

MASTER THESIS

Explaining the relationship between mindfulness and consumer decision-making

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Abstract

Emerging evidence presents mindfulness as an antidote to the negative impacts of consumerism, particularly on individual well-being, the environment, and the relations between companies and consumers. This study aims to incorporate dispositional mindfulness into decision-making to observe its behavioral influences on consumers. It is believed that a higher mindfulness level positively influences consumers' involvement in decision-making, which determines the effort invested in the evaluation of product cues. We hypothesized that individuals with higher levels of mindfulness are prone to rely on informational cues to make a decision, instead of aesthetic cues. Based on the dual-process theory (Kahneman, 2011), which ties higher involvement to slow and deliberate thinking, we further hypothesize that individuals with higher levels of mindfulness will spend more time in the process of choice. Additionally, it is believed that the mindfulness level also impacts consumers' preferences for sustainable products. Three hundred seventy participants completed a self-administered online questionnaire, which has been used as a primary data collection method and served as a tool to accept or reject the hypotheses. After a thorough analysis of the results, we accepted the four hypotheses. The results of this study are outstanding and provide a good starting point for the development of further research in the area of mindful consumption.

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1.Introduction

This study aims to shed light on consumers' decision-making processes with the application of the psychological construct of mindfulness. The study wishes to contribute to the emerging field of research within mindfulness and marketing by reviewing its influences on consumers' involvement in decision-making and their tendency for sustainable behavior. Incorporating mindfulness onto the current understanding of consumer behavior can deliver insights into how businesses can design their marketing strategies to improve their relationship with consumers, decrease their impact on the environment, and improve their profitability.

1.1. Problem formulation and research question

Accessories, jewelry, or paintings are just a few examples representing humans' lust for ownership of inanimate objects. In the early years of the 20th century, advertisers and corporations began utilizing psychological strategies to capitalize on this desire for ownership and fulfillment (Rosenberg, 2004). Corporations contributed to the rise of consumerism that gave birth to a consumer who sees products as a means of self-identification (Rosenberg, 2004). Humans take on the role of consumers daily, often on a mission to fill in a void that has been created by these deliberate strategies of persuasion (Rosenberg, 2004). While consumerism has its pros (e.g., it drives economic growth), marketing activities initiated mass-production and over-consumption. Companies produce more, and consumers buy more. From a holistic point of view, such exchange appears to be an ideal situation for all participating sides. However, consumerism as a phenomenon presents an artificially created unhealthy circle of exchange that presents various challenges for the consumer, businesses, and the environment (Rosenberg, 2004).

Humankind has always strived to find answers to questions such as: What is the purpose of life? How can I truly be happy? How can I have a fulfilled life?. As we have outlined in the previous paragraph, humans became more inclined to believe that materialistic possessions are essential for living a fulfilled life (Rosenberg, 2004). They are naturally prone to associate objects or situations with feelings (Zajonc, 1980); hence, these beliefs result from marketing activities that managed to affect consumers conditionally (Rosenberg, 2004).

A valid example is an association between Coca Cola and happiness. With commercials showing a happy family with broad smiles surrounded by their loved ones, Coca Cola found its way to incorporate themselves into these kinds of happy moments. As a result, when an individual sees Coca Cola, their conditioned emotional association makes them want to acquire a bottle to get the feeling of happiness. This example is merely one instance that depicts the reality of the modern marketplace.

The modern marketplace is characterized by the nurture of economic exchange and a booming number of various products available to a consumer (Rosenberg, 2004). For consumers who tend to be persuaded by the influence of advertisement, such a marketplace often leads to impulsive purchases performed with a lack of thought (Rosenberg, 2004). For businesses, these impulsive and other carelessly performed purchasing decisions, paradoxically create more damage than prosperity. Previous research suggests that such a marketplace often leads to underconsumption and general dissatisfaction with the purchase, which negatively impacts consumer and business relationships.

Most consumers do not realize how much they consume and alarmingly, how they came to rely on consumption to compensate for something deeper that is missing. As a result, individuals are often caught up in a circle of earning and spending to satisfy their materialistic needs (Rosenberg, 2004). However, previous research argues that this more deep-seated need will never be appropriately fulfilled by materialism (Rosenberg, 2004). Aside from effects on individuals' well-being, materialism and consumerism drastically impact our environment. Pollutant emissions, deforestation, climate change, waste disposal problems, water pollution, are all results of mass-production the world suffers from.

Destruction of the environment, individuals' well-being, and issues with consumers' loyalty towards businesses all seem to stem from the same place. They are a result of the careless and mindless behavior of consumers and businesses (Rosenberg, 2004). One of the most significant issues of consumerism is that many people are not aware that it exists and that they play a role in it. Previous research argues that mindfulness serves as an antidote to consumerism as it provides an enhanced level of awareness of the self and the environment people inhabit (Rosenberg, 2004). Specifically, businesses and companies have a direct opportunity to change the way the modern marketplace is built. One of the emerging constructs studied in the field of consumer behavior is mindfulness, which ought to help individuals become more

aware of themselves and the environment they inhabit (Fischer et al., 2017). While companies cannot teach people how to be more mindful, they can apply the ideas of mindfulness into their marketing practices. Instead of focusing on maximizing profits from an exchange, they should focus on conscious marketing. This thesis aims to provide a better understanding of the influence that mindfulness has on decision-making and on how to appeal to these consumers. Our thesis aims to provide findings that help understand whether mindfulness influences consumer decision-making processes with the research question:

“How does dispositional mindfulness affect the process of choice and the sustainability tendencies of consumers.”

2. Literature Review

2.1. The concept of mindfulness

The notion of mindfulness originates in the context of Buddhist tradition as it is a central element in the *Abhidhamma*, one of the three collections in the doctrine of Theravada Buddhism, that contains a collection of Buddhist psychological and philosophical treatises (Rau & Williams, 2015). In its Buddhist foundations, mindfulness is presented to overthrow suffering, which is considered an inherent part of the human condition (Chiesa, as cited in Hanley et al., 2016). In this context, being mindful is not seen as a goal per se, but as a means for suffering reduction and increased well-being (Chiesa, as cited in Hanley et al., 2016).

Modern attempts to operationalize and study mindfulness have failed to provide an unequivocal and universal definition of mindfulness that considers the complexity and ethical implications of the original Buddhist term (Hanley et al., 2016; Fischer et al., 2017). The reason behind this failure is the difficulty of translating the Buddhist technical term *sati* - in its Pali form, or *smṛti* - in its Sanskrit form into English (Sanskrit and Pali are classical languages of India) (Gethin, 2011). *Sati* (or *smṛti*) denotes a quality of consciousness that represents one of the seven Buddhist factors of enlightenment and, as Gethin (2011) reports, its translation has evolved from terms such as “*remembrance, memory, reminiscence, recollection, thinking of or upon (any person or thing), calling to mind*” (Gethin, 2011, p. 263) to the term “mindfulness” which was used for the first time by Rhys Davids in 1881 (Gethin, 2011).

In the modern research field, mindfulness definitions come from two streams of thought: one emanating from Buddhist traditions and popularized by Jon Kabat-Zinn (1994) in his Mindfulness-Based Stress Reduction program (Bahl et al., 2016), and another emerging from cognitive psychology, developed by Ellen Langer (1989).

Langer’s (1989) view focuses primarily on creative cognition and defines mindfulness as a “*heightened state of involvement and wakefulness*” (Langer, as cited in Bahl et al., 2016, p. 199). Rather than praising the benefits of meditation practice, Langer’s cognitive approach emphasizes the importance of external stimuli, openness to novelty, and drawing of novel distinctions. Those are believed to help individuals

situate themselves in the present and increase awareness of their actions' context and perspectives (Langer, 1989; Langer & Moldoveanu, 2000). Langer's view of mindfulness is active and goal-oriented, and the focus of its practice is directed towards the external perceptions and environments of the individual in an attempt to avoid mindlessness (i.e., an inactive state of mind characterized by reliance on judgments made in the past) (Langer, 1989).

At the other end of the mindfulness conceptualization spectrum, definitions are arising from the Eastern Buddhist approach. Similar to Langer (1989), they consider mindfulness as a mental discipline (Kabat-Zinn, 1994) or quality of consciousness (Brown et al., 2007) aimed to solve human distress. However, in this view, mindfulness is defined as a "state of being *attentive to* and *aware of* what is taking place in the present" (Brown & Ryan, 2003, p.822), enhancing the importance of exploring individual's inner world (i.e., thoughts, emotions, feelings, experiences) (Kabat-Zinn, 1994).

In line with the aforementioned approach to mindfulness, and in an attempt to test the construct validity of its measurement, Bishop et al. (2004) developed a concise and testable definition. They suggested that there are two components of mindfulness. The first being the self-regulation of attention so that it is maintained in the present moment and allows to identify coeval mental events (Bishop et al., 2004). The second being an approach to that present-moment-experience that is characterized by curiosity, openness, and acceptance (Bishop et al., 2004).

When addressing the concept of mindfulness in research and creating constructs to operationalize it, distinctions have been made between individuals with trait *dispositional mindfulness* (i.e., those who have a natural tendency to behave and act mindfully) and *cultivated or learned mindfulness* (i.e., those who have learned how to become mindful through meditation techniques and practices) (Rau & Williams, 2015). Taking into consideration Rau & Williams (2015) view, most of the measures of mindfulness have been developed to examine it as a "*universal dispositional trait*" (Rau & Williams, 2015, p. 35). Most of the measures have been used in samples that were inexperienced in mindfulness meditation practices. This is the reason behind their belief that those two concepts require distinct operational definitions and measurement instruments (Rau & Williams, 2015). The same line of thought comes from Wheeler et al. (2017). They created a framework that classifies mindfulness depending on the degree of intentionality for engagement in mindfulness (i.e., dispositional mindfulness or

engagement in deliberate mindfulness practice) and the extent of mindfulness training (i.e., untrained individuals, novice practitioners, experienced practitioners or expert practitioners). In Wheeler et al. 's (2017) perspective, dispositional mindfulness can be achieved both as an inherent personality trait or by mindfulness meditation. In the following sections, a more profound explanation will be provided for dispositional mindfulness and mindfulness meditation practices.

2.2. Dispositional mindfulness

The historical context of the term dispositional mindfulness (DM) is crucial for understanding its current definitions. Its origins are rooted in the *Puggalapannatti* (translated as *Descriptions of Individuals*), the fourth text of the *Abhidhamma*, that acknowledges innate individual differences in mindfulness (Rau & Williams, 2015). The *Puggalapannatti* distinguishes individuals according to stages on the Buddhist path, and it classifies them between those who can sustain mindfulness (*upatthitasati* or “alert”) and those characterized by “unmindfulness” (Rau & Williams, 2015). This indicates that early teachings consider mindfulness as an innate individual difference and a skill set that can improve through training and practice.

In other words, research shows that an individual who has never engaged in mindful meditation might show dispositional mindfulness due to his or her intrinsic disposition or tendency to focus on the present moment (Wheeler et al., 2017). On the other hand, research provides empirical findings that prove that the dispositional mindfulness of individuals that have engaged in mindfulness training (MT) (measured with self-reports and the analysis of brain structures) increases after the intervention (Wheeler et al., 2017). In the latter case, dispositional mindfulness is thought to be influenced by both intrinsic and learned factors (Wheeler et al., 2017).

2.2.1. Measuring mindfulness

Different measurement scales have been created to operationalize and measure dispositional mindfulness. The most widely used are two self-report inventories: The Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003) and the Five Facets Mindfulness Questionnaire (FFMQ;

Baer et al., 2006). However, several other measures exist, for example, the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen as cited in Rau & Williams, 2015), the Freiburg Mindfulness Inventory (FMI; Walach et al., as cited in Rau & Williams, 2015), the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman et al., as cited in Rau & Williams, 2015) or the Langer Mindfulness Scale (LMS; Pirson & Langer, 2015).

The MAAS is a 15-item scale designed by Brown & Ryan (2003) that has been accepted as a single dimension scale. It operationally assesses mindfulness as open attention to and awareness of one's emotions, thoughts, actions, and surroundings in the present moment (Brown & Ryan, as cited in Zhuang et al., 2017). However, it has been a target of criticism for being an oversimplified single-factor measure (Grossman, as cited in Rau & Williams, 2015) and fail to assess mindfulness attributes such as compassion or acceptance (Williams & Grisham, 2012). Moreover, the measurement is not in line with Bishop et al.'s (2004) understanding of mindfulness as a two-component construct.

The Five Facet Mindfulness Questionnaire, on the other hand, is a 39-item measure that combines five validated mindfulness questionnaires (i.e., MAAS, FMI, KIMS, CAMS, and MQ). Its measurement of mindfulness reports a total score that encompasses five factors that are understood to be the components of mindfulness (Baer et al., 2006). The facets consist of: Observing, the ability to observe one's internal experience and sensations; Nonjudging, the ability to not judge inner experience and thoughts; Describing, the tendency or ability to put the feelings, emotions, and thoughts into words; Nonreactivity, the ability to not react to inner experience and thoughts; and Acting with Awareness, the avoidance of "autopilot" acting and ability to focus undivided attention to experience (Baer et al., 2006).

Zhuang et al. (2017) researched the differences in the brain areas related to different levels of mindfulness. They concluded that the MAAS score mainly measures self-awareness, while the FFMQ measure is involved in attention control, self-awareness, and emotion regulation (Zhuang et al., 2017).

2.2.2. Mindful personality: Validating the construct

The relationship between DM and the Five-Factor Model of Personality (FFM) will be explored to provide a more in-depth insight into the characteristics of an individual with high dispositional mindfulness. In an

attempt to improve the understanding of the relationship between dispositional mindfulness (DM) and Five-Factor Model of Personality (FFM), and to study DM construct's validation, several researchers have mapped DM onto the well-established personality construct, FFM (Rau & William, 2015; Hanley, 2015).

The Five-Factor Model of Personality (FFM; McCrae & Costa, 2003) is an established and widely used model that enables the analysis of human personality traits (Hanley, 2015). It assumes that personality traits (or dispositions) emerge and evolve during childhood until it settles, by the age of 30, and governs most of our behavior, including thoughts, feelings, and actions (Rau & Williams, 2015). According to the model, there are five basic personality dimensions: Extraversion (I), Agreeableness (II), Conscientiousness (III), Neuroticism (-IV) and Openness (V) (Costa & McCrae, 1987).

The current literature about the topic concludes that a significant correlation exists between DM scores and each one of the personality factors, Neuroticism and Conscientiousness being the most influential factors correlated to DM (Hanley, 2015).

Neuroticism, also known as negative affectivity, is defined by an individual tendency to experience negative affect such as anxiety, hostility, depressed mood, and emotional sensitivity (Costa & McCrae, as cited in Rau & Williams, 2015). It is typically associated with irrational thinking, low self-esteem, poor control of impulses, somatic complaints, ineffective coping, and lower individual's subjective well-being (McCrae & John, 2003). Several studies have shown a significant (negative) relationship between neuroticism and the total DM score (Hanley, 2015; Baer et al., 2006). Concerning the mindfulness facets, results show that all the facets, except *Observing*, are associated with reduced negative affectivity (Hanley, 2015). Individuals with neurotic traits are less able to detect aversive stimuli, prone to engage in avoidance behavior (which leads to impulsivity), and rumination (i.e., focusing the attention on the symptoms and causes of distress instead of concentrating in the solutions) (McCrae & John, 1992).

The second strongest FFM factor correlated with DM is *Conscientiousness* (Hanley, 2015), characterized by self-discipline and deliberation (Costa & McCrae, as cited in Rau & Williams, 2015). Individuals with high levels of *Conscientiousness* are dependable, responsible, and oriented towards achievement (Costa & McCrae, 1987). Empirical studies have shown a theoretical overlap between *Conscientiousness* and DM (Rau & Williams, 2015). Conscientiousness is associated with *Effortful Control*, a metacognitive

component of DM (MAAS: Brown, 2006). It consists of the ability to constrain a dominant behavioral response in the service of a goal (Rau & Williams, 2015). Moreover, it is associated with measures of *trait self-esteem* and *self-efficacy* (Caprara et al., as cited in Rau & Williams, 2015), which are also related to DM (MAAS: Brown, 2006). The facets of DM that have shown a higher association with Conscientiousness are non-reactivity (negatively associated) and acting with awareness (positively associated) (Hanley, 2015).

Hanley (2015) investigated the relationship between DM (measured by the FFMQ) and the FFM using canonical correlation analysis, which resulted in three clusters of association of the FFMQ facets (Table 1). Firstly, a self-regulation cluster, composed by *Acting with awareness*, *Non-reactivity*, and *Non-judging* facets, that reflect the habit to control and regulate behavior and thoughts. This cluster is linked to lower reports of negative neuroticism and high conscientiousness reports. Hanley (2015) proposes that higher self-regulation might promote a higher engagement in activities that are consistent with personal values, which might give the person an increased feeling of well-being and self-efficacy, negatively related to negative affectivity (Hanley, 2015).

Table 1. Clusters of association between FFMQ facets and FFM dimensions. Based on Hanley, 2015.

Cluster	FFMQ facets	FFM dimension
Self-regulation cluster: Habit to control and regulate behavior and thoughts	Acting with awareness, non-reacting and non-judging	Neuroticism (-) and Conscientiousness (+)
Self-awareness cluster: Disposition to be open, accepting and attuned with internal and external phenomena	Observing and describing	Openness (+)
Conscientious confusion cluster: Associated with conscientious personality	Non-reacting and Acting with awareness	Conscientiousness (+)

Secondly, the self-awareness cluster is formed by the *Observing* and *Describing* facets of DM, which reflect the disposition to be open, accepting, and attuned with internal and external phenomena. Those

facets were related to the *Openness to experience* personality factor (Hanley, 2015). Individuals who are more used to accept what happens in their internal and external environment and attend to their present moment are more likely to be engaged in their daily life and live with greater depth, originality, and complexity (John et al., 2008). These are characteristics of an Open personality (Hanley, 2015).

Finally, the last is the conscientious confusion cluster, which is associated with the Conscientiousness personality trait, and it is composed of the *Non-reacting* (negative relation) and the *Acting with awareness* (positive relation) (Hanley, 2015). As John et al. (2008) explain, it might be that holding onto thoughts and feelings as motivational guides of behavior may support the conscientious personality (John et al., 2008).

Dispositional mindfulness is also associated with decreased impulsive behavior (Peters et al., 2011). Peters et al. (2011) proved that higher dispositional mindfulness is negatively related to impulsivity. The strongest correlation with impulsivity was found in the *Acting with Awareness* facet of the FFMQ, followed by the *Describing facet* (Peters et al., 2011). These results show that increased awareness of internal and external environments promotes a higher regulation of behavior and that identifying and being able to define one's internal experiences facilitates the ability to control and respond in non-impulsive ways (Peters et al., 2011).

2.2.3. Mindfulness practice

Different from dispositional mindfulness is the engagement in deliberate mindfulness practice, that can be either mindful meditation, mindful walking, mindful listening, or any other mindful-related practice that requires training (Wheeler et al., 2017). As stated above, mindfulness is a dynamic, active, and attentive practice that is different between individuals (Zhuang et al., 2017). However, there is empirical evidence that its practice can be cultivated through mindfulness meditation and training (Baer, 2003), and its effects can be displayed when the individual is not engaging in formal mindfulness practice (Wheeler et al., 2017).

Mindfulness meditation is based on Buddhist *Vipassana* meditation techniques – also known as “insight meditation” (Rosenberg, 2004). This mental training consists of enhancing awareness and the application

of sustained attention to understand the inner workings of the mind and accept the impermanent nature of the phenomenal world (Rosenberg, 2004).

In mindfulness practice, individuals are supposed to observe their thoughts and feelings without being identified by them. Thoughts that are judgmental in nature (e.g., “this is a waste of time”) are not meant to be avoided, but they are supposed to be accepted and observed in a non-judgmental manner (Baer, 2003). This meditation techniques help enhance individual’s awareness of internal and external stimuli, which allows them to regulate their thoughts and mind to stay in the present moment (Milne et al., 2019) and identify sensations, thoughts, and emotions as impermanent states that fluctuate in our minds (Baer, 2003).

The literature reviewed shows that mindfulness meditation includes at least three components that enhance individual self-regulation: enhanced attention control, improved emotion regulation, and a modified self-awareness that moves from a self-referential focus to a better understanding of the body sensations. (Tang et al., 2015).

Mindfulness meditation has generated increasing interest in the scientific community in the last years, mainly due to its long tradition and measurable effects on individuals. Psychological studies have put mindfulness training (MT) at the center of several interventions and therapies - i.e., Mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990), Mindfulness-based cognitive therapy (MBCT; Segal et al., 2012), Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), amongst others. These mindfulness-based interventions (MBIs) have proved to be effective to treat pain, anxiety, depression and stress-related disorders (Baer, 2003; Hoffmann et al., as cited in Wheeler et al., 2017), and decrease addictive behavior such as compulsive buying (Chiesa, 2013). Moreover, studies have used MT to enhance attention (Semple, 2010), and reduce psychological distress, improve emotional regulation, and increase well-being (Wheeler et al., 2017).

There is evidence from neurobiological and neuropsychological studies that demonstrate that mindfulness-based interventions are associated with significant brain structure changes and functions in areas of the brain related to attention, emotion regulation, and self-awareness (Tang et al., 2015; Wheeler et al., 2017; Desbordes et al., 2012).

As seen in Tang et al. (2015), mindfulness meditation requires different efforts depending on the stage and experience an individual has had with meditation. In early stages, individuals should engage in meditation as an “effortful doing” while experienced meditators approach mindfulness as an “effortless being” (Wheeler et al., 2017).

The brain activity varies from novice to experienced meditators, proving that dispositional mindfulness increases with mindful meditation (Wheeler et al., 2017). An example is seen in a study done by Desbordes et al. (2012), where they proved that the amygdala activity of individuals that were part of an 8-week MBSR training was reduced while they were not engaging in meditation (Desbordes et al., 2012). The results of this study show the potential of mindful meditation to improve the practitioner’s life.

To summarize, regardless of the method used to measure dispositional mindfulness, and whether it has been obtained through mindfulness training or it is inherent in the individual personality, those high in dispositional mindfulness seem to be more able to regulate their emotions, control their selective attention, and increase their self-awareness (Baer et al., 2006) which together leads to increased self-regulation (Tang et al., 2015).

The following segments draw upon research conducted in the field of decision-making and consumer behavior. They shall provide an appropriate base for understanding the difference in decision-making amongst individuals who score differently on the mindfulness continuum.

2.3. Overview of consumer behavior paradigms

Consumer behavior, as understood by marketers, deals with human responses in a commercial world. It deals with issues of why and how people decide to buy and use products (both goods and services), how they react to prices, advertising, or promotional tools that marketers use to encourage consumption, and what are the mechanisms that support or hinder consumption (East, 1997). As Solomon (2015) defines it, consumer behavior is *“the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas, or experiences to satisfy needs and desires”* (Solomon, 2015, p. 28). Understanding consumer behavior is vital for marketers who want to maximize the effects of their marketing practices; they need to know the answers to questions such as: How much

do advertising campaigns affect sales and for how long? How do consumers use the information on the packages? What explains their preferences and choices?

Answering those questions helps marketers and researchers create a network of concepts, theories, and knowledge that can help understand how consumers learn, make decisions, change their minds, or behave in general (East, 1997).

The four types of consumer behavior research that have primarily been studied over the last 40 years are *Buyer Behavior*, *Consumer Behavior*, *Consumer Research*, and *Consumption Studies* (Østergaard & Jantzen, 2000). Historically, *Buyer Behavior* has been an early perspective popular among researchers in the 1960s, focusing on how the purchase takes place (Østergaard & Jantzen, 2000). Its successor, *Consumer Behaviour*, had taken a more holistic approach towards the buying situation and considered the consumer's behavior before and after the purchase took place (Østergaard & Jantzen, 2000). Specifically, the focus is on the customer and the ways they live their life, consume different products or services, and influence their understanding of themselves and others (Østergaard & Jantzen, 2000). *Consumption Studies* are a separate field of research that shifts away from the consumer and focuses on the consumer culture as a whole, focusing on why and how consumption takes place (Østergaard & Jantzen, 2000).

The *Consumer Research* perspective contemplates the consumer as an individual who uses products and services to construct a meaning for themselves or gain a status (Østergaard & Jantzen, 2000). Academics within the consumer research field consider the consumer to be emotionally and narcissistically determined (Østergaard & Jantzen, 2000). The consumer does not merely need to satisfy their needs but has a desire to use products and services to construct a meaningful life (Østergaard & Jantzen, 2000). The main paradigm shift is concerned with viewing the consumer as emotionally driven rather than a rational decision-maker (Østergaard & Jantzen, 2000).

Considering that decision-making has become a specific area of interest for consumer research, it is relevant to provide a deeper understanding of decision-making processes (Solomon, 2015). For marketers, it is valuable to appropriately comprehend decision-making to effectively target consumers, improve the company product and service offerings, and understand how consumers evaluate between

options. The following paragraphs will discuss the different decision-making models in more substantial detail.

2.3.1. Evolution of decision-making paradigms

The primary stream of research on consumer decision-making viewed consumers as solely rational decision-makers who deliberately evaluate among all possible options and make well-informed decisions (Solomon, 2015). This approach to decision-making relies on economics to understand how an individual makes ideal decisions under uncertainty (Oppenheimer & Kelso, 2015). The expected utility framework (Von Neumann & Morgenstern, as cited in Oppenheimer & Kelso, 2015), was developed to explain consumer decision-making, followed by prospect theory created by Kahneman & Tversky (as cited in Oppenheimer & Kelso, 2015). The idea behind these rational decision-making theories relies on economic principles and understand individuals as rational decision-makers able to maximize their cognitive utility (Gonzales & Chipman, 2014). However, as the old theories showed evidence of theoretical flaws, the complexity of the emerging theories increased, and scholars began to search for alternative paradigms for decision-making, known as heuristics (Oppenheimer & Kelso, 2015). With the introduction of heuristics, researchers started connecting decision processes to other cognitive systems, which brought them to a new approach: information processing (Oppenheimer & Kelso, 2015). Through the lens of information processing, decision-making involves the understanding of consumers as individuals with bounded rationality, whose decisions need to be understood as a function of their basic cognitive processing (Oppenheimer & Kelso, 2015).

2.3.2. The traditional model of decision-making

A significant contribution to the rational view of decision-making is the early work of Engel, Kollat, and Blackwell (1968) and their Five-stage model of consumer decision-making, which depicts the mechanisms that occur in consumer decision-making. Decision-making is a process that concerns the evaluation of options among a set of alternatives based on given criteria and results in the choice of a preferred option (Wang & Ruhe, 2007). As mentioned earlier, the first stream of research on consumer

decision-making viewed consumers as solely rational decision-makers who deliberately evaluate among all possible options and make well-informed decisions.

The first stage of this model is known as 'problem-solving' and represents the stage where an individual initially becomes aware of an unmet need (Solomon, 2015). This problem is said to be perceived individually and is approached differently by consumers (Solomon, 2015). The second step revolves around the 'search for information,' where the consumer will search through all possible sources to gather information on how to solve their unmet needs (Solomon, 2015). Motivation is considered to be one of the influencing factors towards this stage (Solomon, 2015). The following stage is 'evaluation of alternatives' and involves the evaluation of available criteria about brands in the choice pool (Solomon, 2015). Moreover, this step implicates categorizing products into groups based on its most attractive attributes (Solomon, 2015). Perception plays a significant role in this stage and represents *"the process by which people select, organize and interpret sensations"* (Solomon, 2015 p. 196). The following stage describes the 'product choice,' which is a result of the evaluation of alternatives (Solomon, 2015). The final stage of buyer decision-making is 'post-purchase evaluation' that leads to an evaluation of the product in solitary and experiencing its quality (Solomon, 2015). This stage is often the first time a consumer tries their selected product or service and decides whether it meets their needs or not (Solomon, 2015). However, since the creation of this model, it has been met with significant criticism.

2.3.3. Criticism and alternative models

The main criticism of this model is the assumption that the consumer has an unlimited mental capacity to make rational judgments and well-deliberate decisions (Bray, as cited in Rosenstreich & Milner, 2013). Furthermore, the linearity of the concept and the absence of understanding towards the interconnectedness of the various stages have been negatively highlighted (Bray, as cited in Rosenstreich & Milner, 2013). The linearity of this model has also been described by Solomon (2015). He criticized this model for the assumption that consumers can be fully aware, participate in deliberate decision-making, and gather enough information necessary to make a well-informed decision (Solomon, 2015). According to him, the model lacks consideration for consumers' intuitive and emotional responses to external

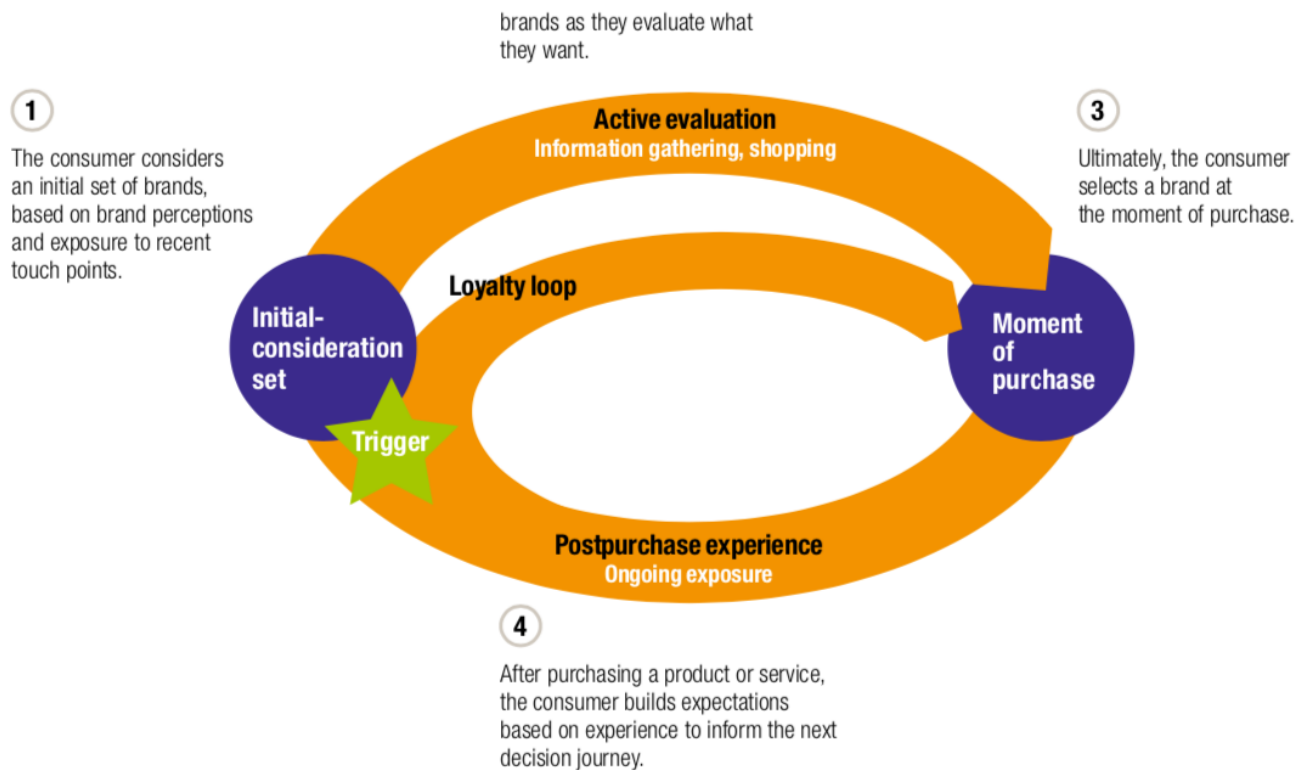
stimuli (Salomon, 2015). Jacoby (2002) criticized it for the lack of a dynamic understanding of the decision-making phenomenon.

Despite this criticism, the model is widely applied in consumer research and has since been met with various extensions. For example, Belch & Belch (2007), further elaborated on this model by adding on internal processes corresponding to each step. These processes include motivation, perception, attitude formation, integration, and learning, in respective order to the five stages of the traditional model (Belch & Belch, 2007).

Moreover, Court, Elzinga, Mulder, & Vetvik (2009) modified the traditional model and created an alternative that describes consumer decision-making as an ongoing circular journey with points of interaction between participating actors (See Figure 1). The decision journey framework takes a holistic view of the customer journey with a consumer-centric approach and describes the points where a company can reach and influence consumers (Court et al., 2009). This circular process involves four phases: initial consideration, active evaluation (including information gathering and shopping), the moment of purchase, and post-purchase when the consumer experiences the selected brand (Court et al., 2009). The work of Court et al. (2009) emphasizes the comprehension that traditional push strategies of marketing are becoming outdated due to consumers' increasing control over specific touchpoints.

As a result of the flaws that were gradually revealed about the traditional model of decision making, researchers began to investigate particular determinants of consumer behavior instead of proposing general theories (Stankevich, 2016). The following paragraphs will provide a review of the implications of different cognitive processes influencing consumer decision-making.

Figure 1. The consumer decision journey (Court et al., 2009).



2.4. Consumer involvement

One of the elements influencing the cognitive processes of decision-making is the consumer's involvement (Solomon, 2015). Consumer's involvement is *"a motivational variable reflecting the extent of personal relevance of the decision to the individual in terms of basic goals, values, and self-concept"* (Gabott & Hogg, 1999, p. 159). In other words, involvement is a motivating factor with direct consequences on consumers and their purchasing behavior (Gabott and Hogg, 1999). Per Reimann et al. (2010), involvement is considered a motivational construct that is antecedent of an individual's values, interests, and needs connected to the product. Specifically, higher involvement leads to higher motivation to invest cognitive effort into processing product-related information (van Trijp & Meulenberg, as cited in Jaeger et al., 2018).

On the other hand, consumers who are less involved in making a decision, exhibit lower cognitive effort in the evaluation of alternatives (van Trijp & Meulenberg, as cited in Jaeger et al., 2018). Solomon (2015) states that the involvement in choosing a product or service is based on the person's perceived relevance of the object (product or service) that stems from their inherent needs, values, and interests. Generally, consumers' level of involvement and motivation varies depending on the perceived risk (e.g., financial investment) connected to the decision-making (Solomon, 2015). Solomon (2015) further defines three types of involvement: product involvement (interest in a particular product); message involvement (motivation to pay attention to media); and situational involvement (the place where the consumption takes place). Involvement has been tied to information processing and has been considered as a variable among individuals (Gabott and Hogg, 1999).

2.5. Information processing

According to Meer, Kurth-Nelson & Redish (2012), the human brain is an information processing machine that evolved to make decisions including at least three distinct systems: a Pavlovian action-selection system, deliberative action-selection systems, and habit action-selection system. The Pavlovian action-selection system learns about stimuli that predict motivationally relevant outcomes (Meer et al., 2012). The Deliberative action-selection system is very flexible but slow and includes complex processes connected to a search through the expected consequences of possible actions (Meer et al., 2012). Finally, the habit system creates associations between a complexly recognized situation and a chain of actions (Meer et al., 2012). As a result, decisions are an outcome from multiple functional systems that act in parallel to process information (Meer et al., 2012).

One of the initial contributors to the decision making of individual consumers is Bettman (1979), who proposed an information processing model that portrayed consumers as having mental restrictions on information processing and therefore rely on heuristics. Another researcher contributing to this area was Chaiken (1980), who examined the role of motivation in information processing and distinguished between systematic (high cognitive effort) and heuristic persuasion (low cognitive effort). As research has come to recognize the role of heuristics in consumers' decision-making, hence understand that

decision-making is not a purely rational process (Solomon, 2015), the notion of bounded rationality has been conceptualized (Simon, 1982). These shortcuts allow individuals to discover "satisfying enough" judgments instead of engaging in careful contemplation of choices (Ehrlinger et al., 2016). The essential idea of bounded rationality is that individuals' cognitive capacities are restrained (Simon, 1982). This implies that to make a consumption decision (which is usually a complex problem), the individual faces a trade-off between the complexity of choice and his/her mental abilities (Bendor, 2015). As the problem complexity increases, the significance of the decision-makers constraints rises (Bendor, 2015). In other words, bounded rationality implies that decisions can be rational, however, only to the limits of an individual's mental capacities, time, and the availability of information, and implies the use of heuristics in decision-making (Slovic et al., 2006; Simon, 1982).

The application of heuristics in consumer decision-making usually implies the use of learned behavior to make consumption decisions. According to Verplanken & Aarts (as cited in Verplanken, 2018), repetitive, automatic behavior results in the creation of habits. Once a particular course of action has been repeated enough, the decision-makers do not recognize the need for conscious and deliberate behavior (Verplanken, 2018). Rosenberg (2004) has been a proponent of the notion that automatic behavior has negative implications on both the consumer and the marketing environment. However, attempts to changing habitual consumer behavior are challenging since those habitual responses are frequently unconscious (Verplanken, 2018).

2.5.1. Models of information processing

Researchers have also taken a more focused approach to information processing and developed models to understand how consumers process information about products.

2.5.1.1. Elaboration Likelihood Model

Significant insights into the different ways of processing stimuli have been provided by Cacioppo, Petty, Kao & Rodriguez (1986), who defined a dual-process theory that describes the change of attitudes regarding products and services. The Elaboration Likelihood Model (ELM) outlines both dispositional and situational factors as having an impact on information processing (Cacioppo et al., 1986). Specifically, the model describes individuals with a high need for cognition as being more prone to think and elaborate

on issue-related information than individuals with a low need for cognition (Cacioppo et al., 1986). As a result, the study defines two ways of persuasion. The central route to persuasion is characterized by paying attention, issue-relevant thinking, and deliberate information search (Cacioppo et al., 1986). In other words, attitudes (hence, choices) are formed with a careful examination of information (Cacioppo et al., 1986).

On the contrary, individuals take the peripheral route in instances of low motivation towards issue-related information and pay less attention to the persuasive messages of marketing (Cacioppo et al., 1986). More precisely, attitudes are formed and changed without active thinking about the object and its attributes, and the individuals are prone to rely on heuristics (Cacioppo et al., 1986). The preference for either of these routes is influenced by an individual's motivation (involvement) that, in this case, represents an individual's willingness to process information (Cacioppo et al., 1986).

Kitchen, Kerr, Schultz, Mccoll & Pals (2014), shed light on some of the significant issues with this model. The main issues concerning the model are (1) its descriptive nature, (2) individuals' variation in the ability to evaluate external stimuli, (3) the assumption that these two routes cannot occur simultaneously, and (4) the lack of comprehension for the different variables mediating the routes (Kitchen et al., 2014). Specifically, the role of the mediating variables of involvement, affect, and cognitive responses have received the most attention (Kitchen et al., 2014). In the case of involvement, the critique explicitly describes the assumption that all consumers are highly involved with the external stimuli (Kitchen et al., 2014).

2.5.1.2. Theory of Planned Behavior

Another model regarding the belief-attitude-behavior relationship that is noteworthy to mention is the Theory of Planned Behaviour (TPB; Ajzen, 1985). This cognitive model aims to draw causal connections between individual attitudes and behavior mediated by beliefs and intentions (Ajzen, 1985). The idea of the theory is that intentions to perform different behavior can be predicted from attitudes towards the behavior, subjective norms, and perceived behavioral control (Ajzen, 1985).

According to critics, it is another theory established on the understanding that most consumer behavior is based on conscious behavior, rational and goal-oriented decision-making and not taking account of the processes that bias human judgments and behavior (Ajzen, 2011).

However, as Ajzen (2011) explains, the theory is intended to be applied primarily for behaviors that are goal-directed and steered by conscious self-regulatory processes. Ajzen (2011) states that this focus has been misinterpreted and that the theory draws a much more complex picture of information processing and consumer decision-making. At its core, the model is concerned with the prediction of intentions (Ajzen, 2011). The intentions are assumed to be explained by behavioral beliefs together with attitudes, subjective norms, and perceptions (Ajzen, 2011). Furthermore, Ajzen (2011) argues that the model does not assume these beliefs, attitudes, and perceptions to be formed in an unbiased and rational manner, reflecting reality perfectly.

2.5.1.3. Bargh & Chartrand

Bargh & Chartrand's (1999) study also describes two information processing styles: systematic and automatic. Specifically, the study describes the systematic behavior as consciously and willfully regulating one's behavior, evaluations, decisions, and emotional states that require a considerable cognitive effort (Bargh & Chartrand, 1999). On the other hand, the non-conscious or automatic processes are described as unintentional, much faster, effortless, and able to operate at any given time. Their study identifies automatic behavior as being the "mental butlers" to human minds who know their tendencies and preferences and anticipate the actions without having to be asked (Bargh & Chartrand, 1999).

2.5.1.4. Dual-process theory by Kahneman

An improved understanding of the information processing mechanisms proposed by Bargh and Chartrand (1999), was later provided by the work of Kahneman (2011), who conceptualized two thinking systems. System 1 occurs primarily when the available information is scarce, and it is fast, instinctive, affective, and emotional. On the other hand, System 2 is slower and more deliberative and logical (Kahneman, 2011). Kahneman (2011) stressed that these two systems are not independent of each other but co-exist in symbiosis. However, he notes that as a consequence of cognitive ease, people tend to predominantly engage in the "fast thinking" system (Kahneman, 2011).

To conclude, according to recent research done by Dewberry et al. (2013), the amount of information an individual will process is a trade-off mainly between their motivations, beliefs, cognitive styles, the number of alternatives available and information that they already possess.

2.6. Product cues: The key drivers of choice

This research is written in connection to the point of sale purchasing behavior; hence, the role of product cues in decision-making is reviewed in the following section.

Previous research has shown that packaging cues remain to play an essential role in decision-making, specifically in connection to attention, choice and evaluation of quality and value (Silayoi and Speece, 2004; Silayoi and Speece, 2007, Kuvykaite et al., 2009; Heide & Olsen, 2017). As both Meyer & Schwager (2007) and Rosenberg (2004) claim, consumers are challenged with a considerably large amount of choices available on the market. Therefore, product cues become an essential decision-making factor in environments with many alternatives (Solomon, 2015; Kuvykaite et al., 2009). Product cues work as a tool for differentiation and purchase promotion in in-store purchases (Kuvykaite et al., 2009). Various research classifies elements of package (product cues) into different schemes. These are discussed in the following paragraphs.

Smith & Taylor, consider form, size, color, graphics, material, and flavor as the variables that deserve close consideration while excluding verbal cues (Smith & Taylor, as cited in Kuvykaite et al., 2009). Two distinct academics distinguished product cues into two blocks: graphics elements (color, typography, shapes, and images) and structural elements (form, size, and materials) (Vila & Ampuero; Underwood, as cited in Kuvykaite et al., 2009). Silayoi & Speece (2004) proposed a framework that divides the packaging cues into visual (graphics, size/shape) and informational elements (product information and technology). According to their research, the levels of time pressure and involvement influencing consumers during the purchasing process defines which cues will be more effective in getting consumers' attention and action (Silayoi & Speece, 2004).

Their study concludes that in situations with lower involvement or higher time pressure, visual elements influenced the product choice to a greater extent (Silayoi & Speece, 2004). However, their study also

noted the rising importance of informational cues, especially in situations where time pressure is low, and involvement is high (Silayoi & Speece, 2004). Participants in their study were more prone to examine informational cues if they were more involved in the evaluation of products, which showed a relationship between the level of involvement and the use of informational cues in the product packaging (Silayoi & Speece, 2004). On the other hand, low involvement was related to the use of visual cues to make a purchasing decision (Silayoi & Speece, 2004).

Kuvykaite et al. (2009) used a modified version of the previously mentioned model and considered graphic, color, size, form, and material as the main components of visual cues; and product information, producer, country-of-origin and brand as the primary cues for verbal elements. Furthermore, they added individual characteristics to influence consumers' purchase decisions (Kuvykaite et al., 2009). In their study, they considered gender, age, education, and occupation as the individual characteristics presumably influencing decision-making. Kuvykaite et al. (2009) confirm the preliminary research of Silayoi and Speece (2004) and conclude that visual elements have a stronger influence on decision-making in low involvement situations. In contrast, informational cues were prevalent in high involvement situations. The study results emphasize the importance of the package as one of the most valuable tools in today's marketing communication (Kuvykaite et al., 2009). Moreover, they argue that the impact of the package on consumer purchase decisions should be evaluated according to consumers' levels of involvement, time pressure, or individual characteristics.

2.7. Mindful consumption

The following paragraphs are a review of the research done in the field of mindfulness consumption. As previously argued, mindful individuals are more aware of their environment and inner states and can better control their emotional responses (Wheeler et al., 2017). In recent years, mindfulness has gained popularity in marketing, consumption, and consumer behavior (Ndubisi, 2014; Rosenberg, 2004; Sheth, Sethia & Srinivas, 2011; Bahl et al., 2016). Mindful consumption is a term that refers to the application of mindfulness to review the choices consumers make in the world (Milne et al., 2019). Bahl et al. (2016) refer to mindful consumption as an inquiry-based process that enhances consumers' awareness and

power to choose their responses to stimuli rather than behave automatically. The application of mindfulness in consumption habits could change society, individual well-being, and the marketplace (Milne et al., 2019).

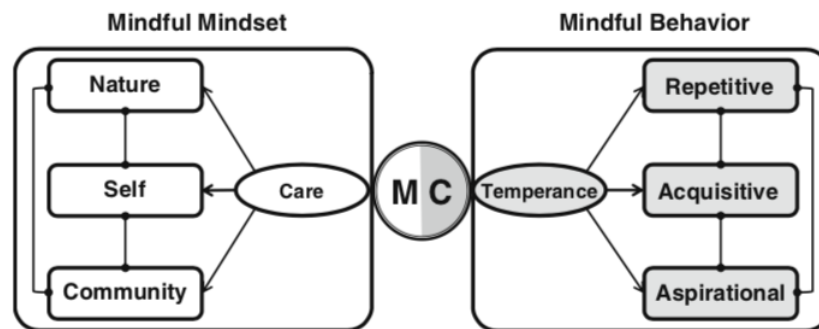
Despite it being a relatively new area of research, studies vary in the focus and application of the term mindfulness. The studies belong to two categories: organizational and individual (Ndubisi, 2014). At the organizational level, mindful consumption has been studied together with its implications on society and the market (Sheth et al., 2010; Bahl et al., 2016). Mainly, the relationship between mindfulness and its effects on sustainability has been studied (Fischer et al., 2017) and several authors argue for the potential of mindfulness to reduce consumerism and the problems that arise from it (e.g., overconsumption) (Sheth et al., 2010; Rosenberg, 2004). Other studies done on the individual level, have looked at how mindfulness influences the decision-making process of consumers, and its implications for marketing practice and theory development (Ndubisi, 2014).

In an attempt to understand what “mindful consumption” means to consumers, Milne, Villarroel & Kaplan (2019) found out that there are three different views of mindful consumption as described by their study participants. A “consumer first” view, defined as being mindful of the economics of consumption (i.e., price and quality decisions) and optimizing the consumption experience (Milne et al., 2019). This view utilizes the word “mindful” without the deeper meanings that other authors Bahl et al. (2016) or Sheth et al. (2011) give to the term. Next, consumers identify a “firm observer” view, which is related to paying attention to the practices of the firms and being informed about how they engage in sustainability and ethical practices (Milne et al., 2019). While shopping, awareness seems to have an important role for individuals who define mindful consumption based on this view (Milne et al., 2019). Finally, consumers define an “informed consumer” view, where the emphasis is directed not only on the practices of the firm but into all aspects of the consumer journey (i.e., from production to disposal of the products). The latter view of mindful consumption, which is the most popular between the other two, is consistent with Sheth et al.’s (2011) definition and findings.

In an attempt to create a framework for a customer-centric approach to sustainability for businesses, Sheth et al. (2011) define mindful consumption as the guiding principle of the approach, which is formed

by two facets, the mindful mindset and the mindful behavior of individuals. See Figure 2, for reference. As they see it, mindful behavior can only happen if the individual has a mindful mindset (Sheth et al., 2011). They argue that attitudes and values influence the consumption choices and further define how the effect from consumption is interpreted (i.e., increasing or decreasing the chances of a similar future consumption) (Sheth et al., 2011). The mindful mindset is characterized by a conscious sense of caring towards self, community, and nature, which in turn leads to consumption that enhances one's well-being and is coherent with one's values (Sheth et al. 2011). In the same line, Bahl et al. (2016) praise the transformative potential of mindful consumption in three areas of interest: consumer well-being - related to Sheth et al.'s (2011) "self"; societal well-being – consistent with Sheth et al.'s (2011) "community"; and environmental well-being – related to Sheth et al.'s (2011) "nature".

Figure 2. Mindful consumption as understood by Sheth et al., (2010)



As Bahl et al. (2016) explain, mindfulness can replace mindless consumption with mindful consumption. As has been explained, one of the benefits of mindfulness is the ability of individuals to detach themselves from their automatic thoughts, habits, and behaviors (Brown & Ryan, 2003). By being aware that what they usually do, think, or feel is one of their choices, they become aware that their behavior, thoughts, and feelings can be changed (Bahl et al., 2016). This awareness opens up the possibility of more sustainable behavior (Fischer et al., 2017).

Bahl et al. (2016) define mindful consumption as the "ongoing practice of paying attention, with acceptance, to internal stimuli (bodily sensations, emotions, and thoughts) and external stimuli and their effects on the consumption process" (Bahl et al., 2016, p. 200). This definition treats consumption as a

process that provides consumers with awareness and insight to be fully present in their choices instead of acting blindly or habitually. In this sense, habitual behavior is changed for more mindful and present behavior, and an opportunity is opened for consumers to break their routines (Fischer et al., 2017). Moreover, Bahl et al.'s (2016) approach to the mindful consumption process does not end with making the consumer choice. However, it also includes the effects of the choice in the consumer's body sensation once they consume the chosen product and the mindful disposal of the packaging or waste. The latter notion is in line with Milne et al. (2019) view of the mindful consumer as an informed consumer.

Rosenberg (2004) is another advocate of mindfulness' implications on consumer behavior. In her work, she argues that much of modern western consumer behavior consists of automatic and unexamined actions. Rosenberg (2004) argues that what and how much we consume stems primarily from unconscious processes rather than mindful deliberation (Rosenberg, 2004). In remedy to these behaviors, she praises mindfulness as having the potential to enhance one's awareness of the automatic cognitive-behavioral processes that influence consumption (Rosenberg, 2004). Moreover, mindfulness is said to make consumption more a matter of choice than a result of learned or automatic behavior clouded by an illusion of choice (Rosenberg, 2004).

Research within mindfulness at an individual level has been trying to characterize mindful individuals and the ways they exploit market opportunities (Ndubisi, 2014). To understand the implications of mindfulness on consumer behavior, it is relevant to acknowledge the work of Ndubisi (2014), who examined the role of mindfulness in consumer behavior and service marketing. Ndubisi (2014) calls for more understanding of different groups of consumers (low and high mindful) and their marketplace behaviors. In his study, he identified and characterized a mindful consumer based on mindfulness. He conducted a standard analysis of differences in relationship quality and consumer loyalty between two consumer groups – high and low mindful consumers (Ndubisi, 2014). He described three perspectives on individual mindfulness: as a cognitive ability, which varies within individuals; personality trait, similar to extraversion or neuroticism; and a cognitive style, viewed as a preferred way of thinking or an orientation (Sternberg, as cited in Ndubisi, 2014).

In his research, Ndubisi (2014) proved that mindful consumers exhibit higher levels of trust, satisfaction, attitudinal loyalty, and commitment towards a brand they perceive as valuable, in comparison to low-mindful people. Moreover, highly mindful individuals take more time to observe various product and service cues, collect and analyze information about the service provider, and alternative brands, resulting in more informed and objective decisions/choices. More informed evaluation of alternatives leads to better satisfaction and loyalty (Ndubisi, 2014). In contrast, Brown & Ryan (2003) described a low-mindful consumer as paying less attention to the cues, information, features which ultimately leads to a tendency to base their decisions on instinct or automatic behavior which leads to lower levels of satisfaction, trust, commitment, and loyalty.

3. Hypothesis formulation

Research within consumer behavior has evolved to recognize the role of emotion and unconscious factors in the evaluation process. It is now widely accepted that individuals are influenced by various intrinsic factors, including motivations, beliefs, cognitive biases, and experiences that eventually determine the level of involvement in the decision-making process (Dewberry et al., 2013).

Several hypotheses have been formed as means to answer the main research question *“How does dispositional mindfulness affect the process of choice and the sustainability tendencies of consumers”*, which has been built to match the scope of our research accordingly.

The hypotheses are based on an extensive literature review of two distinct fields: mindfulness research and its effects on consumption, and decision-making research from the field of consumer behavior.

According to Verplanken (2008), consumers often behave automatically, habitually, and impulsively when facing a marketing decision. However, Ndubisi (2014) provides evidence that mindful consumers exhibit lower automaticity when making consumption choices while showing higher attitudinal loyalty and satisfaction. At the same time, consumers with higher levels of mindfulness tend to have positive attitudes towards environmental, social, and individual well-being (Fisher et al., 2017; Rosenberg, 2004).

Hence, this study is constructed to fulfill two main objectives:

- To provide insights into the influence of mindfulness on consumer involvement in decision-making for fast-moving consumer goods;
- To provide insights into the effect of mindfulness on sustainable consumption tendencies.

The level of consumer involvement in decision-making has been known to influence how they process information (van Trijp & Meulenberg, as cited in Jaeger et al., 2018). Higher levels of involvement have been related to a more in-depth and deliberate examination of product-related information, which are characteristic of systematic information processing (van Trijp & Meulenberg, as cited in Jaeger et al., 2018). On the other hand, lower levels of involvement are related to reduced cognitive efforts in the evaluation of product alternatives, which leads to higher use of heuristics to make decisions (van Trijp &

Meulenberg, as cited in Jaeger et al., 2018). Drawing from research by Ndubisi (2014), consumers that exhibit high levels of mindfulness show higher involvement in the process of product evaluation.

Kahneman (2011) dual-process theory, understand information processing as being explained by System 1 (i.e., fast, instinctive and relies on the use of heuristics) and System 2 (i.e., slow and deliberate) depending on consumer's involvement and motivation. Based on this theory, we assume that time to make a choice is a good representative of involvement.

In line with System 2 processing and evidence from Ndubisi (2014), individuals with a higher level of dispositional mindfulness spend more time evaluating choices as they actively identify, gather, and analyze relevant information. Moreover, mindful consumers tend to carefully examine product and service cues, which explains expenditure of time, and show lower levels of impulsive behavior when making a choice. On these premises, it is hypothesized that:

Hypothesis 1: The choice time is positively correlated with an individual's level of dispositional mindfulness.

H⁰: The choice time is not related to individual's level of dispositional mindfulness.

Fast-moving consumer goods are generally considered as low involvement purchases; hence, consumers tend to use less deliberation when making such a choice (Silayoi & Speece, 2004). More specifically, they tend to rely on heuristics and fast attainable information when making a purchase decision on this matter. These links have been confirmed by Silayoi and Speece (2004), who showed relationships between informational cues and high-involvement decisions, and aesthetic cues, and low-involvement decisions. Furthermore, aesthetic cues have shown a relationship with affect and impulsive behavior (Silayoi & Speece, 2004). According to Ndubisi (2014), people who exhibit high levels of mindfulness are prone to engage in a deliberate information search, examining multiple product and service cues.

We assume that mindful consumers will display higher involvement behavior even when examining FMCG products, which are known to be low involvement products. For that matter we hypothesize:

Hypothesis 2: The level of individual's dispositional mindfulness is positively related to their tendency to rely on informational cues in the process of choice.

H^0 : There is no significant relationship between an individual's dispositional mindfulness and their tendency to rely on informational cues in the process of choice.

Hypothesis 3: The level of individual's dispositional mindfulness is negatively related to individual's tendency to rely on aesthetic cues in the process of choice.

H^0 : There is no significant relationship between individual's dispositional mindfulness and their tendency to rely on aesthetic cues in the process of choice.

Mindful individuals have the characteristic of being more aware of their inner and outer experiences and being able to put their feelings and emotions into words (Bishop et al., 2004). In Buddhist psychology, mindfulness is related to the emergence of several intentions and attitudes towards others and oneself, i.e., kindness, compassion, or generosity (Fischer et al., 2017). These values are known to change the way people take care of themselves (their inner world) and others (society) (Fischer et al., 2017). By attending to internal and external stimuli and having a nonjudgmental and compassion view towards them, individuals with a higher level of mindfulness can make choices that are consistent with their consumer values and preferences and that are not directed by unconscious pursuits of pleasure or avoidance of pain (Bahl et al., 2016).

In this context, it seems logical to believe that they will prefer eco-friendly and sustainable products as consumers. Indeed, many authors have elaborated on the potential of mindfulness for promoting sustainability and ecological marketing practices (Fischer et al., 2017; Rosenberg, 2004; Sheth et al., 2010). In other words, consumers with a higher level of mindfulness are more compassionate about themselves and the others, which has the potential to result in sustainable behavior. It is for this reason that we hypothesize that:

Hypothesis 4: The level of individual's dispositional mindfulness is positively correlated to their preference for products with sustainability cues.

H^0 : The level of individual's dispositional mindfulness is not correlated to their preference for a product with sustainability cues.

4. Methodology chapter

The following chapter serves as a description of the various segments of the methodology, including the discussion of philosophical considerations. This chapter outlines the research methods used to collect and analyze primary data. Furthermore, the reliability and validity of the research are discussed to evaluate the quality of the research. This segment is specifically concerned with the discussions and justifications of the underlying reasons for the choice of the research methods, approaches, and design used throughout the study.

4.1. Conceptualization

In the literature review section, research around concepts like mindfulness and decision-making has been introduced. As it has been reviewed, some of the concepts are known to be understood differently by different authors. Before we deepen into the specificities of the current research methods, an explanation of how the concepts will be used and understood in the scope of this paper will be provided.

4.1.1. Mindfulness approach

As it has been introduced in the literature review, two main approaches to mindfulness exist in the field of psychology and consumer behavior research. Even though both approaches emphasize flexible awareness in the present moment, Langer's (1989) mindfulness interventions often include active, goal-oriented cognitive tasks instead of meditation, focusing on the external aspects of the individual. On the other hand, in the Eastern approach to mindfulness popularized by Kabat-Zinn (1994), the focus of the practice is directed, employing meditation, towards the inner experience of the individual – i.e., thoughts and emotions – and emphasizes the effects of emotion-regulation and non-judgmental observation. Nonetheless, both approaches enhance the role that mindfulness has on individual's self-regulation, specifically of automatic or reactive autopilot tendencies of the mind (Bahl et al., 2016).

After reviewing several studies and different operationalizations of mindfulness from both Langer's (1989) and Kabat-Zinn's (1994) approaches to mindfulness, it has been decided that Kabat-Zinn's approach will be used. The main reason behind this decision is a wide acceptance and use of Kabat-Zinn's

(1994) approach in the scientific field (Fischer et al., 2017; Williams & Grisham, 2012; Rosenberg, 2004; Wheeler et al., 2017). Moreover, as Bahl et al. (2016) put it, this approach is “*broader and more detailed than Langer’s*” (Bahl et al., 2016, p. 199). Particularly our definition of mindfulness will be the one developed by Bishop et al. (2004) where mindfulness is seen as a two-component construct formed by self-regulation of attention directed towards the present moment, and an approach to the present moment characterized by curiosity, openness, and acceptance (Bishop et al., 2004).

4.1.2. Dispositional mindfulness definition

Consequent to the understanding of the mindfulness concept, it is crucial to clarify the use of the term *dispositional mindfulness* in this study as an individual trait that people can display even when not engaging in formal mindfulness practice. Following the same approach that Wheeler et al. (2017) used in their study, the term *dispositional mindfulness* will refer to the tendency to pay attention mindfully to one’s surroundings and experiences. Dispositional mindfulness can arise from intrinsic or unlearned individual characteristics or derive from mindfulness practice or training (i.e., *learned or cultivated*) (Zhuang et al., 2017).

4.1.3. The process of choice

This study falls under the *Consumer Research* perspective, as outlined by Østergaard & Jantzen (2000). As it is reviewed in the previous sections, decision-making theory has evolved over the years. The understanding of the process of choice in our study is based on the traditional Five-stage model of decision-making (as presented by Engel, Kollat, & Blackwell, 1968); however, we incorporate other cognitive processes as the influencers on this process. Specifically, we focus on the evaluation of alternatives and review bounded rationality and the relationship of involvement and information processing as having the main influence on the process of choice.

4.2. Research overview

In the current study, we aim to incorporate the concept of mindfulness into consumers’ process of choice. Based on previous research, we hypothesize that the individual’s level of mindfulness will

determine how individuals engage in information processing. As explained in the hypothesis formulation section, those with higher dispositional mindfulness are expected to engage in systematic information processing. Those with lower dispositional mindfulness are believed to follow a more heuristic approach. Moreover, we aim to prove that dispositional mindfulness influences the preference of products with sustainability cues.

We decided on the use of FMCG to conduct this research as those products are generally perceived as low-involvement and purchased with automaticity or impulsivity (Silayoi & Speece, 2004). Moreover, for this kind of commodities, packaging cues provide the primary sources of product information, and decisions for this kind of products are typically made in-store (Silayoi & Speece, 2004).

A self-administered online questionnaire has been developed to test the effects of dispositional mindfulness in individuals' decision-making processes. The questionnaire consists of three parts: a set of choices that participants had to select from, the FFMQ to measure the participant's level of dispositional mindfulness, and a set of demographic and behavioral questions. In the first part of the questionnaire, after every choice participants had to consider what type of cues (informational or aesthetic) they relied the most to make the decision. Further details on the different parts of the questionnaire will be provided in the following sections.

Finally, to investigate the results of the questionnaire, the hypotheses were tested employing linear regression statistical analysis that allowed for the acceptance or rejection of the different hypotheses.

4.3. Definition of Variables

In this section, the variables used to conduct this research, measured by means of a self-administered online questionnaire, will be explained. The variables are categorized as either dependent or independent and will be explained based on Dillman's (2007) classification of variables that can be collected in questionnaires. He distinguishes within *opinion variables* (i.e., those that provide information on how the respondents feel about something), *behavioral variables* (i.e., those that provide insight on what respondents do or behave in the questionnaire, and finally, *attribute variables* (i.e., those that inform about the characteristics of the respondents) (Dillman, 2007 as seen in Saunders et al., 2009).

Independent variables

The study's main independent variable is the *dispositional mindfulness*, measured in our research employing the well-known FFMQ measurement. The FFMQ is a 39-item questionnaire that measures dispositional mindfulness across five different facets: observing, describing, acting with awareness, nonjudgement of inner experience, and non-reaction to inner experience (Baer et al., 2006). The respondents faced questions such as: "I am easily distracted", "In difficult situations, I can pause without immediately reacting" or "It seems I am running on automatic without much awareness of what I'm doing". Each of the questions uses a five-point Likert scale ranging from 1 (never or very rarely true) to 5 (very often or always true), and higher scores indicate higher levels of dispositional mindfulness (Baer et al., 2006). In this study, the overall mindfulness score will be observed and discussed; however, the five different facets will be analyzed individually to understand how they relate to different aspects of mindfulness.

The variable *dispositional mindfulness* is an attribute variable that showcases the participants' characteristics of being high or low on dispositional mindfulness. It describes, better than age, gender, or nationality, the sample of this research as it is a trait that affects the way of thinking, behaving, and making consumer decisions (Rosenberg, 2004). As Rosenberg (2004) argues, actions that arise from a foundation of mindfulness are more likely to be grounded in observation and deliberation. Keeping this in mind and considering the goal of this study, we explain the characteristics of the sample based on this variable and hypothesize that depending on the individual's level of dispositional mindfulness, he or she will behave differently in front of a consumption choice.

Nevertheless, the variables of *age*, *gender*, and *nationality* are collected. Those independent attribute variables are used in the study merely to provide a demographic understanding of the sample. Similarly, the variable *meditation habits*, which measure how often do participants meditate, is also considered an independent attribute variable and is collected to define the sample. It classifies the participants of the sample between frequent meditators and non-meditators.

Dependent variables

In this study, there are five main dependent variables in which we are interested: the *choice time*, the *reliance on aesthetic cues*, the *reliance on informational cues*, the *sustainable behavior*, and the *sustainable habits*. These variables are considered based on individual's behavior and will be explained below.

The *choice time* is a ratio variable that, in this research, indicates involvement. When individuals are more involved, they use more time to analyze the options and make a better decision. Average time to make a choice is, therefore, a behavior variable that represents the average time it takes an individual to choose between two product options from the moment they first see them until they decide what to choose (and click next on the questionnaire page). The average choice time of the nine product categories was computed to estimate this variable.

The *reliance on aesthetic cues* and *reliance on informational cues* variables are considered opinion variables where participants are asked: "Please rate how much did each of the following elements influence your decision". To measure them, a scale from 1 to 5 was provided where participants had to rate between 1 (Not at all) and 5 (Very much), how much of their choice was based on aesthetic cues (i.e., the packaging design including color, size, and images) or on informational cues (i.e., the product information including description, ingredients or materials of packaging). The average reliance on aesthetic and informational cues was computed for each individual within the nine product choice categories.

The variable *sustainable behavior* refers to the tendency of individuals to choose sustainable products in the product categories. Considering Dillman's (2007) classification of variables, this is a behavioral variable, as it provides insight into what are the products that participants prefer. The nature of this variable is nominal; therefore, number 0 represents a sustainable choice, and number 1 represents a non-sustainable choice. An average of the sustainable choices number is computed to establish the level of sustainable choices for each individual.

Different “sustainability cues” were defined to help participants determine which of the two products of the bundle was sustainable. The selection of the sustainability cues that promote sustainable behavior was based on the analysis of previous literature regarding mindful consumers and their preferences. These included cues related to fair trade, recyclability, and natural ingredients. A further explanation of the rationale behind those specific cues will be provided below.

Finally, we have three variables that measure participants' sustainable habits. The variables arise from the three areas of the transformative potential of mindful consumption proposed by Bahl et al. (2016). The first one, *company practices interest*, measures the interest of consumers in the practices of the companies they purchase from ("I like to be informed about the practices of the companies I normally buy from"). The second one, *environment interest*, measures the preference of participants to purchase eco-friendly products ("I care about the environment, and I make sure I buy sustainable products"). Finally, the variable *health interests* measure the consumers' interest to consume products that are beneficial for their health ("It is important for me to know that the products I consume have natural ingredients"). Those three variables have a nominal nature and are measured through a five-point Likert scale that goes from "Never or very rarely true" to "Very often or always true". In this study, those three variables usually are analyzed together under the name of *sustainable habits* because they represent consumers' impressions of their preferences (i.e., consumers' opinions do not always relate to their behaviors).

4.3.1. Sustainability cues

As it is reviewed, Bahl et al. (2016) explain that mindfulness has the potential to transform consumption. The transformation happens in three areas that coincide with Sheth et al. 's (2010) view of mindful mindset - the self, the community, and nature. To define “sustainability cues” in this research, those three areas have been considered and based on them, three different groups of cues have been created: *natural ingredients*, *recyclable packaging*, and *fair trade*.

As Bahl et al. (2016) mention, the consumer well-being (also called “the self”) is, amongst others, related to health and healthy behavior. In this line, Jordan, Wang, Donatoni & Meier (2014) found a positive

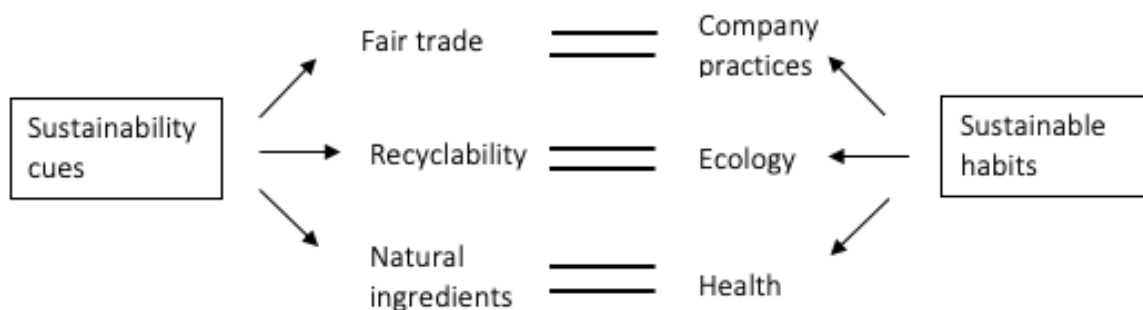
relationship between trait mindfulness and healthier eating habits, including healthier snack choices. Based on this finding, the first sustainability cue that promotes a mindful choice is *natural ingredients*.

Fairtrade is the sustainability cue that represents the improvement of societal well-being (or “community”). Fairtrade consumption is related to personal values connected with sustainability, nature, and ethics (Doran, 2009); therefore, it represents the mindful choice in the area of societal well-being.

Finally, *recyclable packaging* is the sustainability cue that relates to the importance of nature and sustainability. Bahl et al. (2016), argues that the ability of mindful individuals to “fall back in love with nature” (Bahl et al., 2016, p. 205) promotes their commitment to protecting the natural world. Recyclability cues represent the mindful choice in the environmental well-being area.

Figure 3 provides a visual representation of the creation of the three sustainability cues based on research from Bahl et al. (2016) and Sheth et al. (2011). It also depicts the relationship between the sustainability cues and the three sustainable habits variables.

Figure 3. Sustainability cues in relation to the variables of sustainable habits. Based on Bahl et al. (2016) and Sheth et al. (2010).



4.4. Data collection methods

To conduct this study, the collection of primary and secondary data has taken place. The focus of secondary data collection has been collecting relevant information from various relevant sources, including peer-reviewed journals and books. Secondary data provided a groundwork for the primary data

analysis. Deriving from the philosophical considerations and the cross-sectional character of our study, which are explained in the following sections, a self-administered online questionnaire was used to collect primary data. The main reason to apply this method is the potentially larger sample that can be reached compared to other instruments (e.g., structured interview) (Bryman, 2016). As Bryman (2016) states, in order to draw meaningful associations, the sample size is essential.

A more in-depth description of the structure, methods, and rationale behind the decisions made in the self-administered online questionnaire will be provided below.

4.4.1. Questionnaire description

The questionnaire was developed with the survey tool Qualtrics and optimized for both computer and phone use. The research description provided to the respondents of the questionnaire did not include the terms “mindfulness” nor “the FFMQ”. Instead, they were notified that the purpose of the study was to see the relationship between personality traits and consumer decision-making. The reason behind this was to decrease the answering bias of the participants and increase the ecological validity of the research.

The questionnaire was composed primarily of closed-ended questions that allow for better comparability amongst the variables. Moreover, it is structured in three main parts: a choice segment, including the participants’ self-rating of reliance on cues; the FFMQ segment; and a set of demographic and behavioral questions.

The first part of the questionnaire is an embodiment of the *process of choice*. In this part, participants are presented with nine different bundles of goods (from now on, referred to as “stimuli”) from which they have to choose their preferred product (see Table 2). The products that participants evaluate are in the category of fast-moving consumer goods (FMCG), generally perceived as low involvement products (Grossman & Wisenblit, as cited in Kuvykaite et al., 2009). As previously argued, product choices for this type of goods often lack deliberation and involvement (Kuvykaite et al., 2009). That is why we believe they are suitable to test the influence of dispositional mindfulness on involvement.

Each stimulus is composed of two product pictures accompanied by two separate texts corresponding to product description and ingredients (see Figure 4). Those two areas (images and text) correspond to the aesthetic and informational cues, respectively.

Once the choice was done (and participants clicked on “next”), they were presented with three additional questions regarding their reliance on product cues (*“Please rate how much did each of the following elements influence your decision”*), their familiarity with the products (*“Were you familiar with either of the brands”*), and an optional question (*“Something else that influenced your decision?”*).

The product brands used in the questionnaire were chosen with the idea that participants would not recognize them (to avoid their use of learned behavior, which could affect their choice time). The purpose of the familiarity question was to identify participants who recognized a product and to disregard their answers. However, when testing for familiarity effects on choice time, no significant influence was identified. For this reason, we decided that it was not necessary to exclude participants based on their product familiarity (We further elaborate on this process in the Results section).

Figure 4. Presentation of the stimulus in the online questionnaire



This part of the questionnaire was used to gather data to test the four hypotheses:

To test Hypothesis 1 (*“The choice time is positively correlated with an individual’s level of dispositional mindfulness”*), we were interested in measuring the time individuals use to make a choice. For this reason, each page that contained a stimulus (i.e., product choice) was equipped with a timer function to record the time participants spent on the decision. The timer stopped when the participant selected “Next”. The following screen showed three questions about the reasons behind their choices, which relate to Hypothesis 2 and 3. Once they answered the three questions, a new stimulus was presented.

To test Hypothesis 2 (*“The level of individual’s dispositional mindfulness is positively related to their tendency to rely on informational cues in the process of choice”*) and Hypothesis 3 (*“The level of individual’s dispositional mindfulness is negatively related to individual’s tendency to rely on aesthetic cues in the process of choice”*), individual’s had to rate their reliance on informational and aesthetic cues. The informational cues were represented by description, ingredients, or packaging material. On the other hand, aesthetic cues were represented by the color, size, and images of the product picture. Both of these cues were rated separately with an interactive slider ranging from 1 (not at all) to 5 (very much).

To test Hypothesis 4 (*“The level of individual’s dispositional mindfulness is positively correlated to their preference for products with sustainability cues”*) each stimulus contains one product with superior aesthetic design or characteristics (e.g., taste), and the other contains a sustainability cue (i.e., Fairtrade, recyclability, and natural ingredients). Figure 4 is an example from the questionnaire where product A is the sustainable option with the Fair-Trade cue in the description. Product B is superior in design, and its characteristics are highlighted (*“lovely sweetness”*). The products and descriptions were carefully picked in order to answer the hypotheses in the best possible way. Table 2 is an overview of the stimuli and their sustainability cues. Furthermore, images of all product stimuli can be found in Appendix 1.

The second part of the questionnaire is the Five facet mindfulness questionnaire that includes 39 questions and is used to rank our participants on their level of dispositional mindfulness. The specific characteristics of the FFMQ are depicted in the following section.

Table 2. Overview of product choices and its sustainability cues.

Choice stimuli	Sustainability cues
1. Tea	Fair trade
2. Chocolate	Natural ingredients
3. Peanuts	Fair trade
4. Rice	Recyclability
5. Coffee	Fair trade
6. Toilet paper	Recyclability
7. Orange Juice	Natural ingredients
8. Strawberries	Recyclability
9. Hand cream	Natural ingredients

Finally, the third part of the questionnaire consists of questions related to the Sustainable habits of respondents. These questions tap into their interest in company practices, their care towards the environment, and their health interests. The questions were: *“I like to be informed about the practices of the companies I normally buy from”*, *“I care about the environment and make sure I buy sustainable products”*, *“It is important for me to know that the products I consume have natural ingredients”* respectively. The questions were ranked with a Likert scale from 1-5 (Never or very rarely true - very often or always true). They were constructed to grasp whether they are influenced by the consumer level of mindfulness. Furthermore, this segment includes questions about the demographics of the respondents (age, gender, nationality, and frequency for meditation practices). These questions are used in the analysis to support the comprehension of the sample.

4.4.1.1. Five Facet Mindfulness Questionnaire

The study includes the FFMQ into the main questionnaire as a measure of individuals’ dispositional mindfulness. The reason for choosing FFMQ as the mindfulness measurement construct is primarily because it is a valid combination of different mindfulness questionnaires (including the MAAS) and because it is a multifaceted construct encompassing five components (Baer et al., 2006). Furthermore, Zhuang et al. (2017) conclude that dispositional mindfulness, when measured by the FFMQ, is involved

in attention control, self-awareness, and emotion regulation, while when measured by MAAS, is mainly engaged by self-awareness which proved to be vital factors in the field of consumer decision-making. Moreover, unlike the MAAS, the FFMQ is consistent with the two-component model of mindfulness proposed by Bishop et al. (2004) (Rau & Williams, 2015).

The FFMQ is scored based on the means of the numbers chosen on the Likert scale. An exact scoring sheet can be found in Appendix 2. The questionnaire included a scoring mechanism that provided respondents with their mindfulness score (including each facet's score) at the end of the questionnaire.

4.5. Population and sample

As previously mentioned, due to the quantitative character of this study, an online administered questionnaire has been chosen as an instrument to answer the hypotheses and the research question appropriately. The data collection process started on the 14th of April and ended on the 21st of May, lasting for the exact period of five weeks, where a total of 593 participants took part in the questionnaire. After cleaning out the incomplete answers, the final number of participants came to 370. The following paragraphs depict the strategies that were used to acquire these respondents.

According to Bryman (2016), a population is a universe from which a sample will be selected. In the case of this research, the population consists of everyone who can access our questionnaire. More specifically, the population represents internet users over the age of 18, who use Facebook and Reddit, are consumers of fast-moving consumer goods and are members of the various groups where the questionnaire was shared. The questionnaire was initially shared with our personal Facebook profiles and sent out to acquaintances in direct messages asking to forward the survey to their contacts; a method referred to as snowball sampling (Bryman, 2016). The disadvantage of snowball sampling is that the sample is not random; therefore, it makes the generalizability of the results almost impossible (Bryman, 2016). Snowball sampling is often regarded as a form of a convenience sample that is the predominant strategy used in our study. After the initial distribution of the questionnaire, we have broadened the horizon and shared the questionnaire into various groups and forums where a more significant number of people had access to it. Some of these groups have a general-purpose (e.g., Expats in Copenhagen)

while some focused on the topic of mindfulness. Both of these methods of sampling fall under an umbrella term, non-probability sample. The reasons why we decided to apply non-probability sampling are outlined below.

Non-probability sampling is often used in circumstances when the population and the sample frame are not clearly defined, and when particular time and cost constraints are present (Bryman, 2016). These circumstances were recognized in our research, which is the fundamental reason to utilize non-probability sampling. As a consequence, distributing the questionnaire through the said online platforms proved to be suitable, easily accessible, and convenient. Specifically, the application of non-probability sampling allowed us to gather a relatively large sample in a short time, which would not be the case in probability sampling. A detailed description of the advantages and disadvantages in terms of reliability and validity will be provided in the following section.

4.6. Reliability and Validity

Reliability and validity issues are essential aspects to consider when establishing the quality of social science research (Bryman, 2016). Making sure that reliability and validity issues are in place will help improve the credibility of the research findings and reduce the possibility of getting wrong or biased research results (Saunders et al., 2009). The reliability and validity issues will be discussed and explained in this section.

Reliability

Reliability refers to the extent to which the selected data collection techniques or analysis procedures will provide consistent findings (Saunders et al., 2009). To assess the reliability of our study, two main factors will be appraised: the stability, also called test-retest reliability, which assesses whether a measure is stable over time; and internal reliability, which determines whether the indicators that make up the scale are consistent (Bryman, 2016).

In cross-sectional designs, reliability issues are mostly dependent on the quality of the measures employed to tap the concepts that are being studied rather than issues like observer error, observer bias,

or participant bias (Bryman, 2016; Saunders et al., 2009). To ensure the reliability of the self-administered online questionnaire used to gather data for this study, all the participants were asked the same questions. The responses were recorded in the same manner. Moreover, the construct used to measure the dispositional mindfulness of the participants (i.e., the FFMQ) has been widely used in studies, and its reliability has been tested by many several authors (Choi, 2015; Zhuang et al., 2017). For this reason, it can be concluded that the reliability of this study is considerably high.

Validity

On the other hand, validity refers to whether an indicator used to evaluate a concept measures that concept (Bryman, 2016). In this paper, four major types of validity are addressed: internal validity, external validity, construct validity, and ecological validity.

Internal validity is the relative truth about inferences of cause-effect relationships in research (Trochim, 2020). It is relevant, especially in studies that assess the effects of social programs or treatments; however, in this study, due to the cross-sectional nature of the research design, it is almost impossible to establish causal direction from the variables. As Bryman (2016) puts it, “*cross-sectional research designs produce associations rather than findings from which causal inferences can be unambiguously made*” (Bryman, 2016, p.54). In this research, we want to demonstrate how the independent variable (the level of individual’s mindfulness trait) is predictive of the dependent variables (average choice time, reliance on aesthetic or informational cues, and sustainable behavior). Therefore, causality is not an issue that we can grasp. It is for this reason that the internal validity of this research is limited.

External validity is concerned with the generalizations drawn from a given study (Trochim, 2020). In other words, it is the degree to which the conclusions of a study would be the same if the study would be done with different participants or different times. To ensure that external validity is given in a particular study, it is essential to investigate the sampling process. As we described in the previous section, our sampling process is based on convenience sampling and snowball sampling, two types of non-probability samples. Generalization is limited in non-probability samples as the samples collected might turn out biased. Therefore, the external validity in this study is confined. As Trochim (2020) mentions, however, with the use of non-probability samples, it is not impossible to have a well-represented population even though

it is hard. After collecting the data of our research, we noted that the majority of participants are from Spain, Slovakia, and the average age showcases a relatively young sample ($m=27$ years old). Nevertheless, the high number of participants ($N=370$) is favorable for external validity.

Ecological validity, which is a type of external validity, refers to the extent to which findings can be generalized from one group to another (Saunders et al., 2009). In other words, it assesses whether the findings are representative of what would happen in real life. Generally, the setting in which the data is collected defines ecological validity. Observation is the type of data collection that can prove more ecological validity as it entails that the participant is observed in their natural contexts (Saunders et al., 2009). The more the setting is controlled by the researcher, the more likely that the ecological validity will be compromised. In our case, the ecological validity is jeopardized mainly because of two factors: the use of an online questionnaire to collect data, and the hypothetical framing of the study context (i.e., the participants were not making actual purchasing choices but were only hypothetically choosing between two products, without knowing their price). However, to address this issue, the topic of the research was not openly explained, i.e., the description of the questionnaire said that the research was about personality and consumer behavior instead of dispositional mindfulness. Moreover, the time it took individuals to choose between the bundles of products was collected without participants being aware of it, and it is considered one of the main variables in the research.

Finally, construct validity refers to the degree to which conclusions can be drawn from the study's operationalizations to the theoretical constructs on which the operationalizations were based (Trochim, 2020). Like external validity, construct validity is concerned with generalizing, however, in this case, generalizations are drawn from the measures to the concepts that are measured. As said above, the construct used to measure dispositional mindfulness is the FFMQ (Baer et al., 2006). Construct validity of the FFMQ has been tested by several researchers concerned about how the concept of mindfulness has been interpreted and understood (Rau & Williams, 2015). Moreover, previous work suggests significant correlations between the mindfulness facets and variables predicted to be related to mindfulness (Zhuang et al., 2017; Baer et al., 2006; Choi, 2015; Peters et al., 2011). However, evidence suggests that individuals may respond differently to items regarding the observing facet of the construct

based on their exposure to mindfulness training (Rau & Williams, 2015), which in turn shows the inconsistency of the facet measurement. For this reason, Rau & Williams (2015) argue that researchers must define sample characteristics (i.e., degree of exposure of mindfulness training) when discussing the results of their studies (Rau & Williams, 2015).

Convergent and discriminant validities are both considered to be subtypes of construct validity. In Rau & Williams' (2015) study, the convergent and discriminant validities of dispositional mindfulness, as measured by the FFMQ, are put to test comparing them with the Five-Factor Model of Personality. They conclude that it behaves as theoretical predictions expect while keeping independence, which in turn proves that it measures more than previously familiar constructs (Rau & Williams, 2015). In conclusion, however, the construct validity of the measurements in this research has been widely accepted.

4.7. Research design and research philosophy

The purpose of this research is to examine the relationships or patterns of associations between an individual's level of dispositional mindfulness and their involvement level during the process of choice of FMCG. Moreover, the relationship between the individual's level of dispositional mindfulness and their tendency to choose sustainable products is also addressed. Research that wants to study the relationship between variables of a situation or a problem is considered of an explanatory nature (Saunders, Thornhill and Lewis, 2009). Therefore, this research is explanatory, where the relationship between mindfulness and several variables is studied.

In order to conduct this research, a cross-sectional study is developed. As Bryman (2016) describes, a cross-sectional study *"entails the collection of data on a sample of cases and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association"* (Bryman, 2006, p. 53). Applied to this study, a sample of 370 participants was collected for five weeks. Participants of our study were asked to fill in an online questionnaire that took them around 15 minutes. During this time, quantitative data regarding their level of mindfulness and behavior when facing a consumer choice

was recorded so that later, linear regression analysis between the pre-selected variables could be drawn using statistical analysis.

This study followed a deductive approach, which consisted of the collection and review of existing literature around the topics of mindfulness, consumer mindfulness, consumer decision-making, and consumer information processing, amongst others. Once the existing research was reviewed, several hypotheses were drawn based on the previous research findings, which later were tested employing empirical scrutiny. The latter helped to provide a more unobstructed view of the connection between the variables and accept or reject the hypothesis. In this context, it is essential to mention that due to the nature of the cross-sectional research design, there is no time order to the variables, which creates a problem of ambiguity about the direction of causal relationships between them (Bryman, 2016). It is for this reason that causality cannot be observed in this kind of research.

Understanding epistemological and ontological considerations of the research is crucial, as it depicts the outline of the science model that shapes it (Bryman, 2016). According to Saunders et al. (2009), research philosophy determines the way researchers see the world and helps them to reflect upon their choices and defend them in relation to other alternatives that could have adopted. Research philosophy explains the assumptions and beliefs of how knowledge is generated (Saunders et al., 2009). According to Saunders et al. (2009), there are four research philosophies in the management research field: positivism, realism, interpretivism, and pragmatism. Research philosophies differ from each other regarding the concepts of ontology, epistemology, and axiology, and can only be compared by evaluating the features of those three concepts.

This research could be characterized by a positivist philosophy, which, as Strang (2015) suggest, is the oldest and best-known researcher philosophy. In this philosophy, *“the world is viewed as being systematic and deductive, relying on theories to explain most behaviors and processes”* (Strang, 2015, p. 22). From a positivistic point of view, the purpose of science is to stick to what we can observe, and measure and its goal is to understand the world so that we can predict and control it (Trochim, 2020). Utilizing a positivist approach, deductive reasoning is used to postulate theories that we can test. For positivists, the role of research is to test theories and to provide material for the development of laws

(Bryman, 2016). Moreover, positivists believe in empiricism – which is the idea that observation and measurement are the core of scientific endeavor (Trochim, 2020).

However, Strang (2015) mentions that pure positivism is rarely used, except in highly controlled situations, because the constraints imposed by a pure positivist research limit the contributions to the literature. Post-positivism emerges as a response to the realization that it is difficult to have one “factual truth” as a theory and because it is very hard (almost impossible) to know what exists in a human brain (Strang, 2015). Post positivism recognizes that the way scientists think and work and the way they think in everyday life is not so distinct (Trochim, 2020). Below, we frame our research, shaped by post-positivistic characteristics, in ontology, epistemology, and axiology.

Ontology is known as the theory of being and refers to the view about the nature of reality (Strang, 2015). Positivist researchers are also realists (Trochim, 2020) and believe that reality is external, and researchers rely on theories, facts, and measurements to explain phenomena (Strang, 2015). Post-positivists, however, acknowledge the world’s complexity and suggest conclusions about measurements, and data might not be the overall truth (Bryman, 2016). As Trochim (2020) mentions, one of the most common forms of post-positivism is a philosophy called critical realism, which, opposed to subjectivism, believes that there’s a reality independent of our thinking about it and that science can study it (Trochim, 2020). Based on this approach, the data and results from this quantitative study will be discussed in Chapter 6 of this paper.

Epistemology is defined as the theory of knowledge and determines which type of knowledge is acceptable within a field of study (Strang, 2015; Saunders et al., 2009). As explained above, post-positivists understand knowledge not as a universal truth, as positivists would do. However, they embrace the idea that no individual can see the world correctly as it really is (Trochim, 2020). Post-positivists are driven by evidence and theory (Strang, 2015), however, for them, objectivity is not the characteristic of an individual but the responsibility of the community of scientists that, by means of criticizing each other’s work, improve and help the theories evolve with objectivity (Trochim, 2020). For this reason, in this paper, research and theories from other authors (i.e., mindfulness research, FFMQ measurement, or decision-making theories) are taken as a baseline to construct a hypothesis that should

be further confirmed or rejected due to the results of a quantitative study. Consequently, this research will provide ground for further knowledge generation within the studied fields.

Finally, axiology is concerned with the theories of beliefs, religious, cultural, ethical, or aesthetic values that could influence the research process (Strang, 2015). To conduct this research in a post-positivist way, we try to remain neutral of cultural or religious influences by collecting data through a self-administered online questionnaire. This method is precisely suitable to conduct post-positivist research, as the influence of the researcher's values on the research process is limited and does not interfere with the research process. Post-positivist researchers acknowledge the possibility of the research being influenced by the researcher's assumptions and perceptions of the world. In the case of this paper, we have based our hypothesis and selected the variables of our quantitative analysis based on reviewed literature from other authors, however, by doing so, and leaving out other variables we might have potentially influenced the research.

4.8. Data analysis

This section of the paper explains the applied procedures for descriptive and inferential statistical analysis. The statistical analyses are done with JMP®, Version <14.2.0>. SAS Institute Inc., Cary, NC, 1989-2019. Descriptive statistics are used to summarize the participants' baseline characteristics in terms of mindfulness, and their behavior when facing the choices (which represent the dependent variables). Continuous variables are described by using the means and standard deviations, whereas categorical variables are described using relative frequencies. Simple linear regression is performed to denote the proportion of variance in the dependent variable that is predictable from the independent variable. As a part of the simple linear regression, correlation is included to measure the strength and direction of the relationship between variables, which are categorized as positive, negative, or none.

It is important to note that in order to analyze the variable *Choice time*, there was the need to eliminate several outliers from the sample, as the extreme data from their answers altered the results. Those choices that took more than 300 seconds (i.e., 5 minutes) were considered outliers and erased from the sample. The way this affected the individual's average choice time is minimal, as it computed the average

of 8 choices instead of 9. Two more analyses were run in the process of data cleaning. Considering that each respondent received the questionnaire in uniform question order, a test on the order effects was run. Simple linear regression was performed, where the effects of question order on average time to make a choice were not significant ($p = .11$). One-way ANOVA was performed to establish the effects of product familiarity on average time to make a choice, and the results did not show a significance ($p = .93$). Another thing to consider for the understanding of the analysis is that, in the Results chapter, the values are rounded up to two decimals except for a p-value with three decimals.

5. Results

The results section reports quantitative results of descriptive and inferential statistics to accept or reject hypotheses. Firstly, descriptive statistics of both the independent and dependent variables will be provided to show an overview of participant's characteristics that represent the sample. Secondly, the hypotheses were evaluated by means of inferential statistics, which allowed us to either accept or reject them.

5.1. Descriptive statistics

The following statistics describe the *age*, *gender*, *nationality* and *meditation habits* variables. After the incomplete answers were removed, the total sample size was 370. From this sample, 79% were women ($n = 291$) and 21% were men ($n = 79$). The sample is composed by respondents originating from 42 different countries. The highest number of respondents was from Spain ($n = 78$), representing 21.08% of the sample, followed by Slovakia ($n = 75$) that rounds to 20.27%, Denmark ($n = 44$; 11.89%), Germany ($N = 21$; 5.68%) and Italy ($n = 20$; 5.41%). The age of the respondents ranged from 18 up to 70 ($M = 26.92$, $SD = 7.14$). The majority ($n = 303$) of respondents were in the age group between 18-27. Moreover, the 32.70 % of the sample practice meditation on a regular basis ($n = 121$). Full details of the participants' characteristics are shown in Table 3.

Table 3. Descriptive statistics of the Sample Population

	Sample (N=370)	
	<i>n</i>	%
Gender		
Female	291	78.65 %
Male	79	21.35 %
Age groups (M = 26.93)		
18 - 27	268	72.43 %
28 - 37	74	20.00 %
38 - 47	14	3.78 %
48 - 57	10	2.70 %
58 – 70	4	1.08 %
Meditation		
Regular meditators	121	32.70 %
Non meditators	249	67.30 %
Origin		
Europe	343	92.70 %
America	19	5.14 %
Asia	6	1.62 %
Africa	2	0.54 %
Top 3 nationalities		
Spanish	78	21.08 %
Slovakian	75	20.27 %
Danish	44	11.89 %

5.1.1. Dispositional mindfulness

The focus of the study is to test whether the level of mindfulness of an individual affects the way they make consumer choices. Therefore, the variable that better describes our sample is the *Dispositional mindfulness*. As previously said, this variable is measured with the FFMQ, which is a multi-facet measurement that ranges from 1 to 5. In our sample, participants' level of *Dispositional mindfulness*

ranged from 1.69 to 4.53. Specifically, 184 respondents scored below the mean score ($M = 3.266$; $SD = 0.45$) and 186 respondents scored above the mean. Full details of the participants' *Dispositional mindfulness* are shown in Table 4. Observing the different facets of the FFMQ, our participants, in average, scored higher in the Describing facet as its mean is higher.

Table 4. Descriptive statistics for the variable Dispositional mindfulness (N=370)

FFMQ scales	<i>M</i>	<i>SD</i>
Dispositional mindfulness	3.27	0.45
Observing	3.50	0.69
Describing	3.50	0.76
Acting with Awareness	3.15	0.71
Nonjudging	3.25	0.87
Nonreactivity	3.03	0.64

It is interesting to observe the difference in means of *dispositional mindfulness* in regard to *Meditation habits*. Regular meditators scored higher in the average of each of the scales, except for *Non-judgement*, that had the same value. Specifically, the *Dispositional mindfulness* score for Regular meditators was $M = 3.36$ and $M = 3.22$ for Non-Meditators. A summary of the means and standard deviations can be found in Table 5.

Table 5 - Descriptive statistics of Meditation habits of the sample

FFMQ scales	Regular meditators		Non-Meditators	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Dispositional mindfulness	3.36	0.42	3.22	0.46
Observing	3.80	0.59	3.36	0.69
Describing	3.54	0.73	3.48	0.78
Acting with awareness	3.16	0.67	3.15	0.73
Non-Judgement	3.25	0.85	3.25	0.88
Non-Reacting	3.12	0.61	2.99	0.78

5.1.2. Choice time

The results of the variable *choice time* show that it took 26.44 seconds on average ($SD = 14.96$) for individuals to make a choice between the set of two products. The range of the sample goes from 2.45 to 131.72 (range = 129.27), which shows that some participants took the time to examine the options and some made a decision right away. The mean, range and standard deviation for *Choice time* are summarized in Table 6.

Table 6. Descriptive statistic of the variable Choice time

	Sample (N=370)		
	<i>M</i>	<i>SD</i>	Range
Choice time	26.44	14.96	129.27

5.1.3. Reliance on informational cues and aesthetic cues

The descriptive statistics of these two variables will be observed together as it provides a better insight into the relationship between them. *Reliance on informational cues* exhibits a higher mean than *Reliance on aesthetic cues* which implies that a higher number of participants relied on informational cues than on aesthetic cues. The range of these two variables exhibits similar values. A further summary of these values can be found in Table 7.

Table 7. Descriptive statistics Reliance on informational cues & Reliance on aesthetic cues

	Sample (N=370)		
	<i>M</i>	<i>SD</i>	Range
Reliance on aesthetic cues	2.97	0.87	4
Reliance on informational cues	4.06	0.73	3.99

5.1.4. Sustainable behaviour

Figure 5 provides a descriptive summary of the variable *sustainable behaviour*, which shows the number of individuals that chose sustainable products in comparison with those who did not, for each product category. As Figure 5 shows, for all product categories, sustainable choices were preferred over non-sustainable ones. The products where participants were mostly driven to choose sustainably are Orange Juice ($n = 338$), Rice ($n = 288$) and Hand Cream ($n = 286$). Moreover, Coffee choice was the category where participants chose primarily non-sustainably ($n = 182$). It is especially interesting to observe which are the sustainability cues that promoted more *sustainable behaviour*, it is for this reason that the different product categories were organized based on their type of sustainability cue: Fair trade for tea, chocolate and coffee; Recyclability for rice, toilet paper and strawberries; and natural ingredients for peanuts, orange juice and hand cream. The sustainability cues that seem to be more effective for individuals to select sustainable products are natural ingredients ($n = 844$; 36.36%), followed by recyclability ($n = 806$; 34.73%), and fair trade ($n = 671$; 28.91%) as seen in Figure 6. These results seem to coincide with the *sustainable habits* variables seen in Table 8, where we can observe that the means of the *sustainable habits* categories follow the same pattern than the sustainability cues.

Table 8. Descriptive statistics of the Sustainable habits variables

Measure	M	SD
Company Practices	3.48	1.06
Ecology	3.70	0.95
Health	3.85	1.04

Figure 5. Descriptive summary of sustainable behavior per each choice

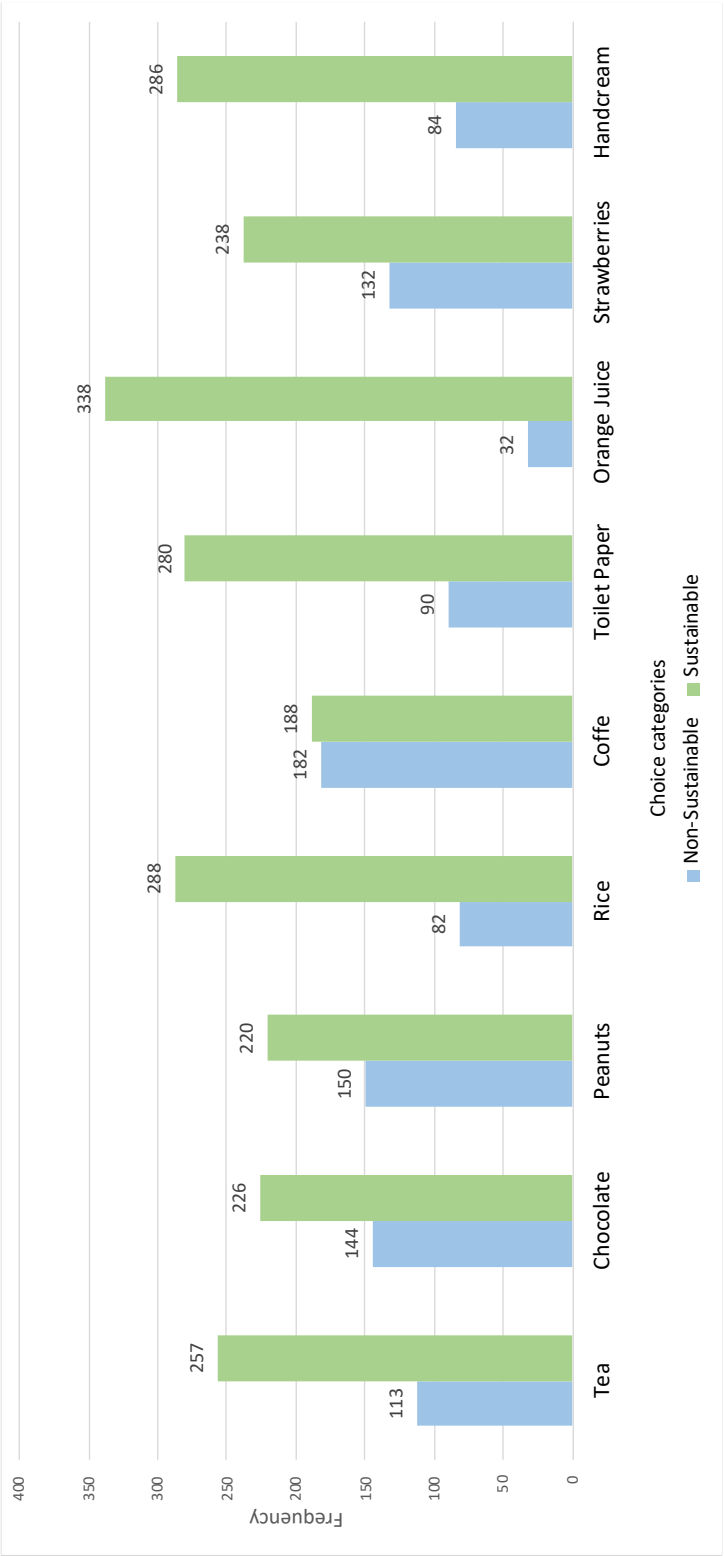
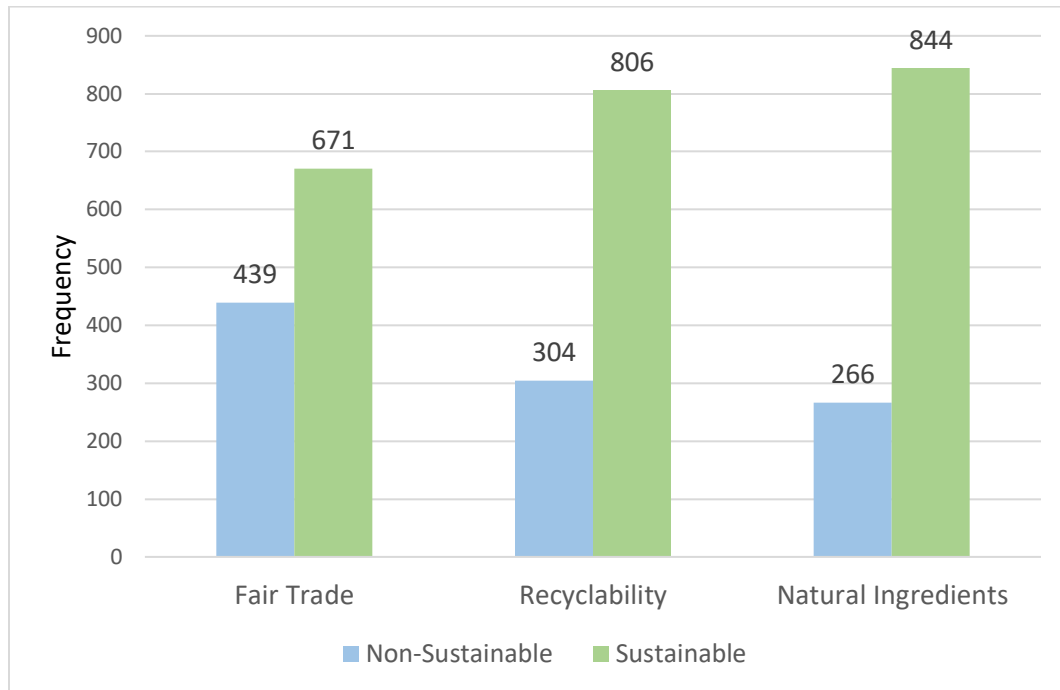


Figure 6. Descriptive statistics of the variable sustainable behavior organized by cues



5.2. Inferential statistics

The investigation of the relationships between variables is presented in this part of the study. Simple linear regression is executed to determine whether there is a significant relationship between variables. Prior to the linear regression it is essential to check the assumptions. Linear regression is robust towards minor violations and we discovered that there were no major violations in the data, hence data does not need to be transformed. It is worth repeating the defined variables that outline the research. This study operates with independent variables: *dispositional mindfulness* (constituted of 5 FFMQ facets), *age*, *gender*, *nationality* and *meditation habits*; and dependent variables: *Choice time*, *Reliance on informational cues*, *Reliance on aesthetic cues*, *Sustainable behavior* and *Sustainable habits*. These relationships are analyzed accordingly in the following paragraphs.

5.2.1. Choice time

A simple linear regression was run to determine whether there are relationships between variables and to predict *Choice time* based on *Dispositional mindfulness*. Significant regression equation for the

relationship between *Choice time* and *Dispositional mindfulness* was found ($F(1,368) = 8.25, p = .004$) with an R^2 of .02. Participant's predicted *Choice time* is equal to $10.47 + 4.89 (\text{dispositional mindfulness})$ when dispositional mindfulness is measured by FFMQ (1-5). Hence, we observe a positive correlation. Participant's *Choice time* increased $\beta = 4.89$ units for each unit of *dispositional mindfulness*. The p -value of the relationship between *Dispositional mindfulness* and *Choice time* is denoted as $p = .004$ which indicates a significant relationship between the two variables. The summary of p -values, β and R^2 for the remaining FFMQ scales are provided in Table 9.

Table 9. Simple linear regression for Dispositional mindfulness and Choice time

	Choice time		
	β	p	R^2
FFMQ scales			
Dispositional mindfulness	4.49	.004*	0.02
Observing	1.54	.173	0.01
Describing	1.45	.156	0.01
Acting with awareness	3.68	.000*	0.03
Non-Judgement	1.98	.027*	0.01
Non-Reacting	0.46	.707	0.00

Note. * $p < .05$

5.2.2. Reliance on informational cues

A simple linear regression was run to determine whether there are relationships between variables and to predict *Reliance on informational cues* based on *Dispositional mindfulness*. Significant regression equation for the relationship between *Reliance on informational cues* and *Dispositional mindfulness* was found ($F(1,368) = 25.95, p < .0001$) with an R^2 of .07. Participant's predicted *Reliance on informational cues* is equal to $2.64 + 0.44 (\text{dispositional mindfulness})$ when *dispositional mindfulness* is measured by FFMQ score hence, we observe a positive correlation. Participant's *Reliance on informational cues* increased $\beta = 0.44$ units for each unit of *Dispositional mindfulness* score. The p -value of the relationship between *Dispositional mindfulness* and *Reliance on informational cues* is denoted as $p < .0001$ which

indicates a significant relationship between the two variables. The summary of p -values, β and R^2 for the remaining FFMQ scales are provided in Table 10.

Table 10. Simple linear regression for Dispositional mindfulness and Reliance on informational cues

	Reliance on informational cues		
	β	p	R^2
FFMQ scales			
Dispositional mindfulness	0.44	<.0001*	0.07
Observing	0.26	<.0001*	0.06
Describing	0.23	<.0001*	0.06
Acting with awareness	0.19	.000*	0.03
Non-Judgement	0.12	.004*	0.02
Non-Reacting	0.05	.410	0.00

Note. * $p < .05$

5.2.3. Reliance on aesthetic cues

A simple linear regression was run to determine whether there are relationships between variables and to predict *Reliance on aesthetic cues* based on *Dispositional mindfulness*. Significant regression equation for the relationship between *Reliance on aesthetic cues* and *Dispositional mindfulness* was found ($F(1,368) = 10.10, p = .001$) with an R^2 of .03. Participant's predicted Reliance on aesthetic cues is equal to $3.99 - 0.31$ (*Dispositional mindfulness*) when *Dispositional mindfulness* is measured by FFMQ score. Participant's Reliance on aesthetic cues decreased $\beta = 0.31$ units for each unit of *Dispositional mindfulness* score, hence we observe a negative correlation. The p -value of the relationship between *Dispositional mindfulness* and *Reliance on aesthetic cues* is denoted as $p = .001$ which indicates a strong significant relationship between the two variables. The summary of p -values, β and R^2 for the remaining FFMQ scales are provided in Table 11.

Table 11. Simple linear regression for Dispositional mindfulness and Reliance on aesthetic cues

	Reliance on aesthetic cues		
	β	p	R^2
FFMQ scales			
Dispositional mindfulness	0.31	.001*	0.03
Observing	0.10	.125	0.01
Describing	0.13	.026*	0.01
Acting with awareness	0.17	.006*	0.02
Non-Judgement	0.14	.009*	0.02
Non-Reacting	0.08	.284	0.00

Note. * $p < .05$

5.2.4. Sustainable behavior & Sustainable habits

A simple linear regression was run to determine whether there are relationships between variables and to predict *Sustainable behavior* based on *Dispositional mindfulness*. Significant regression equation for the relationship between *Sustainable behavior* and *Dispositional mindfulness* was found ($F(1,368) = 9.90$, $p = .002$) with an R^2 of .03. Participant's predicted *Sustainable behavior* is equal to $0.20 + 0.12$ (*Dispositional mindfulness*) when *Dispositional mindfulness* is measured by FFMQ score. Participant's *Sustainable behavior* increased $\beta = 0.12$ units for each unit of *Dispositional mindfulness* score, hence we observe a positive correlation. The p -value of the relationship between *Dispositional mindfulness* and *Sustainable behavior* is denoted as $p = .002$ which indicates a strong significant relationship between the two variables. The summary of p -values, β and R^2 for the remaining FFMQ scales are provided in Table 12.

Table 12. Simple linear regression Dispositional mindfulness and Sustainable behavior

	Sustainable behavior		
	β	p	R^2
FFMQ scales			
Dispositional mindfulness	0.12	.001*	0.03
Observing	0.05	.054	0.01
Describing	0.03	.134	0.01
Acting with awareness	0.05	.052	0.01
Non-Judgement	0.06	.005*	0.02
Non-Reacting	0.04	.140	0.01

Note. * $p < .05$

A simple linear regression analysis was performed to assess the relationship between *Sustainable habits* and *Dispositional mindfulness*. The *Sustainable habits* are *Company practices interest*, *Environment interest* and *Health interest*. Significant regression equation for the relationship between *Company practices interest* and *Dispositional mindfulness* was found ($F(1,368) = 34.40, p < .0001$) with an R^2 of .09. Participant's predicted *company practices interest* is equal to $1.25 + 0.68 (\text{Dispositional mindfulness})$ when *Dispositional mindfulness* is measured by FFMQ score, hence we observe a positive correlation. Participant's *company practices interest* increased $\beta = 0.68$ units for each unit of *Dispositional mindfulness* score. Another strong significant regression equation is found between *Environment* and *Dispositional mindfulness* ($F(1,368) = 34.63, p < .0001$) with R^2 of .09. Participant's predicted *Environment interest* is equal to $1.70 + 0.62 (\text{Dispositional mindfulness})$ when *Dispositional mindfulness* is measured by FFMQ score, hence we observe a positive correlation. Participant's *Company practices interest* increased $\beta = 0.62$ units for each unit of *Dispositional mindfulness* score. Relationship between *Health interest* and *Dispositional mindfulness* is also found to be a strong significance ($F(1,368) = 34.11, p < .0001$) with R^2 of .08. Participant's predicted *Health interest* is equal to $1.66 + 0.67 (\text{Dispositional mindfulness})$ when *Dispositional mindfulness* is measured by FFMQ score, hence we observe a positive correlation. Participant's *health interest* increased $\beta = 0.67$ units for each unit of *Dispositional*

mindfulness score. The summary of p -values, β and R^2 for the remaining FFMQ scales are provided in Table 13.

Table 13. Simple linear regression for Dispositional mindfulness and Sustainable habits

	Company practices			Environment			Health		
	β	p	R^2	β	p	R^2	β	p	R^2
FFMQ scales									
Dispositional mindfulness	0.68	<.0001*	0.09	0.62	<.0001*	0.09	0.67	<.0001	0.08
Observing	0.43	<.0001*	0.08	0.43	<.0001*	0.10	0.40	<.0001	0.07
Describing	0.30	<.0001*	0.05	0.28	<.0001*	0.05	0.37	<.0001	0.07
Acting with awareness	0.18	.021	0.01	0.15	.030*	0.01	0.17	.025*	0.01
Non-Judgement	0.18	.003*	0.02	0.15	.009*	0.02	0.17	.007*	0.02
Non-Reacting	0.30	.000*	0.03	0.26	.000*	0.03	0.24	.004	0.02

Note. * $p < .05$

6. Discussion

This study investigates the relationship between dispositional mindfulness and consumer's process of choice, which includes the evaluation of options and the final product decision. Based on previous research, several hypotheses were created concerning the effects of an individual's dispositional mindfulness and how consumers behave when requested to choose between different FMCG. We hypothesized that individuals with higher levels of mindfulness would engage in the process of choice with higher involvement, hence allocating more time to choose and carefully examine product cues (informational and aesthetic). Moreover, we stated that the products they chose would have sustainable characteristics. Findings from the analysis provide us with a solid starting point for a fruitful discussion.

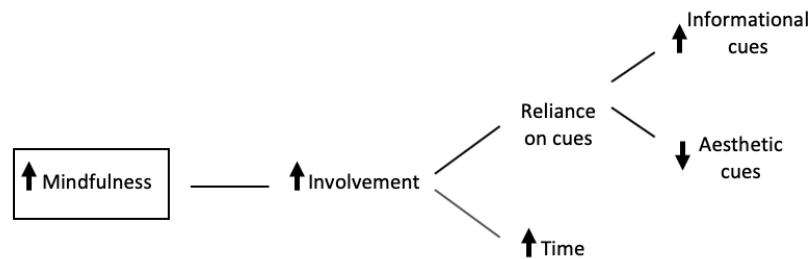
The first hypothesis revolves around the idea that in the case of fast-moving consumer goods, individuals often make decisions with less deliberation and interest, which results in less time spent on a choice. The literature suggests that the opposite is true for individuals with higher levels of mindfulness who generally exhibit higher levels of involvement (Ndubisi, 2014). A p -value that is $p < .05$ is considered statistically significant. Our study has found a significant correlation ($p = .004$) between the choice time and level of dispositional mindfulness. The latter suggests that individuals who score higher in dispositional mindfulness took a longer time to evaluate the products.

Taking a more detailed look at the FFMQ facets, significant correlations are reported for Acting with awareness ($p = .000$) and Non-judgement of inner experience ($p = .027$). Acting with awareness is defined as focusing on current activities rather than behaving automatically or mindlessly (Baer et al., 2006). This facet, together with the *Non-reacting to inner experience*, is associated with the *Self-regulation cluster* defined by Hanley (2015). The cluster represents the ability to control and regulate emotions, behaviors, and thoughts, and it is positively related to the Conscientious personality trait and negatively correlated to Neuroticism (Hanley, 2015). The observed relation between choice time and these FFMQ facets might explain that individuals were able to control their initial impulse and carefully evaluate all the product cues. Therefore, the significant correlation with this facet provides a solid understanding of why individuals with a high score in this facet spent more time on making a choice. However, for the facets *Observing*, *Describing*, and *Non-reacting*, a non-significant correlation has been confirmed. Nevertheless,

as a result of the analysis and the previous discussion, H^0 is rejected. Consequently, our study accepts Hypothesis 1 on the premises of a significant correlation between choice time and dispositional mindfulness.

Hypothesis 2 and hypothesis 3 are created on the grounds of decision-making theories and mindfulness research. Previous studies on the examination of product cues in decision-making show that informational cues and aesthetic cues are the main packaging elements that individuals employ to make a consumer decision (Silayoi & Speece, 2004; Reimann et al., 2010). Consumers mainly rely on these cues when purchasing FMCG as they are used by marketers to inform about the attributes and product characteristics at the point of sale. Our hypothesis has been formulated based on the fact that higher involvement has proven to influence consumer's reliance on informational cues rather than aesthetic cues (Silayoi & Speece, 2004; Kuvykaite, 2009) and that mindfulness influences level of involvement (Ndubisi, 2014). Therefore, in this study, we aimed to observe the relation between dispositional mindfulness and the reliance on aesthetic and informational cues. The logic behind this connection is visually depicted in Figure 7.

Figure 7. Visual representation of the logic behind hypothesis formulation



The analysis has shown a statistically high significant positive correlation ($p < .0001$) between *dispositional mindfulness* and the *reliance on informational cues*. Conversely, a significant negative correlation ($p < .001$) has been found between *dispositional mindfulness* and *reliance on aesthetic cues*. These findings indicate that the level of mindfulness plays a role in the tradeoff between the reliance on aesthetic cues and informational cues. Higher levels of mindfulness were positively correlated with the reliance on informational cues, while as the level of dispositional mindfulness decreased, the reliance on aesthetic cues increased.

When observing the different facets of mindfulness, significant positive correlations are reported for the facets *Observing* ($p < .0001$), *Describing* ($p < .0001$), *Acting with awareness* ($p = .000$) and *Non-judging of inner experience* ($p = .004$) and the *reliance on informational cues*. A non-significant correlation was found with the facet *Non-reacting* and *Reliance on informational cues*. Non-significant correlations were found for the facets of *Non-reacting* and *Observing*.

Consistent with previous research (Baer et al., 2006; Peters et al., 2011), the *Observing* facet appears to behave differently from the other facets in predicting negative outcomes. In our study, *Observing* shows a highly significant positive correlation with the variable *reliance on informational cues*. However, it shows no correlation with the variable *reliance on aesthetic cues* and the variable *choice time*. Baer et al. (2006) proposed that in populations that are not familiar with meditation training (67.30% of our sample corresponds to a non-meditator group), observing can measure a kind of attention that is ruminative, reactive and judgmental, and therefore not consistent with mindful attention. Our results, therefore, are in line with previous research. However, to fully understand the different facets of the FFMQ falls out of the scope of this study.

Acting with awareness and *Describing* have been proven to be negatively correlated with impulsivity measures by Peters et al. (2011). Impulsive behavior is characterized by a tendency to act without forethought and insensitivity (Reynolds, Ortegren, Richards & Wit, 2006). It includes novelty seeking, which consists of preference to act on feelings of the moment (Whiteside & Lynam, 2001). Applied to consumption behaviors, especially with FMCG products, impulsivity is understood by Hausman (2000) as purchasing without prior intention, typically decided in-store and motivated by visual cues and heuristics (Silayoi & Speece, 2004). It is not surprising then that the facets *Acting with awareness* and *Describing* have shown a strong positive correlation with *informational cues* and a negative correlation with *aesthetic cues* in this research.

Finally, the facet *Non-reactivity of inner experience*, which measures the ability of individuals to allow inner experiences to come and go (Baer et al., 2006), show no relation to any of the two studied variables. As a result, this facet does not play a fundamental role in connection to *reliance on informational cues* nor *aesthetic cues*.

Moreover, looking at the relationship between the FFMQ facets and the Five-Factor Model of personality, the facets *Describing* and *Observing*, which are the ones showing a highly significant correlation with *reliance on informational cues* ($p < .0001$), are also the two facets showing a relationship with the *Openness* factor, which constitutes the *self-awareness cluster* (Hanley, 2015). Therefore, this relationship seems to show that having the disposition to be open, accepting, and tuned with internal and external phenomena, makes them more engaged in their daily lives, leading to higher involvement in decision making.

Informational cues have been related to better-informed decision-making and higher levels of involvement; on the contrary, aesthetic cues are related to low involvement decisions when time and resources are limited (Silayoi & Speece, 2004). Based on this relationship, we can discuss that despite the general low-involvement character of FMCG, higher levels of *dispositional mindfulness* influenced participants into gathering more information before making a decision. In our questionnaire, the informational cues were presented as an additional text under the product's picture, which called for a more detailed and thorough investigation of the product characteristics. The results imply that those who displayed higher dispositional mindfulness scores took more time to evaluate the extra information about the product, provided in the form of text. Looking at the extra information, participants were able to make a more knowledgeable decision, which could explain that it took them more time to make a choice.

The joint review of the results for Hypothesis 1, Hypothesis 2 and Hypothesis 3 allows us to conclude that individuals with higher levels of mindfulness appear to be more involved and engaged in a more deliberate information processing. For this reason, and because of the significant positive correlations that were found between dispositional mindfulness and informational cues, we reject H0 and thus, accept Hypothesis 2. Conversely, the significant negative correlations found between dispositional mindfulness and aesthetic cues allow us to reject H0 and accept Hypothesis 3. Given that the three first hypotheses are accepted and considering the relationships between *dispositional mindfulness* and *choice time*, *reliance on informational cues*, and *reliance on aesthetic cues*, it is interesting to discuss how time is affected by the reliance of packaging cues. If mindful participants claim that their decision was based

on informational cues, they should have spent some time analyzing both product descriptions and making a choice based on what they learned about the products. Therefore, we assume that reliance on informational cues does affect the choice time individuals need to make a consumption decision. To prove the previous statement is out of the scope of this research, as causal relationships can not be drawn with this research design.

Applying the results of our study to the information processing models discussed in the literature review, we assume that those individuals with higher levels of mindfulness engage in information processing mechanisms characteristic of System 2. A higher level of dispositional mindfulness increases the consumer's reliance on informational cues and their time spent on a choice, which might imply their use of a central route of persuasion (Cacioppo et al., 1986). When consumers use the central route of persuasion, they have a higher need for cognition (Cacioppo et al., 1986). They are more prone to think and elaborate on issue related information and increase their attention to product cues.

Hypothesis 4 was formed based on research related to mindful consumption and sustainable consumption research (Bahl et al., 2016; Fisher et al., 2017). This stream of research has advocated that consumers with enhanced levels of mindfulness have stronger non-materialistic values, increased pro-social behavior, and make more deliberate and informed choices, which directly contribute to sustainable consumption (Rosenberg, 2004; Bahl et al., 2016; Fisher et al., 2017). As a result, we hypothesized for a positive correlation between *dispositional mindfulness* and preference for products with sustainability cues.

The simple linear regression showed a significant positive correlation ($p = .002$) between *Sustainable behavior* and *Dispositional mindfulness*. This correlation appears to be in line with the research of Fisher et al. (2017), who describe the tendencies to behave sustainably as a result of enhanced compassion. Compassion was previously positively linked to pro-environmental behavior (Fischer et al., 2017). Specifically, mindfulness enhances caring for the self, which extends to caring about others and the world we inhabit (Fisher et al., 2017). Consequently, the study rejects hypothesis H^0 and accepts Hypothesis 4.

The analysis of the different facets of mindfulness related to sustainable behavior shows surprising results. The *Non-Judgement* facet of the FFMQ was found to be significantly correlated to *Sustainable*

behavior. However, non-significant correlations were found with the remaining facets. This is interesting because we expected to find a correlation between sustainable behavior and the facets of *Non-reacting* and *Acting with awareness*, which corresponds to the *Conscientious Confusion cluster* defined by Hanley (2015). This cluster is used to define individuals who are characterized by a Conscientious personality (i.e., individuals characterized by acting with self-discipline and deliberation). It is unanticipated that those two facets show no significant correlation. Further research is needed to understand the nature of the behavior of the facets concerning sustainable behavior.

The sustainability cues were represented by three different categories: *fair trade*, *recyclability*, and *natural ingredients*. The initial analysis of the descriptive statistics examined the frequency of sustainable choices. Generally, we can observe that sustainable products were predominantly chosen across all nine choices. Except for the Coffee (in which the sustainable choice (n= 182) was almost equally chosen than the non-sustainable (n= 188)), we can notice that there is a relatively significant difference among the choices of sustainable and non-sustainable products, being sustainable were predominantly chosen within our participants.

The descriptive analysis showed that the products in which individuals chose more sustainably were those with cues related to *natural ingredients* (36%), followed closely by *recyclability cues* (35%) and *fair trade* (29%). However, differences within the same cue category are high, showing that the sustainability cues' importance varies within product categories. To exemplify this reasoning, the sustainability cue *Natural Ingredients* might be more critical for the product category Orange Juice, than for the Chocolate. Further research explaining the choice motivations of each specific product category is required.

An interesting matter to compare is the relationship between Sustainable habits and Sustainability cues. The analysis investigated the participants' *sustainable habits* related to the variables *company practices interests*, *environment interests*, and *health interests*. The analysis shows that each of the facets, including overall *dispositional mindfulness*, have a strong positive correlation to these three *Sustainable habits*. These results reinforce the previously explained finding: mindfulness enhances the tendency to behave sustainably.

In summary, the examined hypotheses have all shown to have a significant correlation to dispositional mindfulness, from which we can discuss that mindfulness is a valid construct that influences consumers' process of choice.

7.Theoretical and managerial implications

Our study's findings provide an insightful basis for further research in the theoretical field and show relevant issues that businesses and marketers should consider when preparing their company strategies. The contributions of our research will be discussed in this section.

Theoretical implications

The findings from this study contribute to the current *Consumer Research* paradigm of consumer behavior, as mentioned in the literature review. Mindfulness research has been studied at two levels: the organizational and individual levels (Ndubisi, 2014). This study builds on existing mindfulness literature to study the effect of mindfulness on an individual's consumption tendencies (Ndubisi, 2014), and their approach to sustainability (Fischer et al., 2017; Sheth et al., 2010; Bahl et al., 2016). Ndubisi (2014) was one of the first researchers to study how mindful individuals identify and exploit market opportunities in the service sector. In his study, he proved that individuals with higher levels of mindfulness spend more time evaluating service cues, collecting and analyzing the service provider's information, which contributes to making informed and conscious decisions or choices. To the best of our knowledge, this is one of the first attempts to investigate dispositional mindfulness in the context of involvement and FMCG decision-making.

The results of this study show a relationship between dispositional mindfulness and consumer involvement in FMCG decision-making. Those results provide an interesting and valid starting point for researchers and highlight the need for integrating mindfulness in consumer behavior models, especially in FMCG. Moreover, our research contributes to research about packaging and cue examination by proving that individual characteristics (in this case, their level of mindfulness) influence how they examine product cues.

On the other hand, the results of the present study are in line with previous research exploring the effects of mindfulness on sustainability (Fischer et al., 2017), which suggests that mindfulness leads to more sustainable behavior. Moreover, this research contributes to the mindfulness literature by proving that the FFMQ is a valid measurement to study dispositional mindfulness in relation to consumer behavior.

Managerial implications

From a practical perspective, this study holds significant implications for practitioners involved in packaging design and product marketing. We have investigated consumer-decision making and the influence of consumers' cognitive aspects when choosing between FMCG. These products are characterized as being of an inexpensive nature and of low involvement for the consumer (Silayoi & Speece, 2004). The FMCG market is characterized by high competition, and consumers usually use packaging cues to make decisions at the point of sale (Silayoi & Speece, 2004). Attention mechanisms play an essential role in this process, as visual cues are usually considered to be crucial for marketers who capitalize on strategies such as conditioning, mere exposure, and mindlessness to promote the impulsive behavior of consumers (Rosenberg, 2004).

However, as Silayoi & Speece (2004) mention, *"a key to maximizing package impact is understanding consumer response to packaging"* (Silayoi & Speece, 2004, p. 609). Packaging elements play a significant role in consumer decision-making. Our study provides evidence that mindfulness is positively correlated to involvement level; therefore, those with higher mindfulness usually need extra information to make purchasing decisions, and they use informational cues rather than select a product based on their visual appearance. Moreover, mindful consumer research provides evidence that mindful individuals build stronger loyal relationships with companies, as they make better-informed choices and are more satisfied with the products they consume (Ndubisi, 2014). Therefore, it is of the interest of companies to engage and communicate with mindful consumers as they represent potential long-lasting profitable relationships.

Marketers should consider the results of this study and try to improve the way information is showcased in FMCG to help consumers make better decisions. Investing in providing individuals with product descriptions is an inexpensive way for marketers to promote their products among mindful consumers and build better relationships with them. On the other hand, from the communication point of view of marketing, adopting a strategy that promotes the empowerment of consumers with clear and non-misleading information about the products or services is what companies can do to reach out to mindful consumers.

On the other hand, Kotler (2011) proposed that mindful consumption allows marketers innovative approaches to develop new effective ways to manage the demand for sustainable and responsible consumption (Kotler, as cited in Bahl et al., 2016). The current research shows a relationship between dispositional mindfulness level and preference for sustainable products. The cues shown to work better for the selection of sustainable products are health-related and those related to the recyclability of the products. This shows that consumers care about the materials and ingredients their foods and commodities are made of. Being aware of this tendency can help product designers to create products that are more appealing for mindful consumers.

In conclusion, as Milne et al. (2019) mention in his research, gaining insight into how mindfulness can influence consumption is essential for companies who want to practice mindful marketing and conscious capitalism. Our research provides companies with an understanding of how to improve packaging and product design, promoting more sustainable and conscious consumer behavior to appeal to those individuals with higher dispositional mindfulness.

8. Limitations and further research

This research shows several limitations that will be discussed further in the following paragraphs. First, the cross-sectional research design that was adopted to perform the study limits the possibility to draw causal relationships within the variables, which could have been exciting and increase the relevance of this research. Moreover, the questionnaire format of the data collection is a self-reported method that only provides information about how the participants think they would behave in a hypothetical situation, not how they do in real life. Another critical consideration to contemplate when discussing the limitations of the study is the time constraint that comes with the master thesis writing process. In the case of having more time, we could have considered having a probability sample or recruiting more participants, which would most likely change the study results and improve its external validity.

The goal of the study was to test whether dispositional mindfulness influences the involvement of consumers' decision-making processes and their resulting choices. With the development of the questionnaire, we had to select and explore only a few variables, leaving out of the control of the study several other variables that could explain changes in the participants' decision-making process, such as time pressure, price, perceived risk, or other product characteristics. Further research is needed to have a deeper understanding of how those features influence the decision-making process of mindful consumers. Moreover, the variable *choice time* was recorded with participants not knowing about it. The questionnaire format of the data collection provides limited control to ensure that this variable measures the time it took individuals to make a decision. It is possible that some of the participants were distracted while answering the questionnaire, therefore providing equivocal data in the questionnaire. To prevent this from being an important issue in our study, we erased those choices that took more than five minutes.

Another limitation of the current study is the selection of the type of product categories, all corresponding to FMCG. With the selection of different categories of products (e.g., bananas instead of strawberries), our study's results could differ. Moreover, it would be interesting to see how the results changed if we would have investigated products with typically higher involvement rates (e.g., decision-

making in cars, houses, or more expensive products). This study, therefore, serves as a preliminary study for more substantial research.

As we have reviewed, mindfulness allows individuals to improve their awareness of their body sensations (Baer et al., 2006; Rau & Williams, 2015). As Bahl et al. (2016) mention, mindful consumers are accountable for themselves and use their values to make consumer decisions that enrich them and their surroundings. Therefore, it is reasonable to believe that they are able to make more satisfying decisions. It could have been interesting to ask participants their level of satisfaction with their choices and see if there's a relationship between the level of satisfaction and their mindfulness score. Further studies in this topic could research into the effect of dispositional mindfulness on customer satisfaction.

8.1. Alternative approach to methodology

The Methodology Section of this study depicts the methodological approach applied in the present study. However, as a result of the unpredictable pandemic that affected the whole world, our study suffered an unfortunate disregard of the initially planned research design. The following section is a description of the alternative approach that this study could have benefited from.

One of the main ideas of the current consumer behavior research is that many of the processes occurring in the process of choice happen unconsciously, and consumers often behave irrationally (Solomon, 2015). For example, the initial affective responses to external stimuli are often unconscious, so an individual cannot recall such reaction objectively (Zajonc, 1980). Moreover, when individuals report on their deliberate behavior, it is often prone to bias and inaccurate description of reality (Harris, Ciorciari, Gountas, 2018). As a result, neuro research has emerged as a new field in consumer research and has proven to be valuable in understanding consumers' decision making (Harris, Ciorciari, Gountas, 2018). The original research design was intended to be experimental, which would allow us to draw more objective relationships among the variables. More specifically, the reliance on the specific cues (informational vs. aesthetic) would have accurately been proven with the use of an eye-tracking device. In the present study, we rely on a self-report question regarding the product cues individuals based on their decision. The use of an eye-tracking device would show the areas a respondent gazed at when

making a choice. For this reason, the current study serves as an appropriate base for further research, which could be done using tools emanating from neuroscience.

9. Conclusion

To live means to consume. The food people eat, the water they drink, the clothes they wear. Although people consume for many reasons, consumption has expanded far behind the purpose of pure necessity (Rosenberg, 2004). Humans have evolved to consume products and services as a means of self-identification to fill in a void that exists as a result of the emerging encouragement of consumerism (Rosenberg, 2004). The biggest enemy in defying consumerism is that consumers are not aware of how much they consume and the significant role they play in this. Consumer research has pointed out that consumerism has emerged from the stimulation of market exchange, which has been strengthened by the exploitation of humans' natural desire to live a fulfilled life and tendency to behave automatically (Rosenberg, 2004).

Mindfulness has been closely tied to individuals' heightened awareness and enhanced levels of regard towards themselves and the world they inhabit (Kabat-Zinn, 1994). Previous research suggests that mindfulness serves as an antidote to careless consumption, which leads to greater satisfaction with purchases (i.e., enhanced consumer loyalty), greater individual well-being, and a decrease in the devastating impact on the environment (Fischer et al., 2017).

Our study aimed to contribute to understanding individual consumption with the incorporation of mindfulness in the process of choice. The research has mainly been built on the premise that mindfulness increases levels of involvement in a purchase, leads to greater deliberation of alternative product cues, and increases tendencies to consume sustainably. With the research question: *"How does dispositional mindfulness affect the process of choice and the sustainability tendencies of consumers"*, we provide relevant research that contributes to the stream of studies that view mindless behavior as a current pressing problem.

It is to our greatest belief that no study has previously examined the connection of dispositional mindfulness and evaluation of options in the context of FMCG. Our research uncovered the underlying relationships between mindfulness and the process of choice by proving that participants with higher levels of dispositional mindfulness engaged in a more informed and involved evaluation of options,

mostly relying on informational cues. On the other hand, their counterparts have relied primarily on aesthetic product cues that were formerly linked with impulsive, automatic, and less deliberate decision-making. Furthermore, the participants in our study exhibit a high interest in sustainable products, confirming previous links within mindfulness and sustainability.

It is challenging for businesses to move from the traditional sales maximization approach to realize the ultimate benefits of conscious and mindful marketing. However, our research strives to stress the importance of it. While we know that businesses can not teach consumers how to behave mindfully, it is time to reconsider the old-fashioned way of doing business and incorporate the understanding of mindful consumption and its benefits into marketing strategies. Our study presents implications on how mindful consumers behave in the process of choice, which are useful for businesses as a starting point of this necessary shift.

The results of our study enthusiastically prove the substantial relationship and influence of dispositional mindfulness on the process of consumer choice. Because the topic of mindfulness within consumer studies remains scarce, the explanatory nature of this research provided significant contributions to the topic and laid the ground for more substantial research. Until further research shows the causal effects of mindfulness on consumer decision-making, it is up to both consumers and businesses to become aware of the devastating impact consumerism has on humankind and the world we inhabit.

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Appendix

Appendix 1 – Questionnaire

Introduction to Survey

Hello! Thank you for your interest in our research and welcome to our online questionnaire!

We're Anna and Denisa, two students from CBS, and this survey is part of the research for our masters thesis. In our study, we aim to connect individual personality traits with consumer decision-making. In other words, what are the things that make you choose one toilet paper brand amongst the wide selection in the supermarkets 😊

The survey will take you **about 15** minutes to complete. What is in it for you? Other than making two people extremely happy and attracting a big amount of good karma, **you will get a brief report on your personality based on your responses to the questionnaire.**

Your participation in the study is **voluntary** and **anonymous**. You can withdraw from the study at any time, without giving a reason and without any negative consequences. Your data will be stored securely and the analyses will ensure your participation remains anonymous.

Simuli

The questionnaire is divided into two parts. You are about to start the first one.

In this section, you will find sets of products you would regularly find in a supermarket.

We'd like you to choose which one would you purchase out of the options presented. After you choose, you will be asked a question.

Please be very attentive to the questions to get accurate results to your personality test.

Let's begin!

~~These page timer metrics will not be displayed to the recipient.~~

First Click: 0 seconds

Last Click: 0 seconds

Page Submit: 0 seconds

Click Count: 0 clicks

Please choose the product of your preference



Level Ground green tea is sweet with a smooth finish. It is produced in India under conditions of direct Fair Trade. The tea pyramids are biodegradable. Green tea is high in antioxidants and pairs well with tasty food.

Ingredients: 100% Green tea (Camellia Sinensis)

☐ Choose



This healthy and natural green tea is masterfully blended with lemon verbena, and a touch of mint to give you a rich, sensual taste. Produced and packed in Sri Lanka.

Ingredients: 100% Pure Ceylon green tea.

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

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Click Count: *0 clicks*

Please choose the product of your preference



This 100% organic chocolate bar contains between 70% and 87% cocoa beans for a flavorful experience. Perfectly unrefined, super intense 95% dark stone-ground chocolate. Paleo-friendly, vegan, and organic, with NO dairy, NO soy, NO gluten.

Ingredients: Organic cacao beans, organic cane sugar

☐ Choose



Le Temps chocolate is a perfect treat to keep in your candy dish, on your desk or in your pantry for an afternoon indulgence or delicious snack. When making our chocolate, careful attention is paid to quality, ensuring a silky, smooth texture and delicious, lingering taste.

Ingredients: Milk Chocolate (Sugar, Cocoa Butter, Skim Milk, Chocolate, Milkfat, Lactose, Soy Lecithin, Artificial Flavor, Palm Oil).

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

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Click Count: *0 clicks*

Please choose the product of your preference



Our premium Roasted and Salted jumbo peanuts and cashew nuts are perfectly roasted for a delicious, crunchy and lightly salted flavor. It is produced in UK in our state-of-the-art facility by our master roasters.

Ingredients: Peanut, Cashew nut, Rapeseed oil, Salt

☐ Choose



This nut snack from Liberation is the ideal size to pop in a lunchbox or to share. The baked salted cashews & peanuts have been grown with love between India, Malawi and Nicaragua. All Liberation nuts are carefully sourced from 11 Fairtrade co-operatives.

Ingredients: Salted nuts (73,5%) and salted cashew nuts (26,5%)

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

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Click Count: *0 clicks*

Please choose the product of your preference



Basmati rice has the longest grain of rice of all types and has a full aroma and taste. Did you think we can't do without plastic for food? Our rice is packed in a certified plastic-free package that is fully compostable over a period of a few months.

Ingredients: Whole grain basmati rice

☐ Choose



Premium-quality rice that cooks perfectly every time. This rice is enriched with vitamins and iron and naturally fat free. Try it in your favorite rice recipes, from chicken & rice to rice pilaf.

Ingredients: Basmati rice

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

These page timer metrics will not be displayed to the recipient.

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Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

Please choose the product of your preference



Cafe Altura Organic coffee is freeze dried by an exclusive certified organic process to maintain the taste and aroma of real coffee. All coffee is grown sustainably by growers who form the basis for Fair Trade exchange.

Ingredients: 100% Arabica coffee

☐ Choose



This grade coffee from the Antioquia region of Colombia comes packed with naturally distinct hazelnut flavour. Thanks to the high growing altitude the coffee has a really good, clean acidity and a lovely sweetness.

Ingredients: 100% Pure coffee

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes	No
<input type="radio"/>	<input type="radio"/>

Something else that influenced your decision (not required)

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Page Submit: *0 seconds*

Click Count: *0 clicks*

Please choose the product of your preference



Cottonelle Ultra GentleCare toilet tissue is designed to be safe for sensitive skin with a Wavy CleanRipple Texture that removes more & is three times thicker and stronger, and two times more absorbent than other brands.

Ingredients: Paper

☐ Choose



Seventh Generation 100% Recycled Paper Bath Tissue is an extra strong and soft toilet paper whitened without chlorine bleach. It's gentle on the environment, septic-safe and RV-friendly, too.

Ingredients: 100% recycled paper, 100% recyclable plastic wrapper.

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

These page timer metrics will not be displayed to the recipient.

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Click Count: *0 clicks*

Please choose the product of your preference



There's nothing in here but 100% pure orange juice. Kirkland Signature Organic Orange Juice is pasteurized and not from concentrate. The product is USDA organic, it is verified by Non GMO.

Ingredients: Organic orange juice

☐ Choose



The perfect combination of taste and nutrition. Vinut Orange Juice is rich in vitamins C. Keep refrigerated between 0°C to 4°C.

Ingredients: Water, Orange Juice Concentrate, Refined Cane Sugar, Orange Sacs, Preservative (E211), Citric Acid (E330), Ascorbic Acid (E300), Orange Flavouring, Permitted Colourings (E102, E110)

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

These page timer metrics will not be displayed to the recipient.

First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

Please choose the product of your preference



The sweet, juicy flavor of these fresh strawberries make them a refreshing and delicious treat. Use them as topping for pancakes, bake them in a mouthwatering bread, mix them with cucumbers for a light and flavorful salad, or puree them for strawberry shortcake.

Ingredients: Strawberries

☐ Choose



These strawberries are larger than normal strawberries, making them perfect for dipping in chocolate. The strawberries are packed in a compostable package made of sugarcane bagasse pulp (main material), recycled paper pulp, bamboo pulp, wood pulp and other natural fiber pulp.

Ingredients: Strawberries

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all

1

2

3

4

Very much

5

The packaging design
(color, size, images)

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes
☐

No
☐

Something else that influenced your decision (not required)

These page timer metrics will not be displayed to the recipient.

First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

Please choose the product of your preference



Lightweight and fast absorbing, our protecting and moisture renewing formula instantly softens skin's texture, while working to intensively condition the skin and delay future signs of ageing with regular use. Hands feel hydrated even after washing.

Ingredients: Aqua (Water), Glycerin, C12-15 alkyl benzoate, Octocrylene, Butyl methoxydibenzoylmethane, Aluminium starch octenylsuccinate, Dimethicone, Ethylhexyl salicylat E, etc.

☐ Choose



Give your skin the best with a natural moisturizing hand cream. We believe in creating high-quality products with ingredients from natural sources that work even with sensitive skin. Never have to worry about irritating parabens, dyes, or phthalates.

Ingredients: Theobroma Cacao Seed (Cocoa) Butter, Persea Gratissima Oil (Avocado Butter), Butyrospermum Parkii (Shea Butter), Argania Spinosa Kernel (Argan) Oil, Rosa Canina (Rosehip) Seed Oil, etc.

☐ Choose

Please rate how much did each of the following elements influence your decision:

Not at all					Very much
1	2	3	4	5	
The packaging design (color, size, images)					

	Not at all				Very much
	1	2	3	4	5
The product information (description, ingredients, material of packaging)					

Were you familiar with either of the brands?

Yes	No
<input type="radio"/>	<input type="radio"/>

Something else that influenced your decision (not required)

FFMQ

That's the end of part one. Let's dig into the last section of this questionnaire!

Please use the 1 (never or very rarely true) to 5 (very often or always true) scale provided to indicate how true the statements below are for you. Select the box of the statement which represents your own opinion of what is generally true for you.

Remember, your personality test is based on your answers - answer honestly.

Let's begin!

When I'm walking, I deliberately notice the sensations of my body moving.

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I'm good at finding words to describe my feelings

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I criticize myself for having irrational or inappropriate emotions

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I perceive my feelings and emotions without having to react to them

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I do things, my mind wanders off and I'm easily distracted

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I take a shower or bath, I stay alert to the sensations of water on my body

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I can easily put my beliefs, opinions, and expectations into words

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I watch my feelings without getting lost in them

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I tell myself I shouldn't be feeling the way I'm feeling

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I notice how foods and drinks affect my thoughts, bodily sensations, and emotions

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It's hard for me to find the words to describe what I'm thinking

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am easily distracted

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I believe some of my thoughts are abnormal or bad and I shouldn't think that way

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I pay attention to sensations, such as the wind in my hair or sun on my face.

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have trouble thinking of the right words to express how I feel about things

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I make judgments about whether my thoughts are good or bad

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I find it difficult to stay focused on what's happening in the present

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing

never or very
rarely true

rarely true

sometimes true

often true

very often or
always true



In difficult situations, I can pause without immediately reacting

never or very
rarely true

rarely true

sometimes true

often true

very often or
always true



When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words

never or very
rarely true

rarely true

sometimes true

often true

very often or
always true



It seems I am "running on automatic" without much awareness of what I'm doing

never or very
rarely true

rarely true

sometimes true

often true

very often or
always true



When I have distressing thoughts or images, I feel calm soon after

never or very
rarely true

rarely true

sometimes true

often true

very often or
always true



I tell myself that I shouldn't be thinking the way I'm thinking

never or very

rarely true

sometimes true

often true

very often or

rarely true	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	always true
<input type="radio"/>				<input type="radio"/>

I notice the smells and aromas of things

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Even when I'm feeling terribly upset, I can find a way to put it into words

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I rush through activities without being really attentive to them

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I have distressing thoughts or images I am able just to notice them without reacting

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I think some of my emotions are bad or inappropriate and I shouldn't feel them

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow

I can usually describe how I feel at the moment in considerable detail

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I find myself doing things without paying attention

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I disapprove of myself when I have irrational ideas

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional questions

I like to be informed about the practices of the companies I normally buy from

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I care about the environment and make sure I buy sustainable products

never or very rarely true	rarely true	sometimes true	often true	very often or always true
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is important for me to know that the products I consume have natural ingredients

never or very rarely true	rarely true	sometimes true	often true	very often or always true
---------------------------	-------------	----------------	------------	---------------------------

☐☐☐☐

true

☐

Demographics

What is your Age?

What is your gender?

☐

Male

☐

Female

☐

Other

What is your Nationality?

How often do you meditate?

☐

Daily

☐

4-6 times a week

☐

2-3 times a week

☐

Once a week

☐

Never

Results and a thank you

That's the end of the questionnaire! Thank you so much for participating!

Please make sure to click "next" or the red box button at the page with your results to submit your answers to us.

Click next to see the results of your personality test.

The test you just did is called the **Five Facet Mindfulness Questionnaire (FFMQ)** and it is used to determine an individual's level of mindfulness and self-awareness.

What is **mindfulness**? The term comes from the Buddhist tradition and it defines a way of paying attention that originates from meditation practices. It is described as "bringing one's complete attention to the present experience on a moment-to-moment basis" by Marlatt & Kristeller in 1999 or as "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" by Kabat-Zinn in 1994.

The practice of mindfulness has several benefits such as reducing stress or anxiety and enhancing general awareness, curiosity and kindness. Being mindful is not a definite state and it can be cultivated through various techniques. Because of that, even if you scored low on this test, do not despair! Practice is what makes masters.

About the test & Your results

The FFMQ was developed by Ruth Baer at the University of Kentucky and is in the public domain.

It provides an overall score that goes from 1 to 5, 1 being the lowest number (so, you should try to work on your impulsivity) and 5 being the highest (meaning your mindfulness level is close to an enlightened Buddhist monk).

Your overall mindfulness score is: $\$ \{gr://SC_72oZeMW85y7AkWV/WeightedMean\}$

The questionnaire assesses five facets of mindfulness and the scores work exactly as explained above (1 is the lowest and 5 the highest). These five facets are crucial components of mindfulness and include observing, describing, acting with awareness, non-judgment of inner experience and non-reaction to inner experience.

This is how you scored in each of the facets:

Observing – Measures the ability to observe one's inner experiences and responses to stimuli. It entails in the ways we use our sensory awareness. It involves how we see, feel, and perceive the internal and external world around us and select the stimuli that require our attention and focus.

Your score is: $\{\text{gr://SC_0B8JR3ajJp69JyZ/WeightedMean}\}$

Describing – Assesses the ability to put words into one's thoughts and feelings

Your score is: $\{\text{gr://SC_cH18I2Omdn1G2vX/WeightedMean}\}$

Acting with awareness – Measures the tendency to make conscious and deliberate actions as opposed to functioning automatically and without thought or reflection

Your score is: $\{\text{gr://SC_d0wyb7Z4KuPK1Xn/WeightedMean}\}$

Non-judging of inner experience – Measures the tendency to accept one's inner state as opposed to judging thoughts and emotions as good or bad. Non-judgmental experience is tied in with not letting the inner critic take a toll on our happiness and positive state of mind. It calls for self-acceptance and unconditional empathy for oneself and others.

Your score is: $\{\text{gr://SC_9mluWgXksd5MdTL/WeightedMean}\}$

Non-reactivity to inner experience – assesses the tendency to process emotionally provocative stimuli without reacting. This aspect refers to active detachment from negative thoughts and emotions so that we can accept their existence and choose not to react to them. Non-reactivity makes way for emotional resilience and restores mental balance (McManus, Surawy, Muse, Vazquez-Montes, and Williams, 2012).

Your score is: $\{\text{gr://SC_1TgC02HVMltHup7/WeightedMean}\}$

Don't forget to click the red box saying "next" when you are done looking at the results so you submit your answers to us :)

Appendix 2 – Scoring sheet of the Five Facet Mindfulness Questionnaire

Scoring Information:

Observe items:

1, 6, 11, 15, 20, 26, 31, 36

Describe items:

2, 7, 12R, 16R, 22R, 27, 32, 37

Act with Awareness items:

5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R

Nonjudge items:

3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R

Nonreact items:

4, 9, 19, 21, 24, 29, 33

Reference:

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*, 27-45.