagree	dis- agree	slightly dis- agree	neither agree nor disagree	slightly agree	agree	strong ly agree
I try to buy from companies that help the needy.	1	2	3	4	5	6	7
I try to buy from companies that hire people with disabilities.	1	2	3	4	5	6	7
I avoid buying products or services from companies that discriminate against minorities.	1	2	3	4	5	6	7
When given a chance to switch to a retailer that supports local schools, I take it.	1	2	3	4	5	6	7

I try to buy from companies that make donations to medical research.	1	2	3	4	5	6	7
I make an effort to buy from companies that sponsor food drives.	1	2	3	4	5	6	7
When given a chance to switch to a brand that gives back to the community, I take it.	1	2	3	4	5	6	7
I avoid buying products made using child labor.	1	2	3	4	5	6	7
When given a chance, I switch to brands where a portion of the price is donated to charity.	1	2	3	4	5	6	7
I avoid buying products or services from companies that discriminate against women.	1	2	3	4	5	6	7
When I am shopping, I try to buy from companies that are working to improve conditions for employees in their factories.	1	2	3	4	5	6	7
I try to buy from companies that support victims of natural disasters.	1	2	3	4	5	6	7
I make an effort to buy products and services from companies that pay all of their employees a living wage.	1	2	3	4	5	6	7

3. In the space below, please write a global warming consequence that you can think of.

4. Please indicate how you *'actually'* experience the following circumstances in general.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
I can concentrate on one activity for a long time, if necessary.	1	2	3	4	5	6	7
If I am distracted from an activity, I don't have any problem coming back to the topic quickly.	1	2	3	4	5	6	7
If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.	1	2	3	4	5	6	7
If an activity requires a problem-oriented attitude, I can control my feelings.	1	2	3	4	5	6	7
It is difficult for me to suppress thoughts that interfere with what I need to do. (R)	1	2	3	4	5	6	7
I can control my thoughts from distracting me from the task at hand.	1	2	3	4	5	6	7
When I worry about something, I cannot concentrate on an activity. (R)	1	2	3	4	5	6	7

After an interruption, I don't have any problem resuming my concentrated style of working.

1 2 3 4 5 6 7

I usually have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. (R)

1 2 3 4 5 6 7

I stay focused on my goal and don't allow anything to distract me from my plan of action.

1 2 3 4 5 6 7

Just to make sure that you are not a robot please choose 'strongly Disagree' here.

1 2 3 4 5 6 7

5. Please consider your actual purchase and consumption behaviors when answering the following questions and not what you think you should be doing. Indicate how much do you agree or disagree with the following statements?

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
I avoid buying from companies that harm endangered plants or animals.	1	2	3	4	5	6	7
Whenever possible, I walk, ride a bike, car pool, or use public transportation to help reduce air pollution.	1	2	3	4	5	6	7
I avoid using products that pollute the air.	1	2	3	4	5	6	7
I avoid buying products that pollute the water.	1	2	3	4	5	6	7
I make an effort to avoid products or services that cause environmental damage.	1	2	3	4	5	6	7
I avoid buying products that are made from endangered animals.	1	2	3	4	5	6	7
I limit my use of energy such as electricity.	1	2	3	4	5	6	7

6. Indicate the frequency with which the following statements describe or resemble your *actual* consumption patterns or lifestyle in general.

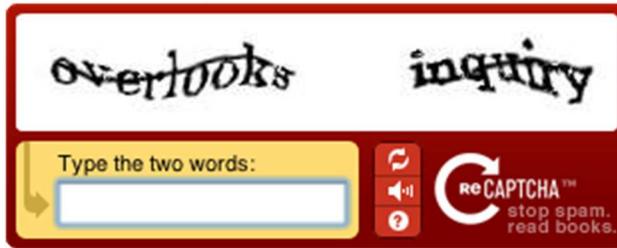
	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Every time
Trying to limit my consumption	1	2	3	4	5	6	7
Buying only the things you need	1	2	3	4	5	6	7
Buying things that last as long as possible	1	2	3	4	5	6	7
Buying things without thinking about whether you need them (R)	1	2	3	4	5	6	7
Replace your clothes before they are worn out (R)	1	2	3	4	5	6	7

Replace household appliances when they are still functioning (R)	1	2	3	4	5	6	7
Making rather than buying gifts	1	2	3	4	5	6	7
Looking for ways to reuse things	1	2	3	4	5	6	7
Limiting exposure to advertisements	1	2	3	4	5	6	7
Limiting car use	1	2	3	4	5	6	7
Buying locally grown produce	1	2	3	4	5	6	7
Buying from local merchants	1	2	3	4	5	6	7
Limiting/eliminating TV	1	2	3	4	5	6	7
Being friends with neighbors	1	2	3	4	5	6	7
Being active in the community	1	2	3	4	5	6	7

7. Now, we are interested in your opinion about consumers' role with regard to the environment. How much do you agree or disagree with the following statements?

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
What I purchase as a consumer has an effect on the nation's environmental problems	1	2	3	4	5	6	7
Each consumer's behavior can have an effect on how companies treat their employees	1	2	3	4	5	6	7
Since one consumer cannot have any effect on how companies behave toward the community, it does not make any difference I do. (R)	1	2	3	4	5	6	7
Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies	1	2	3	4	5	6	7

8. Please type the text you see below.



9. Now we would like to understand better how you think about your possessions and how you spend your money. Please indicate the extent to which you agree or disagree with the following statements. Again, there is no right or wrong answer.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
1. I admire people who own expensive homes, cars, and clothes.	1	2	3	4	5	6	7
2. Some of the most important achievements in life include acquiring material possessions.	1	2	3	4	5	6	7
3. I don't place much emphasis on the amount of material objects people own as a sign of success. (R)	1	2	3	4	5	6	7
4. I usually buy only the things I need. (R)	1	2	3	4	5	6	7
5. I try to keep my life simple, as far as possessions are concerned. (R)	1	2	3	4	5	6	7
6. The things I own aren't all that important to me. (R)	1	2	3	4	5	6	7
7. I have all the things I really need to enjoy my life. (R)	1	2	3	4	5	6	7
8. My life would be better if I owned certain things I don't have.	1	2	3	4	5	6	7
9. I'd be happier if I could afford to buy more things.	1	2	3	4	5	6	7

10. The following statements deal with your style of thinking and problem solving in day-to-day life.

Please indicate how much you agree or disagree with them.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
I prefer complex to simple problems.	1	2	3	4	5	6	7
I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5	6	7
Thinking is not my idea of fun. (R)	1	2	3	4	5	6	7

I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	1	2	3	4	5	6	7
I try to anticipate and avoid situations where I will have to think in depth about something. (R)	1	2	3	4	5	6	7
I find satisfaction in deliberating hard and for long hours.	1	2	3	4	5	6	7
I only think as hard as I have to. (R)	1	2	3	4	5	6	7
I prefer to think about small daily projects than long term ones. (R)	1	2	3	4	5	6	7
I like tasks that require little thought once I have learned them. (R)	1	2	3	4	5	6	7
The idea of relying on thought to make my way to the top appeals to me.	1	2	3	4	5	6	7
I really enjoy a task that involves coming up with new solutions to the problem.	1	2	3	4	5	6	7
Learning new ways to think doesn't excite me very much. (R)	1	2	3	4	5	6	7
I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5	6	7
The notion of thinking abstractly appeals to me.	1	2	3	4	5	6	7
I prefer a task that is intellectual, difficult, and important to one that does not require much thought.	1	2	3	4	5	6	7
I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (R)	1	2	3	4	5	6	7
It's enough for me that something gets the job done; I don't care how or why it works. (R)	1	2	3	4	5	6	7
I usually end up deliberating about issues even when they do not affect me personally.	1	2	3	4	5	6	7
Just to make sure that you are not a robot please choose option 'Agree' here.	1	2	3	4	5	6	7

11. Indicate the extent to which the following values regarding environment and society represent your own values.

	Does not represent my values	Slightly represent my values	Moderately represent my values	Considerably represent my values	Completely represent my values
Social justice, correcting injustice, care for the weak	1	2	3	4	5
Preventing pollution, conserving natural resources	1	2	3	4	5

Equality, equal opportunity for all	1	2	3	4	5
Unity with nature, fitting into nature	1	2	3	4	5
A world of peace, free of war and conflict	1	2	3	4	5
Respecting the earth, harmony with other species	1	2	3	4	5
Protecting the environment, preserving nature	1	2	3	4	5

12. What is your attitude regarding environmental issues and their consequences in general? Please indicate how much you agree or disagree with the following statements.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
Compared to other things in my life, environmental problems are not that important to me. (R)	1	2	3	4	5	6	7
Environmental problems are of great concern to me	1	2	3	4	5	6	7
Environmental problems are not that serious because in the	1	2	3	4	5	6	7
I can think of many things I'd rather do than work toward improving the environment. (R)	1	2	3	4	5	6	7

13. In the space below, please write the name of an item that could be recycled.

14. Indicate the degree to which the statements below explain your *own* attitudes or views regarding you and your overall life realizations.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6	7
In general, I feel confident and positive about myself.	1	2	3	4	5	6	7
I feel like many of the people I know have gotten more out of life than I have. (r)	1	2	3	4	5	6	7

I like most aspects of my personality.	1	2	3	4	5	6	7
In many ways, I feel disappointed about my achievements in life. (r)	1	2	3	4	5	6	7
My attitude about myself is probably not as positive as most people feel about themselves. (r)	1	2	3	4	5	6	7
When I compare myself to friends and acquaintances, it makes me feel good about who I am.	1	2	3	4	5	6	7

15. How do you usually cope with and or adapt to real life situations involving problem solving and decision making?

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
I can communicate an idea in many different ways.	1	2	3	4	5	6	7
I avoid new and unusual situations. (R)	1	2	3	4	5	6	7
I feel like I never get to make decisions. (R)	1	2	3	4	5	6	7
I can find workable solutions to seemingly unsolvable problems.	1	2	3	4	5	6	7
I seldom have choices when deciding how to behave. (R)	1	2	3	4	5	6	7
I am willing to work at creative solutions to problems.	1	2	3	4	5	6	7
In any given situation, I am able to act appropriately.	1	2	3	4	5	6	7
My behavior is a result of conscious decisions that I make.	1	2	3	4	5	6	7
I have many possible ways of behaving in any given situation.	1	2	3	4	5	6	7

16. Please read the following statement carefully and indicate how frequently or infrequently you experience these in your day-to-day life.

	almost always	very frequently	somewhat frequently	somewhat infrequently	very infrequently	almost never
I could be experiencing some emotion and not be conscious of it until sometime later.	1	2	3	4	5	6

I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6
It seems I am "running on automatic," without much awareness of what I'm doing.	1	2	3	4	5	6
I rush through activities without being really attentive to them.	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6
I drive places on "automatic pilot" and then wonder why I went there.	1	2	3	4	5	6
I find myself preoccupied with the future or the past.	1	2	3	4	5	6
I find myself doing things without paying attention.	1	2	3	4	5	6

17. Below is a collection of statements about how people might approach problems or decisions. Please indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
I like to investigate things	1	2	3	4	5	6	7
I generate few novel ideas. (R)	1	2	3	4	5	6	7

I make many novel contributions.	1	2	3	4	5	6	7
I seldom notice what other people are up to. (R)	1	2	3	4	5	6	7
I avoid thought provoking conversations. (R)	1	2	3	4	5	6	7
I am very creative.	1	2	3	4	5	6	7
I am very curious.	1	2	3	4	5	6	7
I try to think of new ways of doing things	1	2	3	4	5	6	7
I am rarely aware of changes. (R)	1	2	3	4	5	6	7
I like to be challenged intellectually.	1	2	3	4	5	6	7
I find it easy to create new and effective ideas.	1	2	3	4	5	6	7
I am rarely alert to new developments. (R)	1	2	3	4	5	6	7
I like to figure out how things work.	1	2	3	4	5	6	7
I am not an original thinker. (R)	1	2	3	4	5	6	7
To ensure that you are not a robot please choose option 'Disagree' here.	1	2	3	4	5	6	7

18. Below is a set of statements regarding how you perceive and or react to your own thoughts and feelings in general. Indicate how much you agree or disagree with them.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
It is easy for me to concentrate on what I am doing.	1	2	3	4	5	6	7
I can tolerate emotional pain.	1	2	3	4	5	6	7
I can accept things I cannot change.	1	2	3	4	5	6	7
I can usually describe how I feel at the moment in considerable detail.	1	2	3	4	5	6	7
I am easily distracted. (R)	1	2	3	4	5	6	7
It's easy for me to keep track of my thoughts and feelings.	1	2	3	4	5	6	7

I try to notice my thoughts without judging them.	1	2	3	4	5	6	7
I am able to accept the thoughts and feelings I have.	1	2	3	4	5	6	7
I am able to focus on the present moment.	1	2	3	4	5	6	7
I am able to pay close attention to one thing for a long period of time.	1	2	3	4	5	6	7

19. What is your gender?

- Male
- Female
- Other

20. Your age in years?

21. Please choose the closest option that matches with your current level of education

- Completed some high school
- High school graduate
- Completed some college
- Associate degree
- Bachelor's degree
- Completed some postgraduate
- Master's degree
- Ph.D., law or medical degree
- Other advanced degree beyond a Master's degree

22. Please choose the closest option that matches with your average annual household income (in US \$, before taxes)

- Less than 10,000
- 10,000 – 24,999
- 25,000 – 39,999
- 40,000 – 54,999
- 55,000 – 69,999
- 70,000 – 84,999
- 85,000 – 99,999
- More than 100,000

23. Please rate your general level of political liberalism versus conservatism.

- extremely liberal
- liberal
- slightly liberal
- moderate
- slightly conservative
- conservative
- extremely conservative
- no opinion/apolitical

24. Please indicate how much you agree or disagree with the following statement

strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
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I have tried to honestly answer all of the questions in this survey to the best of my abilities.	1	2	3	4	5	6	7
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Please choose a **5 digit alphanumeric code (for e.g. AC145)** and insert it below.

You will have to enter the exact same code on the Mturk website in order to receive your payment for completing the survey.

Thank you for taking the time to complete the survey and support our research study!

REFERENCES

- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of consumer research*, 13(4), 411-454.
- Aldridge, A. (2003). *Consumption*, Wiley Press.
- Amel, E. L., Manning, C. M., & Scott, B. A. (2009). Mindfulness and sustainable behavior: Pondering attention and awareness as means for increasing green behavior. *Ecopsychology*, 1(1), 14-25.
- Anderson Jr, W. T., & Cunningham, W. H. (1972). The socially conscious consumer. *The Journal of Marketing*, 23-31.
- Anseel, F., Lievens, F., & Schollaert, E. (2009). Reflection as a strategy to enhance task performance after feedback. *Organizational Behavior and Human Decision Processes*, 110(1), 23-35.
- Antil, J. H. (1984), Socially Responsible Consumers: Profile and Implications for Public Policy. *Journal of Macro Marketing*, (Fall), 18-39.
- Assadourian, (2010). Transforming cultures from consumerism to sustainability, World Watch Institute.
- Axson, D., Yates, S. M., & Chaiken, S. (1987). Audience response as a heuristic cue in persuasion. *Journal of Personality and Social Psychology*, 53, 30–40.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, 10, 125-143.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1), 27-45.
- Baer, R.A., Smith, G.T., & Allen, K.B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11, 191-206.
- Bagozzi, R. P., & Dabholkar, P. A. (1994). Consumer recycling goals and their effect on decisions to recycle: A means-end chain analysis. *Psychology & Marketing*, 11 (4), 313-340.

- Bagozzi, R., Gurhan-Canli, Z., & Priester, J. (2002). *The social psychology of consumer behaviour*. McGraw-Hill Education (UK).
- Bahl, S., Milne, G. R., Ross, S. M., & Chan, K. (2013). Mindfulness: A long-term solution for mindless eating by college students. *Journal of Public Policy & Marketing*, 32(2), 173-184.
- Balderjahn, I., Peyer, M., & Paulssen, M. (2013). Consciousness for fair consumption: conceptualization, scale development and empirical validation. *International Journal of Consumer Studies*, 37 (5), 546-555.
- Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of environmental psychology*, 27(1), 14-25.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191.
- Bandura, A. (1999). Social cognitive theory of personality. *Handbook of personality: Theory and research*, 154-196.
- Barbaro, N., Pickett, S. M., & Parkhill, M. R. (2015). Environmental attitudes mediate the link between need for cognition and pro-environmental goal choice. *Personality and Individual Differences*, 75, 220-223.
- Barber, N. A., & Deale, C. (2014). Tapping mindfulness to shape hotel guests' sustainable behavior. *Cornell Hospitality Quarterly*, 55(1), 100-114.
- Bardhi, F., and Eckhardt, G.M. (2012), Access-based consumption: the case of car sharing, *Journal of Consumer Research*, 39(4), 881-898.
- Bardi, A., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin*, 29(10), 1207-1220.
- Bator, R., & Cialdini, R. (2000). The application of persuasion theory to the development of effective proenvironmental public service announcements. *Journal of Social Issues*, 56(3), 527-542.
- Batson, C. D., Batson, J., Todd, R. M., Brummett, B. H., Shaw, L. L., & Aldeguer, C. M. R. (1995). Empathy and the collective good: Caring for one of the others in a social dilemma. *Journal of Personality and Social Psychology*, 68, 619-631.

- Bauer MA, Wilkie JE, Kim JK, Bodenhausen GV. (2012). Cuing consumerism: situational materialism undermines personal and social well-being, *Psychological Science*, 23 (5), 517-523.
- Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research*, 28(4), 670-676.
- Baumgartner, H., & Steenkamp, J. B. E. (1996). Exploratory consumer buying behavior: Conceptualization and measurement. *International Journal of Research in Marketing*, 13(2), 121-137.
- Belk, R. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139-168.
- Bennet, A. & O'Reilly, A. (2010). *Consumed: Rethinking Business In the Era of Mindful Spending*, New York, NY: Palgrave MacMillan.
- Berger, I. E., & Corbin, R. M. (1992). Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing*, 79-89.
- Bergman, A. (2010). Conspicuous Consumption: A study of prestige related consumer behavior, Masters Thesis.
- Bernard, M. E. (2013). *The strength of self-acceptance*. New York: Springer.
- Bigler, R. S., and Liben, L. S. (1992). Cognitive mechanisms in children's gender stereotyping: Theoretical and educational implications of a cognitive-based intervention. *Child Development*. 63 (6), 1351-1363.
- Bishop, S., Lau, M., Shapiro, S., Carlson, L., Anderson, N., Carmody, J., Segal, Z.V., Abbey, S., Speca, M. Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and practice*, 11, 230-241.
- Bocock, R. (1993), *Consumption*, Routledge, London
- Boldero, J. (1995). The prediction of household recycling of newspapers: The role of attitudes, intentions, and situational factors. *Journal of Applied Social Psychology*, 25, 440-462.
- Bratt, C. (1999). Consumers' Environmental Behavior Generalized, Sector-Based, or Compensatory?. *Environment and Behavior*, 31(1), 28-44.

- Brick, C., & Lewis, G. J. (2016). Unearthing the “Green” Personality Core Traits Predict Environmentally Friendly Behavior. *Environment and Behavior*, 48(5), 635-658.
- Brown K. W., & Ryan R. M. (2004). Perils and promise in defining and measuring mindfulness: observations from experience. *Clinical Psychology: Science & Practice*. 11 (3), 242-248.
- Brown, K. W., & Kasser, T. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research*, 74(2), 349-368.
- Brown, K. W., Goodman, R. J., & Inzlicht, M. (2012). Dispositional mindfulness and the attenuation of neural responses to emotional stimuli. *Social Cognitive and Affective Neuroscience*, 8(1), 1-7.
- Brown, K. W., Kasser, T., Ryan, R. M., & Konow, J. (2004). Having and being: Investigating the pathways from materialism and mindfulness to well-being. *Unpublished data*, University of Rochester.
- Brown, K.W., & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822–848.
- Brown, K.W., Kasser, T., Ryan, R.M., Linley, P.A., Orzech, K. (2009), When what one has is enough: Mindfulness, financial desire discrepancy, and subjective well-being, *Journal of Research in Personality*, 43 (2009), 727-736.
- Brown, K.W., Ryan, R.M., & Creswell, J.D. (2007). Mindfulness: Theoretical foundations and evidence for salutary effects. *Psychological Inquiry*, 18, 211–237.
- Brown, P. M., & Cameron, L. D. (2000). What can be done to reduce overconsumption?. *Ecological Economics*, 32(1), 27-41.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk a new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science*, 6(1), 3-5.
- Burroughs, J. E., & A. Rindfleisch, (2002). Materialism and well-being: a conflicting values perspective, *Journal of Consumer Research*, 29 (3), 348-370.
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116–131.

- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, B. W. B. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119, 197–253.
- Cacioppo, J. T., Petty, R. E., Kao, C. F., & Rodriguez, R. (1986). Central and peripheral routes to persuasion: An individual difference perspective. *Journal of personality and social psychology*, 51(5), 1032.
- Campbell, C. (1987). *The Romantic Ethic and the Spirit of Modern Consumerism*. Oxford: Blackwell.
- Campbell, C. (1995). The Sociology of Consumption. In Miller, Daniel (Ed.). *Acknowledging Consumption. A Review of New Studies*. London: Routledge, 96-126.
- Carmody, J., Baer, R. A., Lykins, E., & Olendzki, N. (2009). An empirical study of the mechanisms of mindfulness in a mindfulness-based stress reduction program. *Journal of clinical psychology*, 65(6), 613-626.
- Carson, S. H., & Langer, E. J. (2006). Mindfulness and self-acceptance. *Journal of rational-emotive and cognitive-behavior therapy*, 24(1), 29-43.
- Census ACS survey (2015). Department of Numbers: US Household Income. retrieved from 1 November 2016, <http://www.deptofnumbers.com/income/us/>
- Chang, L., & Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology & Marketing*, 19(5), 389-406.
- Chanowitz, B., & Langer, E. J. (1981). Premature cognitive commitment. *Journal of personality and social psychology*, 41 (6), 1051.
- Clifford, S., Jewell, R. M., & Waggoner, P. D. (2015). Are samples drawn from Mechanical Turk valid for research on political ideology? *Research & Politics*, 2(4)
- Collins, J.C., Bentz, J.E. (2009) Behavioral and Psychological Factors in Obesity, *The Journal of Lancaster General Hospital*, 4 (4), 124-127.
- Consumption [Def. 3]. In Merriam Webster Online, Retrieved July 28, 2014, <http://www.merriam-webster.com/dictionary/consumption>.
- Cotte, J., & Wood, S. L. (2004). Families and innovative consumer behavior: A triadic analysis of sibling and parental influence. *Journal of Consumer Research*, 31(1), 78-86.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York:HarperCollins.

- Cushman, P. (1990). Why the self is empty: Toward a historically situated psychology. *American Psychologist*, 45, 599-611.
- Dahlstrand, U., & Biel, A. (1997). Pro-environmental habits: Propensity levels in behavioral change. *Journal of Applied Social Psychology*, 27, 588–601.
- Dalen, J., Smith, B. W., Shelley, B. M., Sloan, A. L., Leahigh, L., & Begay, D. (2010). Pilot study: Mindful Eating and Living (MEAL): weight, eating behavior, and psychological outcomes associated with a mindfulness-based intervention for people with obesity. *Complementary Therapies in Medicine*, 18(6), 260-264.
- Daun, A. (1983). The materialistic life-style: Some socio-psychological aspects. In Uusitalo L (Ed.) *Consumer Behavior and Environmental Quality*. New York: St. Martin's, 6-16.
- Davenport, T.H., Mule, L.D., Lucker, J. (2011). Know what your customers want before they do, *Harvard Business Review*, 89 (12), 84-89.
- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology*, 70, 713–726.
- De Geus, M. (2003). *The end of over-consumption: Towards a lifestyle of moderation and self-restraint*. Utrecht: International Books.
- De Young, R. (1988–1989). Exploring the difference between recyclers and nonrecyclers: The role of information. *Journal of Environmental Systems*, 18, 341–351.
- Deak, G O (2003). The development of cognitive flexibility and language abilities. *Advances in Child Development and Behavior*. 31, 271–327.
- Dickson, M. A. (2000). Personal values, beliefs, knowledge, and attitudes relating to intentions to purchase apparel from socially responsible businesses. *Clothing and Textiles Research Journal*, 18(1), 19-30.
- Diehl, M., Semegon, A. B., & Schwarzer, R. (2006). Assessing attention control in goal pursuit: A component of dispositional self-regulation. *Journal of personality assessment*, 86(3), 306-317.
- Djikic, M., Langer, E. J., & Stapleton, S. F. (2008). Reducing stereotyping through mindfulness: Effects on automatic stereotype-activated behaviors. *Journal of Adult Development*, 15 (2), 106-111.

- Dong, W. & Brunel F.F. (2006). The role of mindfulness in consumer behavior. In: Pechmann, C. and Price, L. (Eds.) *Advances in Consumer Research*. Duluth, MN: Association for Consumer Research, 33, 276-278.
- Douglas, M. and B. Isherwood. 1996. *The world of good—Towards an anthropology of consumption*. 1979 Reprint edition. London: Routledge.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). New trends in measuring environmental attitudes: measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of social issues*, 56(3), 425-442.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.
- Eastman, J. K., Goldsmith, R. E., & Flynn, L.R. (1999). Status consumption in consumer behavior: scale development and validation. *Journal of Marketing Theory and Practice*, 7 (3), 41-52.
- Economist. (2009). From buy, buy to bye-bye. *The Economist*, (April 4), 67–68.
- Elgin, D., & Mitchell, A. (1977). Voluntary simplicity. *Planning Review*, 5(6), 13-15.
- Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991). The role of perceived consumer effectiveness in motivating environmentally conscious behaviors. *Journal of Public Policy & Marketing*, 102-117.
- Ellen, P. S. (1994). Do we know what we need to know? Objective and subjective knowledge effects on pro-ecological behaviors. *Journal of Business Research*, 30(1), 43-52.
- Ericson, T., Kjørstad, B. G., & Barstad, A. (2014). Mindfulness and sustainability. *Ecological Economics*, 104, 73-79.
- Etzioni, A. (1998). Voluntary simplicity: characterization, select psychological implications, and societal consequences. *Journal of Economic Psychology*, 19, 619-643.
- Evans, D. (2011). Thrifty, green or frugal: Reflections on sustainable consumption in a changing economic climate. *Geoforum*, 42(5), 550-557.
- Faber, R. J and Vohs, K. D. (2004). To buy or not to buy? Self-control and self-regulatory failure in purchase behavior. In Baumeister, R. F., and Vohs, Kathleen D. (Eds.) *Handbook of self-regulation: Research, theory, and applications* (pp. 509-524). New York, NY, US: Guilford Press

- Farb, N. A., Segal, Z. V., Mayberg, H., Bean, J., McKeon, D., Fatima, Z., & Anderson, A. K. (2007). Attending to the present: mindfulness meditation reveals distinct neural modes of self-reference. *Social Cognitive and Affective Neuroscience*, 2(4), 313-322.
- Featherstone, M. (1991), *Consumer Culture and Postmodernism*, London: Sage.
- Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment*, 29(3), 177-190.
- Field, A. (2009). *Discovering statistics using SPSS (3rd edition)*. Sage publications.
- Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fisk, G. (1974). Criteria for a theory of responsible consumption. *The Journal of Marketing*, 24-31.
- Flatters, P., and Willmott, M. (2009), Understanding the post-recession consumer, *Harvard Business Review*, 87 (7–8), 106–12.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 382-388.
- Fournier, S., & Richins, M. L. (1991). Some theoretical and popular notions concerning materialism. *Journal of Social Behavior and Personality*, 6(6), 403.
- Fromm, E. (1947). *Man for himself: An inquiry into the psychology of ethics*. New York: Holt, Rinehart, & Winston.
- Gabriel, Y. & Lang. T. (1995). *The unmanageable consumer: contemporary consumption and its fragmentations*. London: Sage.
- Gerzema, J. and D'Antonio, M. (2011). The Power of the Post-Recession Consumer, Strategy + Business retrieved from on 30 July, 2014 <http://www.strategybusiness.com/article/00054?pg=all>
- Goldenberg (2010), US cult of greed is now a global environmental threat, report warns, The Guardian, retrieved from 31 July 2014 <http://www.theguardian.com/environment/2010/jan/12/climate-change-greed-environment-threat>

- Goldsmith, R. E., Flynn, L. R., & Jackson, A. E. (2015). How Self-Control and Materialism Influence Excessive Spending. In Alexandra M. Columbus (Ed.), *Advances in Psychology Research*, Vol. 103. New York: Nova Science Publishers.
- Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in experimental social psychology*, 38, 69-119.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57 (1), 35-43.
- Guagnano, G.A., Dietz, T., & Stern, P.C. (1994). Willingness to pay for public goods: A test of the contribution model. *Psychological Science*, 5, 411-415.
- Gupta, A., & McDaniel, J. (2002). Creating competitive advantage by effectively managing knowledge: a framework for knowledge management. *Journal of Knowledge Management Practice*, 3(2), 40-49.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.
- Hampson, D.P., McGoldrick, P.J. (2013). A typology of adaptive shopping patterns in recession, *Journal of Business Research*, 66 (7).
- Hanh, T. N., & Weisman, A. (2008). *The world we have: A Buddhist approach to peace and ecology*, Parallax Press.
- Hart, R., Ivtzan, I., & Hart, D. (2013). Mind the gap in mindfulness research: A comparative account of the leading schools of thought. *Review of General Psychology*, 17(4), 453.
- Haws, K. L., Bearden, W. O., & Nenkov, G. Y. (2012). Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40(5), 695-710.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. Guilford Press.
- Haynes, S. N., Richard, D., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological assessment*, 7(3), 238.
- Heller, R. (2011). Slowing down the consumer treadmill, *Humanist*, 71 (4), 30-34.

- Helm, S.V., & Subramaniam, B. (2016). Consumer Mindfulness: How Present-Moment-Awareness Affects Sustainable Consumerism. *Proceedings of the AMA Winter Marketing Educators' Conference*, Las Vegas, NV.
- Henion, K. E, Ecological Marketing, Grid, Inc., Columbus, OH. 1976.
- Herbert, W. (2014). Mindfulness and Heuristics. In Ie, A., Ngnoumen, C.T., and Langer, E.J. (Eds.), *The Wiley Blackwell Handbook of Mindfulness*, John Wiley & Sons, Chichester, UK, 279-289.
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1986/87). Analysis and synthesis of research on responsible environmental behaviour: A meta- analysis. *Journal of Environmental Education*, 18, 1–8.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988.
- Hinvest, N. (2009). Interview by Euro RSCG Worldwide, with Dr. Neal Hinvest, Research fellow, University of Bath, December 10, 2009.
- Hirsch, F. 1995. *Social limits to growth*. 1977. Revised edition. London: Routledge.
- Hirschman, A. (1982). *Shifting Involvements: private interest and public action*, Oxford: Blackwell
- Hirsh, J. B. (2010). Personality and environmental concern. *Journal of Environmental Psychology*, 30(2), 245-248.
- Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent preferences and consumer self-control. *Journal of Consumer Research*, 17(4), 492-507.
- Holweg, M., & Pil, F. K. (2005). The second century: reconnecting customer and value chain through build-to-order moving beyond mass and lean in the auto industry. MIT Press Books, 1.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Evaluating model fit: a synthesis of the structural equation modelling literature. In *7th European Conference on research methodology for business and management studies* (pp. 195-200).
- Hughner RS, McDonagh P, Prothero A, Shultz CJ II, Stanton J. 2007. Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour*, 6: 94–110.

- Huneke, M. E. (2005). The face of the un□ consumer: An empirical examination of the practice of voluntary simplicity in the United States. *Psychology & Marketing*, 22 (7), 527-550.
- Hunt, J. M., Kernan, J. B., & Mitchell, D. J. (1996). Materialism as social cognition: People, possessions, and perception. *Journal of Consumer Psychology*, 5(1), 65-83.
- Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257-269.
- In Hogan, R., Johnson, J.A., & Briggs, S.R. (Eds.) *Handbook of personality psychology*, San Diego, CA, US: Academic Press, xxiv, 987, (825-847).
- Isen, A. M. (2001). An influence of positive affect on decision making in complex situations: Theoretical issues with practical implications. *Journal of Consumer Psychology*, 11(2), 75-85.
- Jackson, T. (2005a), Live Better by Consuming Less? Is There a “Double Dividend” in Sustainable Consumption?, *Journal of Industrial Ecology*, 9 (1-2), 19-36.
- Jackson, T. (2005b), Motivating Sustainable Consumption: a review of evidence on consumer behaviour and behavioral change, Sustainable Development Research Network. Policy Studies Institute, London.
- Jeffcoat, T., & Hayes, S.C (2013). Psychologically Flexible Self-Acceptance. In Bernard, M.E. (Ed.). *The Strength of Self-Acceptance: Theory, Practice, and Research*. New York: Springer, (73-92).
- Jimenez, S. S., Niles, B. L., & Park, C. L. (2010). A mindfulness model of affect regulation and depressive symptoms: Positive emotions, mood regulation expectancies, and self-acceptance as regulatory mechanisms. *Personality and Individual Differences*, 49(6), 645-650.
- Jordan, C. H., Wang, W., Donatoni, L., & Meier, B. P. (2014). Mindful eating: Trait and state mindfulness predict healthier eating behavior. *Personality and Individual Differences*, 68, 107-111.
- Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4(1), 33-47.

- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Delacorte.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: mindfulness meditation in everyday life*. New York: Hyperion.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology. Science and Practice*, 10, 144–156.
- Kang, Y., Gruber, J. and Gray, J.R. (2014). Mindfulness. Deautomatization of Cognitive and Emotional Life. In A., Ngnoumen, C.T., and Langer, E.J. (eds), *The Wiley Blackwell Handbook of Mindfulness*, John Wiley & Sons, Chichester, UK, 168-185.
- Kardes, F. R., Cronley, M. L., & Cline, T. W. (2011). *Consumer Behavior*, Mason, OH: South-Western, Cengage Learning.
- Karp, D. G. (1996). Values and Their Effect on Proenvironmental Behavior, *Environment and Behavior*, 28 (January), 111-133.
- Kasser, T. (2002). *The Value of Materialism, A Psychological Inquiry*, Cambridge, MA: MIT Press.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65, 410-422.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22(3), 280-287.
- Khoury, B., Pagnini, F., Trent, N. Towards a unified theory of mindfulness: The process of change, *Psychological Bulletin (under review)*, 2014.
- Kilbourne, W., McDonagh, P., Prothero, A. (1997). Sustainable consumption and the quality of life: a macromarketing challenge to the dominant social paradigm, *Journal of Macromarketing*, 17 (1), 4-23.
- Kim, H. C. (2013). Situational materialism: How entering lotteries may undermine self-control. *Journal of Consumer Research*, 40(4), 759-772.
- Kim, S., & Gal, D. (2014). From compensatory consumption to adaptive consumption: The role of self-acceptance in resolving self-deficits. *Journal of Consumer Research*, 41(2), 526-542.

- Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *NA-Advances in Consumer Research* Volume 32.
- Kjellberg, H. (2008). Market practices and overconsumption. *Consumption, Markets and Culture*, 11(2), 151-167.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.
- Klößner, C.A., Matthies, E., and Hunecke, M. (2003), Problems of Operationalizing Habits and Integrating Habits in Normative Decision-Making Models, *Journal of Applied Social Psychology*, 33(2), 396-417.
- Kollmuss, A. & Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to proenvironmental behaviour? *Environmental Education Research*, 8(3), 239-260.
- Kormos, C., and Gifford, R. (2014). The validity of self-report measures of proenvironmental behavior: A meta-analytic review, *Journal of Environmental Psychology*, 40, 359-371.
- Kotler, J, Montgomery, M., & Shepard, D. (2004). Acquisitive desire: Assessment and treatment. In In Kasser, T. and Kanner, A., eds. *Psychology and the Consumer Culture*. Washington, D.C.: American Psychological Association.
- Kristeller, J.L. and Epel, E. (2014). Mindful Eating and Mindless Eating. In Ie, A., Ngnoumen, C.T., and Langer, E.J. (eds), *The Wiley Blackwell Handbook of Mindfulness*, John Wiley & Sons, Chichester, UK, 913-933.
- Kristiansen, C. M., & Hotte, A. M. (1996). Morality and the self: Implications for the when and how of value-attitude-behavior relations. *The psychology of values: The Ontario symposium*, 8, (77-105). Erlbaum Hillsdale, NJ.
- Lane, R. E. (1991). *The Market Experience*, Cambridge, Cambridge: University Press
- Langer, E. (2002). Well-being: Mindfulness versus positive evaluation. In Snyder, C.R. & Lopez, S.J. (Eds.), *Handbook of positive psychology* (pp. 214–230). New York: Oxford University Press.
- Langer, E. (2012). The mindless use of medical data. *Journal of Business Research*, 65 (11), 1651-1653.

- Langer, E. J., & Piper, A. I. (1987). The prevention of mindlessness. *Journal of Personality and Social Psychology*, 53(2), 280.
- Langer, E. J., Chanowitz, B., & Blank, A. (1985). Mindlessness–mindfulness in perspective: A reply to Valerie Folkes.
- Langer, E.J. (1989). *Mindfulness*. Cambridge, MA: Da Capo Press.
- Langer, E.J. (1992). Matters of mind: Mindfulness/mindlessness in perspective. *Consciousness and Cognition*, 1, 289–305.
- Langer, E.J. (1997). *The power of mindful learning*. Cambridge, MA: De Capo Press.
- Langer, E.J. (2005). *On Becoming an Artist: Reinventing Yourself Through Mindful Creativity*. NY: Ballantine Books.
- Langer, E.J., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of Social Issues*, 56(1), 1–9.
- Langer, E.J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of “placebic” information in interpersonal interaction. *Journal of Personality and Social Psychology*, 36, 635–64.
- Langer, E.J. (2014). Mindfulness Forward and Back. In Ie, A., Ngnoumen, C.T., and Langer, E.J. (Eds), *The Wiley Blackwell Handbook of Mindfulness*, John Wiley & Sons, Chichester, UK, 7-20.
- Lastovicka, J. L., Bettencourt, L. A., Hughner, R. S., & Kuntze, R. J. (1999). Lifestyle of the tight and frugal: theory and measurement. *Journal of Consumer Research*, 26 (1), 85-98.
- Lau, M. A., Bishop, S. R., Segal, Z. V., Buis, T., Anderson, N. D., Carlson, L., . . . Devins, G. (2006). The Toronto Mindfulness Scale: Development and Validation. *Journal of Clinical Psychology*, 62(12), 1445-1467.
- Lee, J. A., & Holden, S. J. (1999). Understanding the determinants of environmentally conscious behavior. *Psychology and Marketing*, 16(5), 373-392.
- Lee, M. J. (1993) *Consumer Culture Reborn*. Routledge: London.
- Leonard-Barton, D. (1981). Voluntary simplicity lifestyles and energy conservation. *Journal of Consumer Research*, 8(3), 243-252.
- Levay, K. E., Freese, J., & Druckman, J. N. (2016). The Demographic and Political Composition of Mechanical Turk Samples. *SAGE Open*, 6(1)

- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.
- Lins, S., Bottequin, E., Dóka, Á., Golasa, A., Hylander, F., Merchán, A., ... & Pavlović, S. (2013). To Think, to Feel, to Have: The Effects of Need for Cognition, Hedonism and Materialism on Impulse Buying Tendencies in Adolescents. *Journal of European Psychology Students*, 4(2).
- Living planet Report (2010). Biodiversity, bio capacity and development, Global Footprint Network.
- MacInnis, D.J., Chun, H.E. (2007), Understanding hope and its implications for consumer behavior: I hope, therefore I consume, *Foundations and Trends in Marketing*, 1 (2), 97-188.
- Maio, G. R., Pakizeh, A., Cheung, W. & Rees, K. J. (2009). Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of Personality and Social Psychology*, 97 (4), 699-715.
- Maio, G. R., Pakizeh, A., Cheung, W. Y., & Rees, K. J. (2009). Changing, priming, and acting on values: effects via motivational relations in a circular model. *Journal of personality and social psychology*, 97(4), 699.
- Malhotra, N.K. (1982). Information load and consumer decision making, *Journal of Consumer Research*, 8 (4), 419-430.
- Manocha, R., Black, D., Sarris, J., & Stough, C. (2011). A randomized, controlled trial of meditation for work stress, anxiety and depressed mood in full-time workers. Evidence-Based Complementary and Alternative Medicine, 2011.
- Maréchal, K. (2010). Not irrational but habitual: The importance of “behavioural lock-in” in energy consumption. *Ecological Economics*, 69(5), 1104-1114.
- Markle, G. L. (2013). Pro-environmental behavior: does it matter how it’s measured? development and validation of the pro-environmental behavior scale (PEBS). *Human Ecology*, 41(6), 905-914.
- Martin, M. M., & Anderson, C. M. (1998). The cognitive flexibility scale: Three validity studies. *Communication Reports*, 11(1), 1-9.
- Martin, M. M., & Rubin, R. B. (1995). A new measure of cognitive flexibility. *Psychological Reports*, 76(2), 623-626.

- Mason, R. S. (1981). *Conspicuous Consumption: A Study of Exceptional Consumer Behavior*, St. Martin's Press, New York.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, 44(1), 1-23
- McCracken, G.D. (1988). *Culture and consumption: new approaches to the symbolic character of consumer goods and activities*, Bloomington: Indiana University Press.
- McCrae, R.R.; Costa, P.T. (1997). Conceptions and correlates of openness to experience. In Hogan, R., Johnson, J. A., and Briggs, S. R. (Eds). *Handbook of Personality Psychology*, 825-847.
- Miles, S. (1998). *Consumerism: as a way of life*. Sage.
- Minton, A.P. and Rose, R.L. (1997), The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study, *Journal of Business Research*, 40(1), 37-48.
- Miyake, A; Friedman, N P; Emerson, M J.; Witzki, A H; Howerter, A; Wagner, T (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*. 41 (1), 49–100.
- Moore, A., and Malinowski, P. (2009). Mediation, mindfulness, and cognitive flexibility. *Conscious Cognition*. 18, 176–186.
- Moscardo, G. and Pearce, P.L. (1986), Visitor centres and environmental interpretation: An exploration of the relationships among visitor enjoyment, understanding and mindfulness, *Journal of Environmental Psychology*, 6 (2), 89-108.
- Mullins, P., Jeong, D. Y., Western, J. S., Lowe, I., & Simpson, R. (2004) Consumerism and Sustainable Development: An Australian-South Korean Comparative Study. *Korean Social Science Journal*, XXXI (1), 1-38.
- Myers, D.G. (2000). The funds, friends, and faith of happy people, *American Psychologist*, 55 (1), 56-67.
- Nelson, M. R., Rademacher, M. A., & Paek, H. J. (2007). Downshifting consumer= upshifting citizen? An examination of a local freecycle community. *The Annals of the American Academy of Political and Social Science*, 611 (1), 141-156.

- Nepomuceno, M. V., & Laroche, M. When Materialists Intend to Resist Consumption: The Moderating Role of Self-Control and Long-Term Orientation. *Journal of Business Ethics*, 1-17.
- Nielsen (2011). Sustainable efforts & environmental concerns around the world. New York: The Nielsen Company.
- Nunnally, Jum C., and Ira Bernstein (1994), *Psychometric Theory*, 3d ed., New York: McGraw-Hill.
- O'Brien, C. (2008). Sustainable happiness: How happiness studies can contribute to a more sustainable future. *Canadian Psychology*, 49(4), 289.
- Olendzki, A. (2014). From Early Buddhist Traditions to Western Psychological Science. In A., Ngnoumen, C.T., and Langer, E.J. (eds), *The Wiley Blackwell Handbook of Mindfulness*, John Wiley & Sons, Chichester, UK, 58-73.
- Olson, K., Camp, C., & Fuller, D. (1984). Curiosity and need for cognition. *Psychological Reports*, 54 (1), 71-74.
- Olver, J. M., & Mooradian, T. A. (2003). Personality traits and personal values: a conceptual and empirical integration. *Personality and Individual Differences*, 35(1), 109-125.
- Ostafin (2015). Taming the Wild Elephant: Mindfulness and Its Role in Overcoming Automatic Mental Processes. In Ostafin, B. D., Robinson, M. D., & Meier, B. P. (Eds.). *Handbook of Mindfulness and Self-regulation*, (47-66). Springer.
- Ostafin, B. D., & Kassman, K. T. (2012). Stepping out of history: mindfulness improves insight problem solving. *Consciousness and Cognition*, 21(2), 1031-1036.
- Ostafin, B. D., Robinson, M. D., & Meier, B. P. (Eds.). (2015). *Handbook of Mindfulness and Self-regulation*. Springer.
- Oswald, A. 1997. Happiness and economic performance. *Economic Journal*, 107 (445), 1815–1831.
- Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences*, 47(7), 675-684.
- Parks-Leduc, L., Feldman, G., & Bardi, A. (2014). Personality Traits and Personal Values A Meta-Analysis. *Personality and Social Psychology Review*, 19(1), 3-29
- Pearce, F. (2009). Consumption dwarfs population as main environmental threat, Yale Environment 360.

- Pepper, M., Jackson, T., & Uzzell, D. (2009). An examination of the values that motivate socially conscious and frugal consumer behaviours. *International Journal of Consumer Studies*, 33(2), 126-136.
- Pereira Heath, M. T., & Chatzidakis, A. (2012). 'Blame it on marketing': consumers' views on unsustainable consumption. *International Journal of Consumer Studies*, 36(6), 656-667.
- Pérez, F., & Esposito, L. (2010). The Global Addiction and Human Rights: Insatiable Consumerism, Neoliberalism, and Harm Reduction. *Perspectives On Global Development & Technology*, 9 (1/2), 84-100.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In *Communication and persuasion* (pp. 1-24). Springer-Verlag, New York.
- Petty, R. E., Cacioppo, J. T., & Kao, C. F. (1984). The efficient assessment of need for cognition. *Journal of Personality Assessment*, 48(3), 306-307.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research*, 10(2), 135-146.
- Pew Research Center, (2010). A Balance Sheet at 30 Months: How the Great Recession Has Changed Life in America, Pew Research Center, A Social & Demographic Trends Report.
- Phipps, M., L. Ozanne, M. Luchs, S. Subrahmanyam, S. Kapitan, J. Catlin, R. Gau, R. Naylor, R. Rose, & B. Simpson. (2013). Understanding the inherent complexity of sustainable consumption: A social cognitive framework. *Journal of Business Research*, 66 (8), 1227–1234.
- Pirson, M., Langer, E. J., Bodner, T., and Zilcha-Mano, S. (2012). The development and validation of the Langer Mindfulness Scale-Enabling a socio-cognitive perspective of mindfulness in organizational contexts. Fordham University Schools of Business Research Paper.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

- Pretty, J., Ball, A. S., Benton, T., Guivant, J., Lee, D., Orr, D., Preffer, M., & Ward, H. (Eds.). (2007). *The SAGE Handbook of Environment and Society*, Sage Publications, London.
- Prothero, A., Dobscha, S., Freund, J., Kilbourne, W. E., Luchs, M. G., Ozanne, L. K., et al. (2011). Sustainable consumption: Opportunities for consumer research and public policy. *Journal of Public Policy & Marketing*, 30(1), 31–38.
- Rayner, S., and Malone, E.L. (eds.). 1998, *Human Choice and Climate Change*, Battelle Press, Columbus, OH.
- Reb, J., & Choi, E. Mindfulness in Organizations. (2014). *The Psychology of Meditation*. Research Collection, Lee Kong Chian School Of Business.
- Reb, J., Narayanan, J., & Ho, Z. W. (2015). Mindfulness at work: Antecedents and consequences of employee awareness and absent-mindedness. *Mindfulness*, 6(1), 111-122.
- Reber, R. (2014) Mindfulness in Education. In Ie, A., Ngnoumen, C. T., & Langer, E. J. (Eds.), *The Wiley Blackwell handbook of mindfulness*. (1057-1070). John Wiley & Sons.
- Reddy, S. D., Negi, L. T., Dodson-Lavelle, B., Ozawa-de Silva, B., Pace, T. W., Cole, S. P., ... & Craighead, L. W. (2013). Cognitive-Based Compassion Training: a promising prevention strategy for at-risk adolescents. *Journal of Child and Family Studies*, 22(2), 219-230.
- reduction for health care professionals: results from a randomized trial, *International Journal of Stress Management*, 12, 164–176.
- Richins, M.L., & Dawson., S. (1992). Consumer values orientation for materialism and its measurement: scale development and validation, *Journal of Consumer Research*, 19, 303-316.
- Ritzer, G. (Ed). (2007). *Social pathology*, Blackwell Encyclopedia of Sociology.
- Robbins, R.H. (1999), *Global Problems and the Culture of Capitalism*. Allyn and Bacon, Boston, MA.
- Roberts, J. A. (1993). Sex differences in socially responsible consumers' behavior. *Psychological Reports*, 73(1), 139-148.
- Roberts, J. A. (1995). Profiling levels of socially responsible consumer behavior: a cluster analytic approach and its implications for marketing, *Journal of Marketing Theory and Practice*, 3(4), 97-117.

- Roberts, J.A. & Pirog, S.F. (2004). Personal goals and their role in consumer behavior: The case of compulsive buying. *Journal of Marketing Theory and Practice* 1, 61–73.
- Robins, C. J., & Rosenthal, M. Z. (2011). Dialectical behavior therapy. Acceptance and mindfulness in cognitive behavior therapy: Understanding and applying the new therapies, 164-192.
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. *Personality and social psychology bulletin*, 28(6), 789-801.
- Rokeach, M. (1973). *The nature of human values* (Vol. 438). New York: Free press.
- Røpke, I. (1999). The dynamics of willingness to consume. *Ecological Economics*, 28 (3), 399-420.
- Rosenberg, E. L. (2004). Mindfulness and consumerism. In T. Kasser & A. D. Kanner (Eds.), *Psychology and consumer culture: The struggle for a good life in a materialistic world*. Washington, DC: American Psychological Association.
- Ross, S. M. (2015). Whither Simplicity? An Exploratory Study of the Antecedents of Voluntary Simplicity. In *Marketing Dynamism & Sustainability: Things Change, Things Stay the Same...* (pp. 20-29). Springer International Publishing.
- Ryan, R. M., Kuhl, J., & Deci, E. L. (1997). Nature and autonomy: An organizational view of social and neurobiological aspects of self-regulation in behavior and development. *Development and Psychopathology*, 9, 701–728.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069.
- Sauer, S., Walach, H., & Kohls, N. (2011). Gray's Behavioural Inhibition System as a mediator of mindfulness towards well-being. *Personality and Individual Differences*, 50(4), 506-511.
- Schmidt, J. B., & Spreng, R. A. (1996). A proposed model of external consumer information search. *Journal of the Academy of Marketing Science*, 24(3), 246-256.
- Schor, J. B. (2010). *Plenitude: The new economics of true wealth*. New York: Penguin Press.
- Schultz, P. (2000). New environmental theories: empathizing with nature: the effects of perspective taking on concern for environmental issues. *Journal of Social Issues*, 56(3), 391-406.

- Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). New York: Academic Press.
- Schwarzer, R., Diehl, M., Schmitz, G.S. (1999). Self-Regulation Scale. Retrieved October 31, 2016, from http://userpage.fu-berlin.de/health/selfreg_e.htm
- Scitowsky, T. (1976). *The Joyless Economy: an inquiry into human satisfaction and consumer dissatisfaction*, Oxford: Oxford University Press.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to relapse prevention*. New York: Guilford.
- SERI, (2000). Overconsumption? Our use of the world's natural resources, Sustainable Europe Research Institute.
- Shapiro, S. L., Carlson, L. E., Astin, J. A. & Freedman, B. (2006), Mechanisms of mindfulness. *Journal Clinical Psychology*, 62, 373–386.
- Shapiro, S.L., & Schwartz, G.E. (2000). The role of intention in self-regulation: toward intentional systemic mindfulness. In M. Boekaerts, P.R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 253–273). New York: Academic Press.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: results from a randomized trial. *International Journal of Stress Management*, 12(2), 164.
- Shaw, D., & Newholm, T. (2002). Voluntary simplicity and the ethics of consumption. *Psychology & Marketing*, 19(2), 167-185.
- Shepard, L. A. (1979). Self-acceptance: The evaluative component of the self-concept construct. *American Educational Research Journal*, 16(2), 139-160.
- Sheth, J. N., Sethia, N. K. & Srivinas. S. (2011). Mindful consumption: a customer-centric approach to sustainability. *Academy of Marketing Science*, 39(21), 21-39.
- Shove, E. & A. Warde. (1997). Noticing inconspicuous consumption. Paper presented to the European Science Foundation TERM Programme Workshop on Consumption, Everyday Life and Sustainability, Lancaster, UK: University of Lancaster.
- Shrum, L. J., Burroughs, J. E., & Rindfleisch, A. (2005). Television's cultivation of material values. *Journal of Consumer Research*, 32(3), 473-479.

- Smith, S. M., Haugtvedt, C. P., & Petty, R. L. (1994). Need for Cognition and the Effects of Repeated Expression on Attitude Accessibility and Extremity. *Advances in Consumer Research*, 21(1), 234-237.
- Solomon, S., Greenberg, J.L, and Pyszczynski, T.A. (2004). Lethal consumption: Death-denying materialism, In Kasser, Tim (Ed); Kanner, Allen D. (Ed), (2004). *Psychology and consumer culture: The struggle for a good life in a materialistic world*, pp. 127-146, Washington, DC, US: American Psychological Association.
- Speth, J.G. (2008). *The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability*, Yale University Press.
- Stern, P. C., Dietz, T., & Guagnano, G. A. (1995). The new ecological paradigm in social-psychological context. *Environment and Behavior*, 27(6), 723-743.
- Stern, P. C., Dietz, T., & Kalof, L. (1993). Value orientations, gender, and environmental concern. *Environment and Behavior*, 25(5), 322-348.
- Stern, P.C. & Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues*, 56, 121-145.
- Stern, P.C., Dietz, T., Abel, T., Guagnano, G.A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review*, 6, 81-97.
- Stern, P.C., Dietz, T., Ruttan, V.W., Socolow, R.H., & Sweeney, J.L. (1997), Environmentally Significant Consumption: Research Directions, Committee on the Human Dimensions of Global Change, National Research Council, Washington, DC: The National Academies Press, 1997.
- Sternberg, R.J. (2000). Images of mindfulness. *Journal of Social Issues*, 56, 11–26.
- Stone, G., Barnes, J. H., & Montgomery, C. (1995). Ecoscale: a scale for the measurement of environmentally responsible consumers. *Psychology & Marketing*, 12(7), 595-612.
- Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of Consumer Marketing*, 16(6), 558-575.
- Tan, L. B., Lo, B. C., & Macrae, C. N. (2014). Brief mindfulness meditation improves mental state attribution and empathizing. *PloS one*, 9(10).

- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of personality*, 72(2), 271-324.
- Tartakovsky, M. (2016). Therapists Spill: 12 Ways to Accept Yourself. Psych Central. Retrieved on November 2, 2016, from <http://psychcentral.com/lib/therapists-spill-12-ways-to-accept-yourself/>
- Thøgersen, J. (1994a). A model of recycling behaviour. With evidence from Danish source separation programmes. *International Journal of Research in Marketing*, 11, 145–163.
- Thøgersen, J. (1994b). Monetary incentives and environmental concern. Effects of a differentiated garbage fee. *Journal of Consumer Policy*, 17 (4), 407-442.
- Thøgersen, J. (2000). Knowledge barriers to sustainable consumption In: P. F. Bone , K. R. France, & J. Wiener (Eds.), *Marketing and Public Policy Conference Proceedings*, 10, 29–39.
- Thøgersen, J. (2005). How may consumer policy empower consumers for sustainable lifestyles?. *Journal of Consumer Policy*, 28(2), 143-177.
- Thøgersen, J. and F. Ölander, 2002. Human values and the emergence of a sustainable consumption pattern: a panel study. *Journal of Economic Psychology*, 23, 605-630.
- Thøgersen, J., & Ölander, F. (2002). Human values and the emergence of a sustainable consumption pattern: A panel study. *Journal of Economic Psychology*, 23(5), 605-630.
- Tobler, C., Visschers, V. H., & Siegrist, M. (2012). Addressing climate change: Determinants of consumers' willingness to act and to support policy measures. *Journal of Environmental Psychology*, 32(3), 197-207.
- US Census Bureau, (2010). Age and Sex Composition: 2010, retrieved from 1 November 2016 <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>
- US Census Bureau, (2011). Educational Attainment, retrieved from 1 November 2016 https://www.census.gov/newsroom/cspan/educ/educ_attain_slides.pdf
- US Gallup Survey (2014). U.S. Liberals at Record 24%, but Still Trail Conservatives, retrieved from 1 November 2016. <http://www.gallup.com/poll/180452/liberals-record-trail-conservatives.aspx>
- Veblen, T. (1899). *The Theory of the Leisure Class*, New York, NY: Penguin..

- Vining, J. & Ebreo, A. (2002). Emerging theoretical and methodological perspectives on conservation behavior. In R. Bechtel & A. Churchman (Eds.), *The New Handbook of Environmental Psychology*. New York: John Wiley, 541-558.
- Walach, H., Buchheld, N., Buttenmüller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness—the Freiburg mindfulness inventory (FMI). *Personality and Individual Differences*, 40(8), 1543-1555.
- Wallace, B. A. (2005). *Genuine happiness: Meditation as a path to fulfillment*. Hoboken, NJ: Wiley.
- Webb, D. J., Mohr, L. A., & Harris, K. E. (2008). A re-examination of socially responsible consumption and its measurement. *Journal of Business Research*, 61(2), 91-98.
- Webster Jr, F. E. (1975). Determining the characteristics of the socially conscious consumer. *Journal of Consumer Research*, 188-196.
- Weick, K. E., & Sutcliffe, K. M. (2006). Mindfulness and the quality of organizational attention. *Organization Science*, 17(4), 514-524.
- Winter, D. D. (2004). Shopping for sustainability. In T. Kasser & A. Kanner (Eds.). *Psychology and the Culture of Consumption* (pp.69-88). Washington DC: American Psychological Association.
- Wirth, T., Ehrlich, P., Lomborg, B., & Rosling, H. (2010). All consuming: is the issue population or consumption or both?, Momentum, Institute on the Environment, University of Minnesota.
- York, R., Rosa, E.A., & Dietz, T. (2003). Footprints on the earth: the environmental consequences of modernity, *American Sociological Review*, 68(2), 279-300.
- Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2010). Sustainable consumption: green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), 20-31.
- Zavestoski, S. (2002). The Social-Psychological Bases of Anticonsumption Attitudes. *Psychology & Marketing*, 19(2), 149-165.