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Overconsumption - A growing concern: Examining the effects of mindfulness and self-esteem on excessive social media use and online compulsive buying.

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Abstract

There is a growing concern that global consumption has reached the point of overconsumption, which has detrimental consequences for both individual well-being and environmental sustainability. The commercialisation of social media and a rapid increase in online advertising have shown to boost consumption even further, and research shows that excessive social media usage can sometimes lead to compulsive buying tendencies. On the other side, mindfulness may serve as an antidote to the negative impacts of excessive social media use and consumerism. This study aims to investigate the relationship between the mediating roles of mindfulness and self-esteem and consumers' behaviour in an online environment. We hypothesised that higher levels of mindfulness would decrease addictive behaviour towards Instagram, and that Instagram addiction has a positive association with online compulsive buying. Further, we hypothesised that self-esteem would decrease both addictive and compulsive behaviour in an online context. The research model was tested with a sample of 210 respondents through a self-administrated online questionnaire, which has been used as a primary data collection method in the research. Moreover, the research framework was empirically tested through Structural Equation Modelling in SPSS Amos. After analysing the results, the Exploratory Factor Analysis divided some of the variables into underlying and more distinct factors, creating new pathways in the research model. Consequently, three out of the eight hypotheses were accepted. In sum, the results of the study partly prove a relationship between mindfulness, self-esteem, Instagram addiction and online compulsive buying, and found significant correlation between Instagram addiction and online shopping tendencies. The results of this study provide insights into further research in the transformative consumer research paradigm of improving consumer and societal well-being and highlights relevant issues that businesses should take into account when developing their marketing strategies.

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1.0 Introduction

This study aims to shed light on the relationship between certain consumer behaviour in an online environment with the application of the psychological constructs of mindfulness and self-esteem. Specifically, we will explore associations between these psychological constructs and consumer's tendencies to show addictive symptoms when using the social media platform Instagram, as well as their propensity to buy compulsively online. Additionally, as businesses more and more frequently are advertising their products on Instagram, we will explore whether addiction to Instagram increases the risk of buying more compulsively online. This study will be structured around a review of existing literature, and based on the findings, we will propose and test a new research model. The goal is to contribute to the emerging field of transformative consumer research, specifically within mindfulness and marketing. Ultimately by reviewing the influence of mindfulness and self-esteem on consumer's online behaviour, the goal is to provide insights on whether high online involvement may contribute to the global issue of overconsumption. Consequently, by increased understanding of the implications of mindfulness on consumers' behaviour online this may 1) positively impact consumer well-being and 2) deliver insights to businesses on how they can develop their marketing strategies in order to both strengthen the relationship with their customers, in addition to decreasing their negative impact on both consumers well-being and the overconsumption issue. Highlighted in the quote by Nhat Hanh, mindlessness is not sustainable:

“The situation the Earth is in today has been created by unmindful production and unmindful consumption. We consume to forget our worries and our anxieties. Tranquilising ourselves with over-consumption is not the way.” - Nhat Hanh (Confino, 2010)

2.0 Problem formulation and research question

One of the most pressing issues that the world is currently facing today is global warming and climate change. There are many causes of this development, both contributions from nature itself and from humans (Kaddo, 2016). For example, human contributions involve a number of factors such as overpopulation, deforestation and farming, in combination with increasingly growing levels of consumption (Kaddo, 2016). Although all have devastating impacts on the natural environment, overconsumption, in particular, is getting more and more attention as it is a harsh contributor to sea pollution and climate change (Dietz & Rosa, 1994; Dietz, Rosa, & York, 2007; Myers & Kent, 2003). As it is clear through scientific evidence that humans contribute to climate change through their

patterns of consumption (Beattie & McGuire, 2016), there is a need for heightened focus on how to change the matter. Thus, the underlying topic of this study is exploring both preventative factors and antecedents to overconsumption in order to provide a deeper understanding of how to deal with this issue.

First, research shows that individuals may often consume as a way of filling a void that has been created through companies' deliberate persuasion strategies (Rosenberg, 2004). Thus, businesses across the world are contributing to the rise of consumerism, especially as they are aware of the fact that consumers often purchase products as means of self-identification and tapping into this in their marketing efforts (Rosenberg, 2004). While consumerism may contribute positively to economic growth, the dark side is mass-production and overconsumption, and it presents an unhealthy circle of unsustainable exchange between businesses and consumers (Rosenberg, 2004). Accelerating this trend, the commercialisation of online environments and a rapid increase in online advertising have shown to boost consumption even further, causing a negative impact on both consumers' well-being and the environment (Bauer, Wilkie, Kim & Bodenhausen, 2012; Kasser & Kanner, 2004).

Second, online environments such as social media platforms are causing another issue that calls for consideration. Addiction to such platforms is receiving increasing concerns in society due to consumers' more frequent access to portable devices, such as tablets or mobile phones, thus also social media platforms (Sriwilai & Charoensukmongol, 2016). Social media addiction has been shown to negatively impact individual well-being and social functioning (Kuss, Van Rooij, Shorter, Griffiths, & Van De Mheen, 2013). Further, as consumers on social media are often exposed to consumption-related activities such as advertising (Chevalier & Mayzlin, 2006; Stephen & Galak, 2012), research shows that social media specifically is contributing to shaping materialism and increasing the chance of consumers to buy more compulsively online, negatively contributing to the overconsumption issue (Li, Cao, Hu & Guo, 2016; Sharif & Khanekharab, 2017). Specifically, studies on the popular social media platform Instagram show that it is without doubt driving purchasing behaviour for its users (Facebook IQ, 2019). Additionally, after the COVID-19 pandemic hit, 45% of global consumers say they are shopping more on their smartphone (PwC, 2020), which raises concerns for a heightened likelihood of consumers developing compulsive buying tendencies online now more than ever before.

When companies are dealing with sustainability and overconsumption issues, however, Sheth, Sethia & Srinivas (2011) stress that instead of focusing on stakeholders such as regulators, corporate responsibility advocates, investors and the media, companies should apply a heightened focus specifically on consumers (Sheth et al., 2011). Further, emphasising that consumers embody multiple stakeholder identities, companies and marketers should see consumers as not only consumers, but also “a citizen, a parent, an employee, a community member, or a member of the global village with a long-term stake in the future of the planet” (Smith, Drumwright & Gentile 2010, p. 4). Consequently, a weak consumer focus will restrict both the efficiency and the effectiveness of companies and marketer’s sustainability efforts (Sheth et al., 2011). Hence, this calls for a need to find ways to educate businesses and marketers on the impacts of their marketing strategies and find more mindful ways for them to address potential customers.

Third, climate change, a decrease in individual well-being due to compulsive and addictive tendencies towards online platforms and purchasing, comes as a result of the careless and mindless behaviour of both businesses and consumers (Rosenberg, 2004). Additionally, many consumers today are unaware of both their addictive tendencies, and their contribution to the issue of overconsumption. As a result, research on the concept of mindfulness has been on the rise for the past two decades, as it may serve as an antidote to consumerism (Rosenberg, 2004). It is argued that mindful individuals pay more attention and intentionally process information about their environmental impact (Amel, Manning & Scott, 2009). Moreover, Brown and Kasser (2005) found that dispositional mindfulness related to more ecological and sustainable behaviour. A mindful mindset entails not only caring for self but also one’s community, nature and sustainable living by systematically avoiding behaviour such as acquisitive, repetitive and aspirational consumption (Sheth et al., 2011).

Additionally, mindfulness has been found to be positively correlated with individual self-esteem, whereas, on the other hand, low self-esteem has been shown to be a significant predictor of both social media addiction and compulsive buying tendencies (Hanley & Wilhelm, 1992; Andreassen, Pallesen & Griffiths, 2017). Mindfulness may provide consumers with enhanced self-esteem, in addition to a heightened level of awareness, making them better suited to deal with addictive and compulsive behaviour in different respects (Rosenberg, 2004). Both excessive uses of social media and compulsive buying tendencies have been shown to decrease individual well-being (Kuss et al., 2013), as it normally only provides momentary relief, whereas mindfulness, on the other hand, is a

tool that often shows an increase in well-being (Hart, Ivtzan & Hart, 2013). In sum, mindfulness has the potential to both positively impact consumers' well-being and decrease the possibility of excessive social media use and, thus, the risk of compulsive buying.

That said, in order to change consumers' consumption patterns, both consumers' mindset and behaviour will need to change as well (Sheth et al., 2011). Similarly, as consumer engagement with social media platforms is shown to contribute to the negative effects of overconsumption (Li et al., 2016, Sharif & Khanekharab, 2017), this calls for a heightened focus on how these concepts could be related. Until sustainable consumption is more of a societal default, this issue may depend on a heightened focus on consideration of options, and both more mindful marketing and consumer behaviour (Amel et al., 2009). Additionally, scholars argue for going beyond pushing consumers towards green consumption and instead deal with the overconsumption issue in order to find an enduring solution to the escalating environmental problems (Sheth et al., 2011). Consequently, for businesses who want to practice mindful marketing and more conscious capitalism, gaining insights into how mindfulness may influence these relationships is of interest (Milne, Ordenes & Kaplan, 2019).

Businesses have both a responsibility and the opportunity to be part of this change and change the way the modern marketplace is built. In 2020, 40% of millennials voted that they believe the goal of businesses should be to “improve society”, and as millennials now make up about 40% of consumers (Deloitte, 2020), companies may need to apply more mindful and conscious business and marketing strategies in order to stay relevant. Moreover, even younger generations such as Gen Z, deliberately spend less time online than previous generations (Stefanyk, 2020). This means that companies may need to increase their focus on relationship building, educating and learning with their customers, instead of focusing on maximising sales through online channels (Stefanyk, 2020). This study falls under transformative consumer research, as it aims to increase consumers' and societal well-being (Ozanne, 2015). The goal is to provide findings that hopefully gives a better understanding of the relationship between these concepts, giving way for companies to find other, more sustainable and mindful ways to interact with their customers, and ultimately taking better care of the planet as well. Specifically, this thesis aims to answer the following research question:

“How does mindfulness and self-esteem affect the relationship between consumer’s Instagram usage and online shopping tendencies?”

3.0 Literature review

3.1 Transformative consumer research

In order to place our research in the marketing and consumer psychology field, it is important to first discuss a certain, and relatively new type of research pathway called transformative consumer research (Davis, Ozanne & Hill, 2016). David Mick introduced the transformative consumer research movement back in 2006, and the purpose of this type of research is to enhance consumer well-being and their quality of life (Ozanne, 2015). Moreover, transformative consumer research explores the role that consumption plays on both an individual and societal level (Ozanne et al., 2011). Typical for this line of research is to look at specific at-risk groups, such as those suffering from various types of addiction, thus aiming to find ways to make a positive social impact for these sensitive consumers, and society as a whole (Ozanne, 2015). In sum, topics such as sustainability, mindfulness and maladaptive behaviour are common for this type of consumer research (Davis et al., 2016). This study is focused on exploring the impact of mindfulness and self-esteem on consumers' relationship with certain social media platforms and online shopping. Ultimately, the goal is to both find ways to increase consumers' well-being, and decrease our environmental impact, thus placing our study under the transformative consumer research paradigm.

3.2 Mindfulness

3.2.1 What is mindfulness?

During the past few decades, research and interest in the psychological construct of mindfulness have grown exponentially (Shapiro, Carlson, Astin & Freedman, 2006; Rau & Williams, 2016). As mentioned, due to the increased and accelerating threat of global warming and overconsumption, scientists and environmental activists are calling out ways consumers can become more mindful in their consumption as part of the fight against climate change. Thus, there has lately been an increased centre of attention on research between the concepts of mindfulness and consumption patterns (Sheth et al., 2011). Similarly, research on mindfulness is also seen in combination with mental health dysfunctions, such as addictive and compulsive behaviour (Sheth et al., 2011). In sum, mindfulness is a tool that can help consumers when it comes to both personal and environmental well-being (Sheth et al., 2011).

Mindfulness can be defined as a “state of consciousness” where one attends to experiences in the present moment-to-moment (Brown & Ryan, 2003). Mindfulness can be both a state of mind or characterised as a basic human quality or trait, whereas both have further implications for emotional and physical health (Rau & Williams, 2016). Meditation in various forms is a significant part of mindfulness practice, which is shown to have various benefits for individuals, including physiological, well-being and cognitive outcomes, for example, positive effects on depression, stress, anxiety, self-esteem and mood to self-control and enhanced attention (Brown & Ryan, 2003; Anderson, Suresh, & Farb, 2019). Thus, there are several positive associations that have been established between mindfulness and increased well-being (Hart et al., 2013).

In a historical context, the concept of mindfulness originates back to Eastern religion and Buddhist tradition (Rau & Williams, 2016). Specifically, the Abhidhamma describes the psychological construct of mindfulness and is one of three collections in the doctrine of Theravada Buddhism (Rau & Williams, 2016). Already in the early days of practice, mindfulness was recognised as an individual difference or skill that could be developed through training (Rau & Williams, 2016). However, modern efforts to operationalise mindfulness have failed to find a universal definition of mindfulness that captures both the ethical and complex implications of the original Buddhist construct (Hanley, Abell, Osborn, Roehrig & Canto, 2016; Fischer, Stanzus, Geiger, Grossman & Schrader, 2017). Bishop et al. (2004) attempted to conceptualise mindfulness as a two-component construct, consisting of self-regulation of attention and orientation to experience. That said, it is now common to separate between two distinct lines of modern research in the field of mindfulness, hence: meditative mindfulness and creative mindfulness (Kabat-Zinn, 2003; Hart et al., 2013; Ie, Ngnoumen & Langer, 2014).

Meditative mindfulness was initiated in the 1970s by Jon Kabat-Zinn and emerged from Buddhist tradition (Hart et al., 2013). Kabat-Zinn defines meditative mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145). In this practice, mindfulness and meditation are introduced in treating various mental and physical conditions (Hart et al. 2013). This approach to mindfulness focuses largely on meditation, and how to regulate attention and awareness as a tool to reduce suffering, and increase overall well-being (Kabat-Zinn, 2003; Germer, Siegel & Fulton, 2005). Through meditation, one learns how to keep the mind grounded and

in the present moment and decreasing reaction to what happens in that moment (Kabat-Zinn, 2003). Hence, in addition to heightened awareness of your own thought processes and adopting a non-judgemental attitude, Kabat-Zinn's definition of mindfulness largely focuses on self-regulating one's awareness and attention to internal and external stimuli (Hart et al. 2013).

The second line of research of creative mindfulness is mainly influenced by Ellen Langer, however, instead of the Buddhist tradition, her concept originates from social psychology (Ie et al. 2014). Langer conceptualises mindfulness as “a heightened state of involvement and wakefulness” (Langer & Moldoveanu, 2000, p. 2), and similar to meditative mindfulness, creative mindfulness focuses on well-being, self-regulation of attention and being in the present moment (Hart et al. 2013). Langer describes mindfulness as the opposite of mindlessness, whereas the latter is habitual behaviour and acting on automatic (Hart et al., 2013). Langer argues that people spend a large part of their waking time in mindlessness and running on autopilot, which may negatively impact performance, cognitive function and well-being (Hart et al., 2013). That said, opposed to the meditative approach, creative mindfulness is less centred around meditation alone, as it also focuses more on alertness to distinctions, openness to novelty and awareness of multiple perspectives in order to stimulate creativity (Ie et al., 2014).

In terms of explaining the different components of mindfulness, Shapiro et al. (2006) conceptualised the concept through *intention*, *attention* and *attitude*, which embodies the different components of Kabat-Zinn's definition of mindfulness. First, meditation practitioners found that when meditators practice, their *intentions* shift from self-regulation to self-exploration, leading to self-liberation (Shapiro et al., 2006). Second, *attention* involves observing internal and external experiences moment-to-moment, without interpreting the experience, thus being present in the here and now (Shapiro et al., 2006). Third, is what *attitude* one brings to the attention, and through intentionally bringing the attitudes of patience, compassion and non-striving to the attentional practice, individuals can develop the capacity to not continuously strive for pleasant experiences, or push aversive experiences away (Shapiro et al., 2006). The authors describe mindfulness as a “shift in perspective”, or a way of “reperceiving”. Reperceiving allows one to deeply experience each event of the mind and body without identifying with it or clinging to it, but also without translating to disconnection or disassociation from thoughts and feelings (Shapiro et al., 2006). Reperceiving may lead to other

additional mechanisms that contribute to the positive effects of mindfulness practice, such as self-regulation and emotional, cognitive and behavioural flexibility (Shapiro et al., 2006).

3.2.2 Dispositional mindfulness

Mindfulness has been studied as both an “induced state” through a momentary condition such as a short meditation practice and as a “trait” of a more stable, individual characteristic (Tomlinson, Yousof, Vittersø & Jones, 2018). Through interventions such as mindfulness-based stress reduction and mindfulness-based cognitive therapy, a state of mindfulness can be enhanced (Kabat-Zinn, 2003; Segal, Williams & Teasdale, 2002). Rising recognition for state mindfulness used as a treatment for various mood disorders gave an interest to exploring mindfulness as an inherent capacity or trait, often also called dispositional mindfulness (Kabat-Zinn, 2003).

In order to understand the current definition of dispositional mindfulness, it is important to look at it from a historical perspective. The term originates in the Puggalapannatti, which is a part of the mentioned Abhidhamma of Buddhist tradition (Rau & Williams, 2016). The Puggalapannatti translates as “description of individuals”, and it acknowledges individual differences in the concept of mindfulness (Rau & Williams, 2016). The Puggalapannatti classifies individuals on the Buddhist path according to stages, between those who can sustain mindfulness and those that are characterised as “unmindful” (Rau & Williams, 2016). History shows that even in early traditions, mindfulness was seen as an individual trait or skill which could be inherent but also learned and improved through practice and training. This further indicates that an individual who has never participated in meditation or mindfulness training may still show signs of dispositional mindfulness due to an internal tendency to focus on the present (Wheeler, Arnkoff & Glass, 2017). Thus, dispositional mindfulness can be influenced by both intrinsic factors, or external factors which can be taught, as research through self-reporting and analysis of brain structures has shown that dispositional mindfulness can increase as a result of systematic mindfulness training (Wheeler et al., 2017; Zhuang et al., 2017). Hence, mindfulness can be seen as both a trait and a state, however going forward, the focus of the paper will lie on the trait or *dispositional mindfulness*.

3.2.3 Mindfulness practice

Mindfulness meditation originated in Buddhist Vipassana meditation techniques, also called “insight meditation” (Rosenberg, 2004). Most mindfulness programs share some similarities, as the training

generally involves enhancing one's awareness and applying sustained attention in order to understand the construct of the mind, as well as accepting the impermanent nature of both the mind and the world itself (Rosenberg, 2004). The overall goal of mindfulness practice is to observe thoughts and feelings without being directly identified by them (Baer, Smith & Allen, 2004). For example, one is not meant to avoid negative or judgemental thoughts and feelings but instead accept and observe these in a non-judgemental manner (Baer, Smith & Hopkins, Krietemeyer & Toney, 2006). Through strengthened awareness of internal and external stimuli, individuals will be able to regulate thoughts and feelings in order to stay in the present (Milne et al., 2019).

In order to become more mindful and increase one's dispositional mindfulness, there are many ways to practice. Engaging in mindfulness practices requires training, and can be either mindful meditation, mindful walking, mindful listening, or any other mindful-related practice (Wheeler et al., 2017). Mindfulness differs between individuals and various forms of practice, and it is a dynamic, active, and attentive practice (Zhuang et al., 2017). Examples of specific programs are Kabat-Zinn's Mindfulness-Based Stress Reduction (MBSR), which is a program that usually runs over eight weeks, and includes meditation, yoga and group discussions (Hart et al., 2013). Another example is from Langer's line of research on training and treatment, which instead involves laboratory experiments of short mindfulness inductions (approx. 10 minutes), thus much shorter experiments than Kabat-Zinn's MBSR-method (Ie et al., 2014). Generally, there is significant empirical evidence today that shows the effects of mindfulness meditation and training, and its effects can also be presented outside a formal mindfulness practice setting (Baer et al., 2004; Wheeler et al., 2017). That said, additional and regular out-of-class practice is necessary in order to incorporate the practice and see its benefits in everyday life (Baer et al., 2008).

3.2.4 Mindfulness and consumer well-being

Researchers have found mindfulness programs to have positively improved participants' overall well-being, satisfaction with life, self-esteem, self-compassion and empathy (Shapiro, Schwartz & Bonner, 1998; Chiesa & Serretti, 2009; Birnie, Speca & Carlson, 2010; Bolz & Singer, 2013). Drawing on this, Bahl et al. (2016) argues that mindfulness has transformative potential for consumer, societal and environmental well-being. Further, the author's stresses that mindlessness is a considerable determinant of consumption-induced problems, and that it negatively affects both individual and collective well-being (Bahl et al., 2016). Consequently, empowering consumers to take greater

responsibility in making conscious consumption choices will promote well-being on individual, social and ecological levels (Mick, 2016). Thus, mindfulness can disengage individuals from automatic thoughts, habits and unhealthy behavioural patterns (Brown & Ryan, 2003). In the following, we will discuss mindfulness in regard to the issues of unbeneficial behavioural patterns of overconsumption and addiction.

3.2.4.1 Mindfulness and consumption

For years, researchers have attempted to draw a link between the concept of mindfulness and consumption. Essentially, through mindfulness, one can potentially replace mindless consumption with mindful consumption (Bahl et al., 2016). Rosenberg (2004) was one of the first to propose that mindfulness could contribute to deliberate and sustainable consumption by “enhancing awareness of potentially accessible cognitive-behavioural processes underlying consumption that have become relatively automatic” (p. 108). Further, the author suggested that mindfulness could create a bigger sense of connectedness and relatedness between people, as a non-consumerist satisfied with the need for fulfilment (Rosenberg, 2005).

Other studies have found that mindfulness will decrease susceptibility to particular marketing techniques and persuasion, enhancing the chance of lesser consumption and a more sustainable lifestyle (Crompton & Kasser, 2009; Fischer et al., 2017). Moreover, later studies have confirmed that mindfulness can positively influence consumers’ awareness of consumption by strengthening non-materialistic values and reducing the urge to consume (Bahl et al., 2016). Fischer et al. (2017) found preliminary evidence for characteristics associated with mindfulness to be correlated with sustainable consumption behaviour. This research shows that when addressing issues such as overconsumption and compulsive buying tendencies, mindfulness may be a helpful tool for the treatment and prevention of such behaviour.

3.2.4.2 Mindfulness and addiction

It has been established that mindfulness is a tool that can be used to deautomatise behavioural and mental patterns (Kang, Gruber & Gray, 2013), and as previously argued, mindfulness practice can be used to specifically change certain behaviour and thought processes (Bahl et al., 2016). Several studies have found mindfulness practice to be effective when treating various human conditions such as chronic pain, anxiety, depression and other stress-related disorders (Baer, 2006; Hoffmann, Sawier,

Witt & Oh, 2010). Consequently, mindfulness may be well situated to help remediate various addiction-related dysfunctions and behaviour, in particular with regard to improving cognitive control and emotional processing, but also by potentially reducing negative self-reflective narrative and maladaptive core beliefs (Beck & Alford, 2009). Mindfulness or “mindful-based-interventions” have been studied as a treatment for various addictions such as alcoholism, smoking and misuse of opioids (Garland & Howard, 2018).

In relation to the study at hand, recent studies have found that people who tend to be highly addicted particularly to different social media platforms, tend to show lower levels of mindfulness and vice versa (Sriwilai & Charoensukmongkol, 2016). Another study also found positive correlations between high levels of mindfulness and a lower chance of burnout caused by excessive social media use in a workplace setting (Charoensukmongkol, 2016). This indicates that there is a relationship between levels of mindfulness and addictive tendencies in various forms, whereas mindfulness can be used as a way to increase individuals' well-being.

3.2.5 Measuring mindfulness

As mindfulness is a relatively new concept, different measurement scales have been created over the past two decades in order to operationalise and measure individual mindfulness. All scales rely on self-report measures, aiming to quantify various degrees of the trait or state mindfulness (Hart et al., 2013). There are several scales that exist, such as the Freiburg Mindfulness Inventory (FMI; Walach, Buchheld, Buttenmuller, Kleinknecht & Schmidt, 2006), the Langer Mindfulness Scale (LMS; Pirson, Langer, Bodner & Zilcha, 2012) and the Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al., 2004). That said, the most widely used scales are the 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).

First, the MAAS scale was created by Brown & Ryan (2003) and is a single dimension scale consisting of 15 items. The MAAS scale evaluates mindfulness through one's attention to and awareness of emotions, thoughts, actions and surroundings in the present moment (Zhuang et al., 2017). That said, it has been criticised for being too simple by being a single-factor measure, thus failing to assess mindfulness attributes such as compassion and acceptance (Williams & Grisham, 2012), as well as not being in line with Bishop et al.'s (2004) concept of mindfulness being a two-

component construct. Second, the original FFMQ involves 39 items and takes into account five different subscales of the mindfulness construct, respectively: observing, describing, acting with awareness, non-judging of inner experience and non-reactivity to inner experience (Baer et al., 2006). Zhuang et al. (2017) researched the differences in the brain areas related to various levels of mindfulness and found that the MAAS scale mainly measures individuals' self-awareness, whereas the FFMQ-scale in addition to measuring individuals' self-awareness, also assesses attention control and emotion regulation, making it a more thorough measurement scale (Zhuang et al., 2017).

3.2.6 Five facets of mindfulness

Going forward in this study, we will focus on mindfulness as a concept that can be measured through the FFMQ-scale, as it accounts for the different facets of mindfulness, which has become a popular way of deconstructing the whole mindfulness concept. Thus, it is important to explain the five facets. The first facet of the scale, *observing*, aims to explore individuals' inclination to notice internal and external stimuli such as emotions, thoughts, smell or sound (Hart et al., 2013). *Describing* involves one's ability to verbally label experiences and feelings that occur (Hart et al., 2013). *Acting with awareness* means paying attention to events in the moment, as opposed to acting mindlessly or on autopilot (Hart et al., 2013). Moreover, studies show that the awareness facet of mindfulness especially promotes healthy engagement with emotions, as it predicts more deficient self-regulation of emotion, thoughts and behaviour (Chambers, Gullone, & Allen, 2009). *Non-judging* represents the ability to allow thoughts and feelings to appear, however avoiding evaluating or judge these inner thoughts and emotions as good or bad (Hart et al., 2013). Similarly, *non-reactivity* to inner experience means allowing thoughts and feelings to appear without getting caught up in them (Hart et al., 2013). Further, Chambers et al. (2009) argues that the non-reactivity facet specifically promotes healthy engagement with emotions and thus, facilitates alternative emotion-regulation strategies.

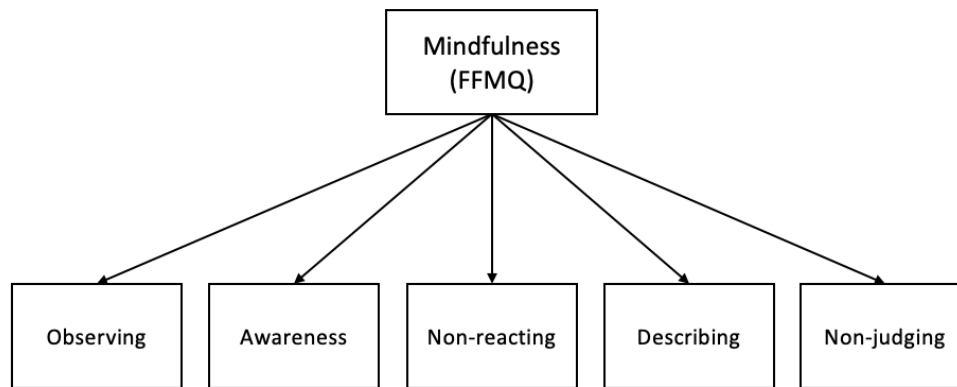


Figure 3.1 Illustration of the five facets of Mindfulness

3.2 Self-esteem

In addition to researching mindfulness and its effects on social media usage and online shopping tendencies, we are also aiming to investigate the effects of another psychological construct on these variables, respectively self-esteem. First, it is evident that self-esteem often can be a predictor or work as a mediator or driver in the relationship between these three concepts. That said, it is necessary to define and separate between the different types of self-esteem, before moving on. As a definition, self-esteem is considered a relatively stable personality trait that varies between individuals and refers to an individual's evaluation of their own self-worth (Waterman, 1992). Research has found several positive psychological outcomes of heightened self-esteem, such as positive emotions, psychological adjustment, confidence, pro-social behaviour and satisfaction with life (Diener, Emmons, Larsen & Griffin, 1985; Leary & MacDonald, 2003). That said, although one normally separates high and low self-esteem, scholars argue that it is necessary to split self-esteem into different constructs, respectively secure, fragile and contingent self-esteem (Kernis, Lakey & Heppner, 2008).

Secure high self-esteem involves natural and favourable feelings of self-worth, which arises from successfully dealing with challenges, being authentic and expressing one's true self (Kernis et al., 2008). Those with secure high self-esteem are believed to feel happy with themselves, have stability in their own sense of self-worth, as well as being able to accept their own weaknesses (Kernis et al., 2008). Moreover, individuals with secure self-esteem generally have no need to be validated or feel superior to others, and experience relationships where they feel accepted and valued for who they are, and not for what they have achieved (Deci & Ryan, 2000; Kernis, 2003).

Individuals with *fragile high self-esteem* also have favourable feelings of self-worth but are more at risk of experiencing fluctuations from day to day, or even within a given day (Kernis, 2005). Their feelings of self-worth are more dependent on matching certain criteria of what it means to be worthy, for example being popular, or successful in academics or sports (Kernis et al., 2008). Individuals with fragile high self-esteem rely on validation, compliments and achievements, are more sensitive to criticism and can become consumed with protecting these positive, fragile feelings of worth (Deci & Ryan, 1995). Similar to fragile high self-esteem, Deci & Ryan (1995) argues that individuals which depend on validation, certain outcomes and matching standards in order to gain positive feelings of self-worth, reflect *contingent self-esteem*. Some scholars state that every individual has contingent self-esteem, whereas the difference lies in which particular domain of their self-esteem is contingent (Arndt & Schimel, 2003; Crocker & Wolfe, 2001; Rhodewalt & Tragakis, 2003). That said, contingent self-esteem does not necessarily reflect negative self-esteem, instead of heightened responsiveness to feedback, external standards of worthiness and being liked, which may result in positive feelings (Kernis et al., 2008; Greenier et al., 1999). However, these positive feelings are fragile, as they rely on continuous validation and experience of positive events (Deci & Ryan, 1995). As most individuals experience some kind of contingent self-esteem, the terms high and low self-esteem will be used interchangeably with the terms secure and fragile self-esteem going forward in this research paper.

3.3 Social Media Addiction

3.3.1 What is social media?

Before exploring the rising problem of social media addiction, it is important to look at the phenomena of social media in general. With more than one billion daily users, social networking platforms such as Twitter, Facebook, and Instagram have become some of the most defining technologies of our time (Appel, Grewal, Hadi & Stephen, 2020) and an increasingly important part of consumers' day-to-day life (Hussain, Simonovic, Stupple & Austin, 2019).

Social media allows users to connect with others through building their own user profile, sharing updates, photos and communicating with their network through instant messaging (Sholeh & Rusdi, 2019). Moreover, social media is used as the primary domain in which many receive vast amounts of information and news about the world around them, thus, making social media culturally significant

in the current day (Appel et al., 2020). Additionally, innovation is constantly taking place on both the user/consumer side and the technology side (adding new features and services) of social media, resulting in social media always changing (Appel et al., 2020). Due to the ever-changing and fast-paced nature of social media, the future use of social media in business and marketing might not be merely a continuation of what we have seen until now (Appel et al., 2020).

That said, the massive potential audiences of consumers who are spending more and more time across various social media platforms have made companies and organisations embrace social media as a marketing channel (Appel et al., 2020). The dominant business model has involved the monetisation of users by offering services to anyone that wants to reach audiences of specific consumers with their tailored marketing and digital content (Appel et al., 2020). In order to stay attractive to companies, they purposefully tap into well-known consumer psychology when designing their services in order to keep consumers returning to the platform. For example, persuasive design techniques including the endless scroll of the newsfeed and push notifications have created a feedback loop that keeps the audience glued to the different social media platforms (The Social Dilemma, 2020), which has resulted in addictive tendencies in some social media users (Kuss & Griffiths, 2011; Griffiths, 2013).

As a consequence of this intended design, several studies have found that higher social media use is correlated with self-reported declines in both physical and mental health, as well as decreased in individual's overall well-being (Orbena, Dienlin & Przybylski, 2019). Hence, as a result of the social media revolution and the increased number of social media users (Blachino, Przepiorka & Pantic, 2016), researchers have turned their attention to a new and rapidly growing type of addictive behaviour, known as social media addiction (Kuss & Griffiths, 2011; Dalvi-Esfahani, Niknafs, Kuss, Nilashi, & Afrough, 2019).

3.3.2 Addiction theory

Before defining social media addiction, it is important to look at addiction theory in general. Due to the complicated nature of addiction, it has been difficult to create an all-encompassing definition of what it truly is (West & Brown, 2013). The original definitions were centred around alcohol and drugs, highlighting that usage led to undesirable physiological symptoms. However, more recent definitions are related to the impairment of a person's judgement about a certain behaviour that may affect them negatively, even if they desire to abstain from this certain behaviour (West & Brown,

2013). Even with the shift of the definitions, there are still many working definitions of addictive behaviour depending on the situation it is being used in (Dalvi-Esfahani et al., 2019). Each case of addiction is different and is commonly influenced by environmental factors unique to each individual, such as personal stress factors, societal expectations and economic factors (West & Brown 2013). That said, a common definition of addiction is by West and Brown (2013), emphasising that addiction is considered as the condition of being habitually or compulsively occupied with something or compulsive psychological and physiological need for a habit-forming substance.

According to West and Brown (2013), there are three theories that define different ways addictive behaviour can occur. First, the *Genetics Theory of Addiction* is based on the fact that genetics may influence one's propensity to develop an addiction. Second, some scientists philosophise that the *Biological Theory of Exposure* is a more accurate description of what causes addiction. This theory does not rely on internal processes, rather on the event itself when the individual engages with the stimulus that causes addiction. The Biological Theory of Exposure is similar to Conditioning Theory, in the way that both asserts that addictive behaviour is caused by repetitive usage. However, the first emphasises the biological reactions in the body that cause positive rewards for behaviour, followed by negative effects of withdrawal, eventually leading to addictive behaviour. Last, *Process Addiction* is another form of addiction, which is centred around activities rather than substances (West & Brown, 2013). Process addiction is often linked to behavioural addiction, which is when a person, despite negative consequences, feels an overpowering urge to participate in a specific behaviour (Willingham, 2012).

3.3.2.1 *The six components of addiction*

Griffiths (2005) operationally defined addiction as any behaviour that features the six core components of addiction in relation to a substance or activity: mood modification, salience, tolerance, withdrawal, conflict and relapse (Figure 3.2). *Mood modification* refers to a favourable change in mood when using or participating in a specific behaviour, whereas *salience* is the behavioural, cognitive or and emotional preoccupation with the specific behaviour or usage (Griffiths, 2013). *Tolerance* is when there is an increase in the usage or the specific behaviour over time due to increased tolerance of the individual, and *withdrawal* symptoms are when individuals experience unpleasant and unwanted physical or emotional feelings when use or behaviour is decreased or stopped (Griffiths, 2013). Last, *conflict* is when the use or the specific behaviour causes interpersonal

problems, and *relapse* refers to when addicts quickly return to their excessive behaviour or use after a period of decreased use or abstinence (Griffiths, 2013).

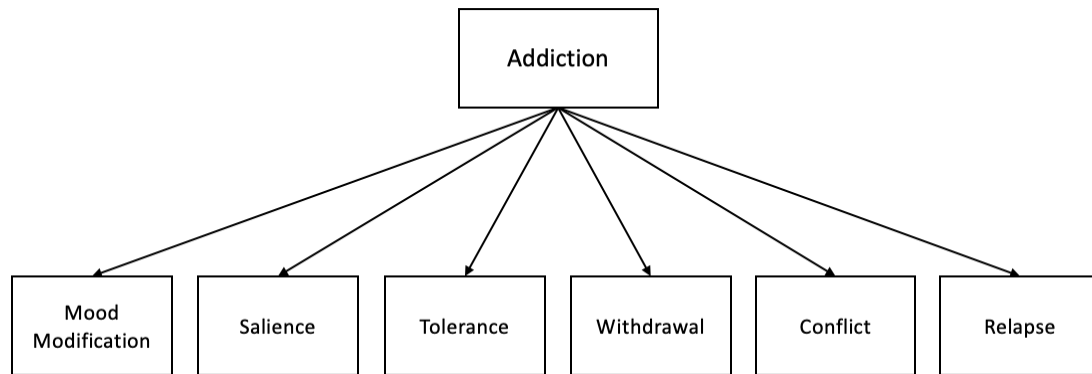


Figure 3.2 Illustration of the six components of addiction

3.3.3 Defining social media addiction

Some might argue that the purpose of social media platforms is to expand and maintain an individual's social networks in the modern-day era, however, there is increasing evidence that some individuals spend excessive amounts of time on these online platforms to the point of displaying symptoms of addiction (Griffiths, 2013; Sussman et al., 2011). The term Internet addiction was introduced in the '90s (Young, 1996), and has become a popular topic for researchers, whereas social media addiction can be referred to as a subcategory of Internet addiction. Taken from the addiction paradigm, Andreassen and Pallesen (2014) defined social media addiction as “*a condition in which users are extremely worried about social activities, driven by a strong incentive to enter or use social networking sites, and devoting enormous time and effort to social networking sites that interfere with other social activities, work, interpersonal relationships, or mental health and well-being*” (Dalvi-Esfahani et al., 2019, p. 2).

The definition by Andreassen and Pallesen (2014) reflects the six primary components of addiction (Griffiths, 2005), which can be implemented in addiction towards social media (illustrated in Figure 3.3). Mood modification refers to individuals that excessively use social media to forget about personal problems or reduce unwanted feelings. Salience is when social media usage is dominating an individual's behaviour and thinking. Further, tolerance refers to when an individual is maintaining or achieving their preferred emotions by an increment of social media use, whereas withdrawal is

when unpleasant emotions or feelings of an individual will arise if social media use is terminated. The conflict concerns social media involvement's likelihood to create conflicts in the individual's personal life, such as conflicts in educational settings, relationships and at the workplace. Last, relapse refers to the tendency of an individual to return to some type of social media usage after abstinence or control. Further, drawing on addiction theory, the genetic theory is applicable to social media addiction through the claim that people who are more self-conscious, have low levels of self-esteem and are reliant on others, may be more likely to be addicted to social media. Additionally, as social media usage is an activity rather than a substance, it relates to process addiction as proposed by West & Brown (2013). Based on these observations, excessive social media use can be operationally defined as an addiction (Sharif & Yeoh, 2018).

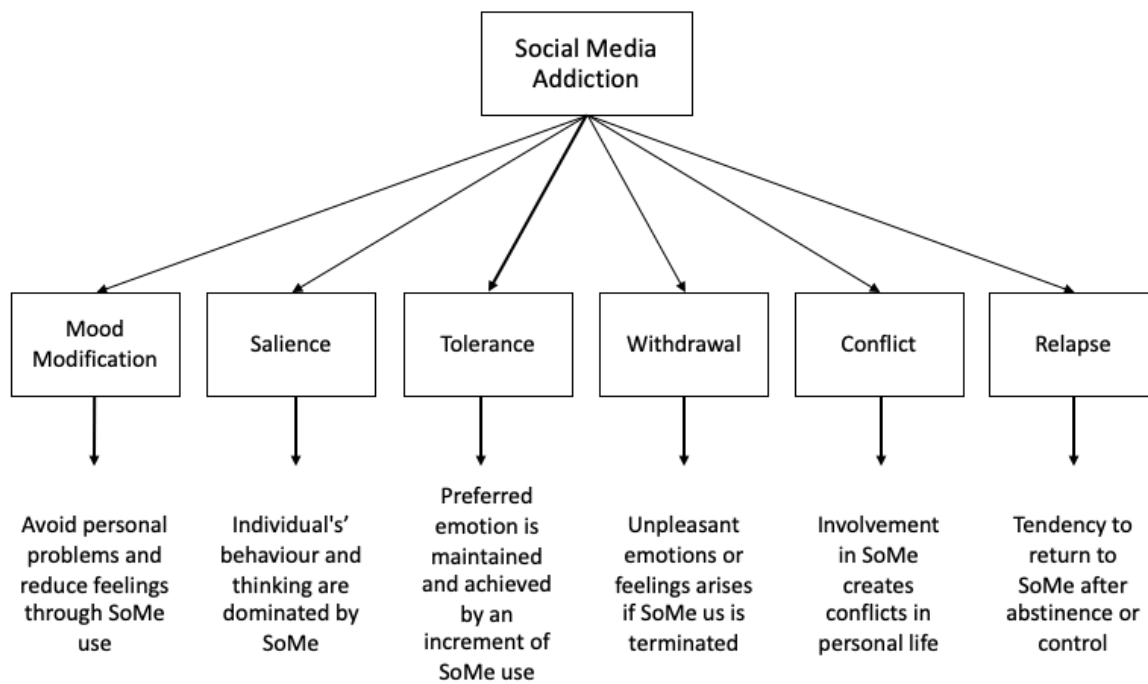


Figure 3.3 Illustration of the six components of addiction, related to social media (SoMe) addiction (Griffiths, 2005)

3.3.4 Predictors and consequences of social media addiction

Going deeper into the underlying predictors of social media addiction, Xu and Tan (2012) state that excessive social media use occurs when individuals view social networking as an important mechanism to relieve stress, loneliness or depression (Sharif & Yeoh, 2018). Turel & Serenko (2012) aimed to explain the formation of social media addiction through various environmental factors, such

as lack of self-presentational skills, preference of virtual communication rather than face-to-face interactions and lack of self-regulation (Turel & Serenko, 2012). Further, social media usage is often linked to a search for satisfaction, which bears resemblance to other addictive behaviour (Kuss & Griffiths, 2011). Maintaining and establishing different forms of social capital and potentially increasing the size of one's network is considered one of the main motivations for using social media (Lin & Lu, 2011). Additionally, fear of social exclusion or fear of missing out (FOMO) is a widespread social phenomenon, which involves the fear of missing out on social events. As social events often are portrayed on social media platforms, FOMO is often considered as an antecedent of social media addiction (Hetz, Dawson & Cullen, 2015; Milyavskaya, Saffran, Hope, & Koestner, 2018).

3.3.4.1 Self-esteem

Generally, various studies exist on the association between self-esteem and addictive behaviour towards both substances and activities, whereas multiple have concluded on a strong relationship between the two variables (Greenberg, Lewis & Dodd, 1999). Related to this study, other studies have specifically examined the correlation between self-esteem and addiction towards Internet or social media platforms (Leung, 2007; Aydin & Sari, 2011; Hawi & Rupert, 2016). For example, Aydin & Sari (2011) found self-esteem to be significantly and negatively correlated with Internet addiction. Further, attempting to explain this association, an individual may for example question their own likeability or social skills, while at the same time believing that having a large number of friends and followers online will change this perception of the self, which can trigger addictive behaviour to social media (Andreassen et al., 2017). Additionally, individuals with low self-esteem may believe it is safer to express themselves on social media, as opposed to those with higher self-esteem (Forest & Wood, 2012).

Several studies have found significant negative associations between self-esteem and social media addiction (Andreassen et al., 2017), and that individuals with low self-esteem have a tendency to use social media platforms to enhance their own self-image and self-esteem (Błachnio, Przepiorka, & Rudnicka, 2016; Denti et al., 2012; Gonzales & Hancock, 2011; Steinfield, Ellison & Lampe, 2008). One large scale study of 23.592 social media users on Facebook, Instagram and Twitter found a correlation between addictive use and low self-esteem (Andreassen et al., 2017). Another study on Facebook indicated that self-esteem moderated the relation between use and social capital, meaning

that individuals with low self-esteem used Facebook to gain friends and popularity (Mehdizadeh, 2010; Barker, 2009). Further, due to social comparison, another study found Facebook to negatively affect well-being and self-esteem (Denti et al., 2012), whereas both positive and negative feedback from friends online may lower self-esteem (Valkenburg, Peter & Schouten, 2006). Moreover, several studies show a tendency where self-esteem mediates the relationship between social networking and associations to overall well-being (Valkenburg et al., 2006; Apaolaza, Hartmann, Medina, Barrutia & Echebarria, 2013).

3.3.4.2 Consequences of social media addiction

To date, research on the impact and consequences of excessive social media use has shown mixed findings (Dalvi-Esfahani et al., 2019). Some studies found that using social media can provide benefits to users, however, a body of research revealed its negative impact when using it excessively (Rosen, Whaling, Carrier, Cheever, & Rökkum, 2013). For example, individuals often use social media to avoid or stay disconnected from their own feelings (Griffiths, 2005). They exchange their unwanted and unpleasant feelings with positive feelings of “engagement” (Kuss, Van Rooij, Shorter, Griffiths, van de Mheen, 2013). Consequently, they do not achieve the same positive feelings unless it involves the use of social media (Andreassen, 2015). By prioritising life on social media, relations with real-life communities and peers may gradually endure, causing social withdrawnness and insecurities about in-person connections (Andreassen, 2015; Kuss & Griffiths, 2011). Accordingly, the isolation from their surroundings may cause emotional discomfort, which then again have further negative influences on interpersonal relationships, thus creating relationship dissatisfaction and surveillance behaviour (Andreassen, 2015).

Social media addiction may also lower productivity in both educational settings and at the workplace due to procrastination, distraction and poor time management (Kuss & Griffiths, 2011). Accordingly, digital distraction and focus on social media platforms essentially risk lowering productivity, efficiency and achievements (Andreassen, 2015). Due to these negative consequences, research implies that excessive social media use is linked to various social and psychological consequences (Pahlevan & Khanekharab, 2017), such as poor well-being, sleep quality and self-esteem, anxiety, depression, loneliness, financial loss and social disapproval (Sussman et al., 2011; Kuss & Griffiths, 2011; Andreassen, 2015). Further, the consumption-promoting content individuals encounter on social media by companies and peers, may influence individual’s consumption decisions (Frick,

Matthies, John & Santarius, 2020). Sensitive consumers who use social media more excessively are more prone to be pushed towards immediate purchasing (Iyer, Blut, Xiao & Grewal, 2019), thus are more likely to adopt unsustainably high consumption levels (Frick et al., 2020).

3.4 Compulsive buying behaviour

Before diving into the rising issue of compulsive buying tendencies, it is necessary to briefly discuss consumer's buying behaviour in general. Consumer behaviour deals with human responses in the commercial world, focusing on how and why individuals decide to buy and use distinct products or services. As well as how advertising, prices or promotional tools are used to encourage consumption and influence consumers' decisions, and what the factors that both hinder and support consumption (East, 1997). It is vital for businesses to understand the behaviour of the consumer to maximize the effects of their marketing tactics, as well as to be able to create a network of concepts knowledge that can help them to understand how consumers make decisions, change their minds, or behave in general (East, 1997). Although these tactics benefit retailers to increase sales and profits, the constant encouragement to buy and the development of more excessive behavioural tendencies pose serious problems for a growing number of consumers (Workman & Paper, 2010). Accordingly, as consumers are not considered to be rational decision-makers, rather emotionally driven (Østergaard & Jantzen, 2000), the continuous urge and reminder by retailers to consume, may result in undesired behaviour, such as compulsive buying.

Compulsive buying represents a particular type of consumer behaviour that has been of ongoing interest to consumer researchers (Workman & Paper, 2010), and a recent meta-analysis showed that roughly one in 20 individuals are affected by compulsive buying behaviour at some point in their lifetime (Bighiu, Manolică & Roman, 2015), which highlights the rise in compulsive buying tendencies in the modern-day era. In the following, compulsive buying in general and in an online environment will be discussed.

3.4.1 Defining compulsive buying behaviour

A few clarifications are necessary to be made in order to understand the concept of compulsive buying behaviour. Although impulsive and compulsive behaviour are similar in theory, they are not directly the same issue (Bighiu et al., 2015). For many years, impulsive buying was researched in combination with the influence of outside stimuli, such as point-of-purchase and in-store promotions (Shahjehan,

Qureshi, Zeb & Saifullah, 2012). Later, impulsive buying has been studied as more of a psychological problem, seen as *“when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately”* (Shahjehan et al., 2012, p. 2188). Compulsive buying, although considered to be a part of the new age addictions, is a behaviour that was identified decades ago. McElroy, Phillips & Keck (1994) described compulsive buying as a chronic and repetitive behaviour developed as a primary response to miserable events. The earliest definition came from Faber and O’Guinn (1992), describing it as a *“type of consumer behaviour which is inappropriate, typically excessive, and clearly disruptive to the lives of individuals who appear impulsively driven to consume”* (Bighiu et al, 2015, p. 73). Later, compulsive buying has been described as an abnormal form of consumer behaviour: *“chronic buying episodes of a somewhat stereotyped fashion in which the consumer feels unable to stop or significantly moderate the behaviour”* (Shahjehan et al., 2012, p. 2187). Particularly consumers’ online buying behaviour has become especially relevant due to the constant push to buy from companies and peers, and thus, a specific area of interest for consumer research (Solomon, 2015). That said, in light of individuals’ increased use of social media and the rise of e-commerce, the question arises as to how constant daily persuasive techniques online impacts consumers’ response to purchase (The Social Dilemma, 2020).

3.4.2 Online compulsive buying

As an extension of compulsive buying in the traditional form, the manifestation of compulsive buying tendencies among consumers in an online environment has become a popular topic in recent empirical studies (Pahlevan & Khanekharab, 2017). Online compulsive buying comes as a response to the Internet, social media and the rise of e-commerce, which have changed the way consumers consume, as individuals now spend more and more time hours of their day on online platforms. As a definition, online compulsive buying refers to an individual’s failure to control excessive online purchases and is a common maladaptive and problematic behaviour in the current information era (He, Kukar-Kinney & Ridgway, 2018).

As online compulsive behaviour resembles addiction, one can translate this buying behaviour into the six dimensions of addiction, illustrated in Figure 3.4 (Manchiraju, Sadachar & Ridgway, 2016). First, mood modification refers to online shopping being used as a coping strategy to forget about or reduce unwanted feelings. Salience refers to an individual’s preoccupation with the activity of online shopping. Tolerance implies that increasing amounts of shopping on online platforms need to be

achieved in order for the individual to experience mood modification as time elapses. Withdrawal symptoms include individuals' experience of their well-being (e.g., unpleasant feelings or negative physical effects) is affected when he or she reduces or completely stops online shopping. Conflict refers to disputes that arise in other areas of the individual's life due to excessive shopping online, such as interpersonal conflicts, conflicts in educational settings, in relationships or at the workplace. Last, relapse refers to the tendency to fall back to previous patterns of online shopping behaviour (Manchiraju et al., 2016).

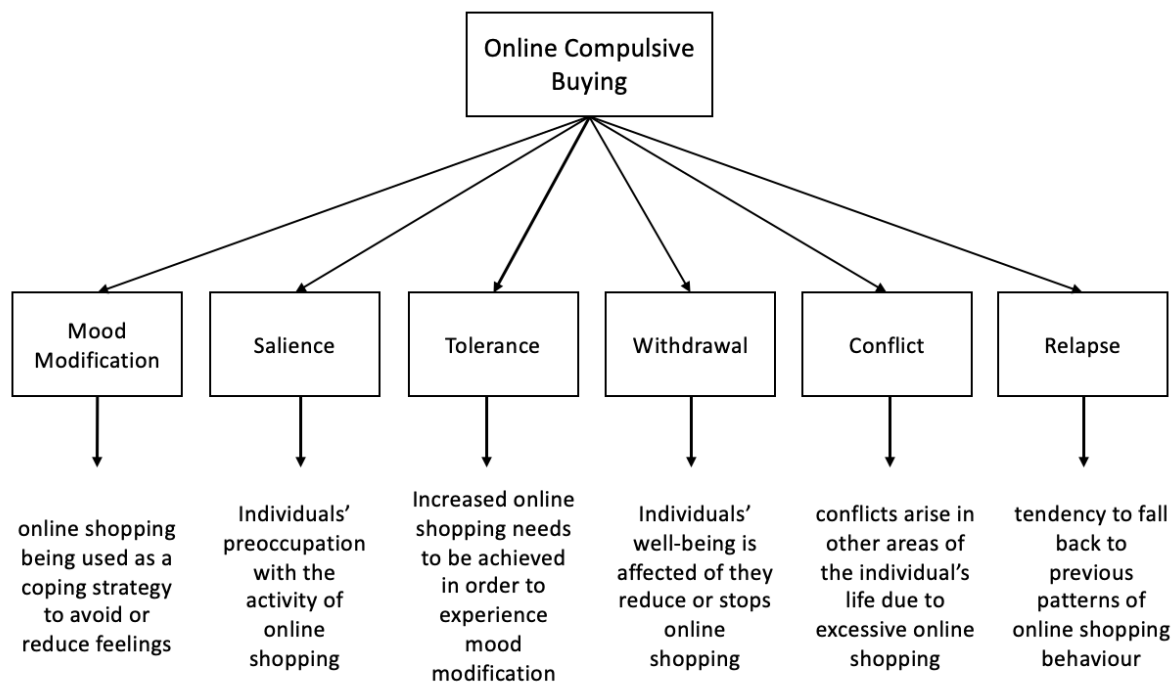


Figure 3.4 Illustration of the six components of addiction, related to Online Compulsive Buying (Manchiraju et al., 2016)

3.4.3 What can cause online compulsive buying tendencies?

Compulsive buying, in general, is associated with overpowering and repetitive urges to buy, accompanied by instantaneous feelings of pleasure and relief. However, the feeling of guilt and remorse is often followed due to awareness of the inadequacy of the spending behaviour and its potential negative consequences (Mrad & Cui, 2020). Moreover, compulsive buying is often expected to fulfil some positive functions for the individuals including as positive change in mood and expressing creativity and self-identity (Faber, O'Guinn, & Krych, 1987; Matthews, 2010). However, the positive feeling diminishes as a result of the excessive behaviour and is consequently replaced by re-emerging urge to buy (Silbermann, Henkel, & Müller, 2008), thus, resulting in negative outcomes

(Mrad & Cui, 2020). The following factors have been identified as predisposing for compulsive buying behaviour: high materialism, anxiousness, low self-esteem, impulsivity, and need for approval and dependence on others (DeSarbo & Edwards, 1996; Bighiu et al., 2015; Sharif & Khanekharab, 2017; Zheng et al., 2020). That said, more recent research has found other significant predictors of this type of behaviour, ranging between demographic factors, social and hedonic motivations, individuals' level of self-esteem and other behavioural factors such as excessive Internet and social media use.

3.4.3.1 Demographic factors

Most studies researching the topic of compulsive buying behaviour found significant gender differences (Claes, Müller, & Luyckx, 2016), where young females between 35 and 40 are most likely to experience the consequences associated with compulsive buying (Maraz, Griffiths & Demetrovics, 2016; Manchiraju et al., 2016). In more specific terms, previous studies have shown that online compulsive buying, and the related negative consequences are more prominent among female consumers (Díez et al., 2018, Zheng et al., 2020). Additionally, many studies have confirmed the negative relationship between compulsive buying and age (Maraz et al., 2016), that is, a decrease in compulsive buying by increasing age.

3.4.3.2 Social and hedonic motivations

Social motivations come from a need to satisfy self-expression, enhance feelings of self-worth, and gain social approval (DeSarbo & Edwards, 1996) through purchasing of products (Ridgway, Kukar-Kinney & Monroe, 2008). For example, compulsive buyers are more prone to attend to social comparison information (Bearden & Rose, 1990; Kukar-Kinney, Scheinbaum, & Schaefer, 2016) on social media platforms, as it provides abundant opportunities of social comparison (Vogel, Rose, Roberts & Eckles, 2014). Buying and owning distinct products helps compulsive buyers to create and express their self-identity and as well as it may enhance their social image of being at the forefront of trends, hence, enhancing their self-esteem (Kukar-Kinney et al., 2016). *Hedonic motives* come from positive feelings consumers experience while purchasing. Compulsive buyers frequently experience negative and unwanted feelings in life and turn to buying to find relief (Faber & O'Guinn, 1992). The experienced positive feelings make individuals able to cope better with negative thoughts and feelings, thus repeating these behaviours through retail therapy to temporarily achieve positive emotions (Bighiu et al., 2015).

3.4.3.3 Self-esteem

Previous studies highlight the importance of understanding self-esteem as a driver for certain compulsive behaviour (Hanley & Wilhelm, 1992). For example, models of consumer buying behaviour suggest that consumers have a tendency to buy products that harmonise with their own self-image or the image that they wish to portray to others (Hanley & Wilhelm, 1992). Further, an important driver for consumption, that is regarding acceptance or rejection of symbolic goods, can often be tied to a wish for self-enhancement or to increase self-esteem (Hanley & Wilhelm, 1992). That said, if efforts to maintain or enhance self-esteem are successful, the behaviour is more likely to be reinforced, which in some cases have been shown to lead to compulsive buying tendencies (Hanley & Wilhelm, 1992). This may entail that consumers with low self-esteem are thus more likely to end up in a cycle of compulsive buying for momentary relief (Hanley & Wilhelm, 1992).

One study has shown this correlation between low self-esteem and compulsive buying, which is often tied to temporary relief of their decreased self-esteem and negative emotions (Hanley & Wilhelm, 1992; Lejoyeux, Richoux-Benhaim, Betizeau, Lequen & Lohnhard, 2011). Another study has not found a direct link between compulsive buying and self-esteem per se, however the correlation between self-esteem and differences in buying style (Lejoyeux et al., 2011). Lejoyeux et al. (2011) found that compulsive buyers who more often buy self-gifts or products which could increase self-esteem might also be more sensitive to the effects of their purchases, as the hope is that it would increase their self-esteem.

3.4.3.4 Internet and social media

Research suggests that the tendency of compulsive buying is exacerbated by internet use (Kukar-Kinney, Ridgway & Monroe, 2009). More specifically, Kukar-Kinney et al. (2009) reported that certain internet use characteristics seem to compel consumers to buy more compulsively. Several reports have described the relationship particularly between social media usage and online compulsive buying (Lee, Lee & Oh, 2015; Zhang et al., 2017). Accordingly, excessive social media users may have a higher tendency to engage in online buying (Sharif & Khanekharab, 2017).

The relationship between social media usage and online compulsive buying is well supported by the Interaction of Person-Affect-Cognition-Execution (I-PACE) model for addictive behaviours (Brand, Young, Laier, Wölfling, & Potenza, 2016). Generally, this model explains situational factors that could activate cognitive and affective responses in online buyers. According to the I-PACE model, this includes state anxiety and upward social comparison information that individuals may encounter on social media (Brand et al., 2016). Further, this may reduce inhibitory control of the individual and potentially influence individuals to use shopping applications to gratify social comparison and alleviate state anxiety. Thus, eventually leads to the development of problematic behaviours such as online compulsive buying (Brand et al., 2016).

Moreover, individuals using social media are often exposed to consumption-related activities, ranging from product advertising by brands to peers' opinions about recent shopping experiences (Chevalier & Mayzlin, 2006, Stephen & Galak, 2012). Consequently, social media provides an important platform for consumers to publicise their personal possessions (Xiao, 2019, Zhang et al., 2017), which may serve to shape materialism (Gupta & Vohra, 2019, Ho, Chin & Lwin 2017), thereby intensifying online compulsive buying tendencies (Li et al., 2016, Sharif and Khanekharab, 2017). In addition, previous studies have reported a positive relationship between browsing in mobile commerce and consumers' urge to impulsively buy (Huang, 2016; Zheng et al., 2020). As a result, excessive social media usage may be positively associated with online compulsive buying tendencies.

3.4.4 The relationship between social media, online compulsive buying and overconsumption

In today's society, there is a growing concern that worldwide cultures of consumption have had detrimental consequences for both environmental sustainability and individuals' well-being (Fook & McNeill, 2020). In addition to the negative influence high consumption levels have on both personal and societal well-being, Sheth et al. (2011) states that consumption turns into problematic overconsumption when the level of consumption becomes unacceptable or unaffordable because of its environmental consequences. Accordingly, several studies state that the consumption pattern in the modern era threatens planetary boundaries¹ (Steffen, 2015). However, while it is well established

¹ Planetary boundaries: scientifically based levels of human perturbation of the Earth system, aimed to define the environmental limits within which humanity can safely operate (Steffen et al., 2015)

that polluting resource levels need to drop quickly, it is less clear how this is translated into individual consumption behaviour (Frick et al., 2020).

Due to digitalisation, the challenge to remain within planetary boundaries while still meeting consumer's needs and demand is faced within a rapidly changing context (Fook & McNeill, 2020). Online environments increasingly penetrate most everyday activities, and as discussed, this trend may pose a higher risk for unsustainable consumption (Börjesson, Håkansson, Svenfelt & Finnveden, 2014). As daily exposure to different online platforms and social media increases, they may affect sustainability-related consumption behaviour in several ways. For example, access to online shopping improves (Bandura, 2002; Frick et al., 2020), online content such as personalised commercial advertising may influence consumption motives (Dinner, Van Heerde & Neslin, 2014) or peer communication on social media (Bauer et al., 2012). In the following, the link between online compulsive buying tendencies, online platforms (e.g.: social media) and overconsumption will be explored, due to a possible link between these factors.

As mentioned, the compulsive buyer tends to engage in impulses associated with positive feelings, such as gratification, relief and pleasure (Bighiu et al., 2015). Accordingly, the personalised and convenient environments of online platforms are likely to promote these tendencies beyond what is normally seen in an in-store retail setting (Verhagen & van Dolen, 2011). Additionally, an online shopping environment is enhanced through the use of targeted marketing stimuli that push already sensitive consumers such as compulsive buyers toward an immediate purchase (Iyer et al., 2019). In addition to the tailored advertisement, perceiving peer content may influence individual consumption levels (Frick et al., 2020). For example, the approval of products on social media (giving "likes") has been found to increase purchasing (Lee et al., 2015), and so has joining brand communities on social media (Goh, Heng & Lin, 2013). As a result, tailored and personalised advertising may encourage materialism, determining people to evaluate themselves in terms of what they own and how they look instead of their own abilities and values. In summary, all these factors are all important triggers for online compulsive buying: high materialism (Sharif & Khanekharab, 2017), need for approval and dependence on others (DeSabro & Edwards, 1996).

Moreover, the online setting supports the hedonic experience compulsive buyers seek to satisfy by removing some of the usual in-store behavioural restraint signals (Dittmar, Long & Meek, 2004). An

example, alongside how compulsive buyers get influenced by marketing stimuli, is the growth of consumer use of credit cards that further promotes online purchasing (Akram et al., 2017). The use of a credit card is said to lower the perceived cost of purchases, thus accelerating impulsive decision making in an online retail context (Roberts & Jones, 2001). Further, previous research has demonstrated that “buy now, pay later” programmes in online shopping settings also plays a part in influencing online buying tendencies. A clear link is identified between online impulse buying tendency and sales conversion tool sensitivity, thus promoting overconsumption in this setting (Fook & McNeill, 2020). Additionally, due to the strong desire to project a positive image onto others, compulsive buyers are more motivated to buy into distinct online deals despite the fact that the goods are often termed “non-essential” (Kukar-Kinney et al., 2016).

In search of a pathway toward reducing overconsumption, sustainability literature is often interested in better understanding why it actually occurs and what facilitates overconsumption in specific groups of consumers (Fook & McNeill, 2020). Previous research states that consumers with compulsive buying tendencies are directly linked to overconsumption through the inability to control the repeated urge to consume (Faber, Christenson, De Zwaan & Mitchell, 1995). The persistent uncontrolled buying behaviour despite repetitive negative feedback (Sohn & Choi, 2014), together with the rise of available online shopping sites and impulse enabling financial tools (Fook & McNeill, 2020), makes overconsumption almost inevitable. As a result, several authors highlight the need to go beyond pushing consumers towards green consumption and instead deal with the predecessors to overconsumption in order to find an enduring solution to the escalating environmental problems (Sheth et al., 2011).

3.4.5 Instagram addiction, mindfulness and buying behaviour

As discussed, studies have shown a significant relationship between addiction, mindfulness and various social media platforms, as well as a connection between social media usage and online compulsive buying tendencies. This study aims to specifically look at the social media platform Instagram when discussing these issues, both due to the nature of the platform, and its increasing popularity and large user base.

Before moving forward, it is thus necessary to explain some of the most prominent features of Instagram. Instagram is one of the most popular social media platforms today, and there are two main

features on the app, respectively the Instagram Feed and Instagram Stories (Sholeh & Rusdi, 2019). The first is the feed where users can share photos and videos and get feedback in the form of comments and likes from other users, whereas the latter is digital storytelling of photos and videos which disappear within 24 hours (Sholeh & Rusdi, 2019). Users are also able to communicate and send direct and private messages, photos and videos to other users in the app. That said, Instagram is not only a platform for friends, family and colleagues to share photos and videos, but is now becoming increasingly popular as an integrated part of businesses marketing strategies (Nuseir, 2020). Moreover, Instagram has contributed to the rise of influencer marketing, where celebrities and users with a large following base are sponsored with products to advertise on their own personal profile (Shalwani, 2020). As a result, Instagram uses targeted advertising, meaning that users will see advertising from both businesses and influencers that are specifically tailored to their personal profile and behaviour online, increasing the possibility of persuasion to buy (Whitney, 2021).

Instagram has in many ways become a perfect platform to share daily life, however, research has shown that frequent use can lead to compulsive and excessive behaviour, such as constant checking of notifications, likes and comments, stalking other profiles (Sholeh & Rusdi, 2019) as well as active self-campaigning (Alhabash & Ma, 2017). A survey made by the Kingdom's Royal Society for Public Health showed that Instagram is the worst out of the social networking sites when it comes to causing an increase of anxiety and depression, alongside other symptoms such as a decrease in quality of sleep, bullying and fear of missing out (Cramer & Inkster, 2017). Moreover, due to the increase of businesses' frequent advertising on the platform, studies show that Instagram is without doubt driving purchasing behaviour (Facebook IQ, 2019).

As previously mentioned in relation to mindfulness, some studies have specifically investigated the relationship between mindfulness, and problematic Internet and social media use, whereas mindfulness has been found to prevent such issues (Sriwilai & Charoensukmongkol, 2016; Calvete, Gámez-Guadix & Cortazar, 2016). Calvete et al. (2016) studied all mindfulness facets (observing, describing, non-judging, non-reacting and awareness) in relation to problematic Internet use. Their findings indicated that non-judging predicted a decrease in preference for social interactions online as opposed to face-to-face, in addition to other problematic components of Internet use. Additionally, the facets of observing and awareness predicted more efficient self-regulation of Internet use (Calvete et al., 2016).

As of now, most studies on social networking platforms and their relationship with mindfulness, addiction and purchasing behaviour have been done on other social media such as Facebook and Twitter, and on Internet and online networking in general (Hussain et al. 2019). However, only a few studies have focused specifically on Instagram (Sholeh & Rusdi, 2019; Kircaburun & Griffiths, 2018). As a result, investigating whether Instagram may cause addiction and drive compulsive buying tendencies, is of interest. Moreover, looking at the relationship between these behavioural factors and the proposed personality measures of mindfulness and self-esteem will give a deeper understanding of the preventatives and antecedents of such behaviour.

4.0 Hypothesis formulation

In the literature review, it has been established that consumers are more likely to be affected by intrinsic factors (e.g., mindfulness and self-esteem) in addition to external influences (e.g. social media) in their consumption patterns, whereas research has shown that these factors may also be related to how some consumers develop addictive and compulsive tendencies. Based on these findings, a number of hypotheses have been created in order to answer the main research question: *“How does mindfulness and self-esteem affect the relationship between consumer’s Instagram usage and online shopping tendencies?”*. All hypotheses have been formed as means to match the scope of the paper.

The hypotheses are built on extensive research on the fields of the two psychological constructs of mindfulness and self-esteem, and their effect on the behavioural measures of Instagram addiction and online compulsive buying. In order to answer the main objective of whether mindfulness can help prevent excessive social media use and overconsumption, three underlying objectives have been defined:

- To provide insights into the influence of mindfulness and self-esteem on Instagram addiction;
- To provide insights into the influence of mindfulness and self-esteem on online compulsive buying tendencies;
- To provide insights into the influence of Instagram addiction on online compulsive buying tendencies.

Studies have found that people who tend to be highly addicted, particularly to different social media platforms, show lower levels of mindfulness (Sriwilai & Charoensukmongkol, 2016). Similarly, other studies have found that those with higher levels of mindfulness are less likely to use social media excessively (Charoensukmongkol, 2016). That said, previous research has only focused on assessing this relationship with mindfulness in general, thus not separated into the five mindfulness facets. Thus, in order to test the relationship between mindfulness and Instagram addiction from multiple ends, several hypotheses have been constructed. In the hypothesis formulation, the mindfulness construct will be separated into the five different facets, respectively: observing, describing, non-reacting, awareness and non-judging, in order to spot possible differences between the facets.

First, participants high on the *observing* facet will likely be more attentive to internal and external influences (Hart et al., 2013). Thus, participants with high scores on these variables are considered to have a negative association with Instagram Addiction (hypothesis 1). Second, the *describing* facet prevents individuals from getting caught in negative emotions and thoughts which in some cases are predictors for addictive behaviour (Sharif & Yeoh, 2018). Instead, these emotions and dominant thoughts are identified and labelled, thus decreasing the chance of becoming consumed or overwhelmed by them (Baer et al., 2006). Describing is therefore hypothesised to have a negative association with Instagram Addiction (hypothesis 2). Third, individuals with high scores on the *non-reacting* facet allow self-critical feelings and thoughts to appear, but without getting caught up in them and responding to them in maladaptive ways (Hart et al., 2013). Previous studies have suggested that this facet promotes healthy engagement with emotions and thus, facilitates alternative emotion-regulation strategies (Chambers et al., 2009), for example instead of using social media to relieve negative emotions. That being so, the non-reacting facet is hypothesised to have a negative association with Instagram Addiction (hypothesis 3). Fourth, participants high on the *awareness* facet pay more attention, and avoids mindless behaviour (Hart et al., 2013), and this facet is considered to directly predict less deficient self-regulation of social media use and indirectly thus predicting less excessive use (Calvete et al., 2017). Hence, awareness is also predicted to have a negative association with Instagram Addiction (hypothesis 4). Last, high scores on the facet *non-judging* represent participants who are less likely to experience self-critical thoughts, but also less likely to be caught up in them if they appear (Hart et al., 2013). Studies have found that non-judging predicted a higher preference for face-to-face interactions as opposed to online interaction (Calvete et al., 2017), thus, this facet is also expected to have a negative association with Instagram Addiction (hypothesis 5).

Hypothesis 1: Mindfulness (observing) has a negative association with Instagram addiction.

H0: Mindfulness (observing) is not related to Instagram addiction.

Hypothesis 2: Mindfulness (describing) has a negative association with Instagram addiction.

H0: Mindfulness (describing) is not related to Instagram addiction.

Hypothesis 3: Mindfulness (non-reacting) has a negative association with Instagram addiction.

H0: Mindfulness (non-reacting) is not related to Instagram addiction.

Hypothesis 4: Mindfulness (awareness) has a negative association with Instagram addiction.

H0: Mindfulness (awareness) is not related to Instagram addiction.

Hypothesis 5: Mindfulness (non-judging) has a negative association with Instagram addiction.

H0: Mindfulness (non-judging) is not related to Instagram addiction.

As discussed in the literature review, a number of studies have found a significant relationship between low self-esteem and addictive use of various social media platforms, as individuals with low self-esteem have a tendency to use social media to enhance their own self-image and self-esteem (Andreassen et al., 2016; Błachnio et al., 2016; Denti et al., 2012; Gonzales & Hancock, 2011; Steinfield et al., 2008). As a result, we hypothesise that participants with high self-esteem will be less likely to show addictive tendencies towards Instagram (hypothesis 6).

Hypothesis 6: Self-esteem has a negative association with Instagram addiction.

H0: Self-esteem is not related to online compulsive buying.

Previous scholars have concluded that consumption often is tied to a wish to increase self-esteem (Hanley & Wilhelm, 1992). Other studies have found that compulsive buyers have a tendency to purchase products for the purpose of enhancing self-esteem (Lejoyeux et al., 2011). As a result, if efforts to maintain or enhance self-esteem are successful, the behaviour is more likely to be reinforced (Hanley & Wilhelm, 1992). This may entail that consumers with low self-esteem are thus more likely to end up in a cycle of compulsive buying for momentary relief (Hanley & Wilhelm, 1992). Thus, we predict that participants with high self-esteem scores will be less likely to shop compulsively online, hence a negative correlation (hypothesis 7).

Hypothesis 7: Self-esteem has a negative association with online compulsive buying.

H0: Self-esteem is not related to online compulsive buying.

Moreover, research on the relationship between social media usage and compulsive buying is well supported by the I-PACE model for addictive behaviours (Brand et al., 2016). Scholars found that increased use of social media may activate cognitive and affective responses in online buyers and reduce inhibitory control, which may eventually lead to specific problematic behaviours (Brand et

al., 2016). Due to the nature of Instagram, users will often be exposed to consumption-related activities such as product advertising by both businesses and friends, which may serve to increase materialism (Gupta & Vohra, 2019, Ho et al., 2017), and the risk of intensifying online compulsive buying (Li et al., 2016, Sharif & Khanekharab, 2017). Hence, we hypothesise that excessive use of Instagram or addiction will have a positive association with online compulsive buying tendencies (hypothesis 8).

Hypothesis 8: Instagram addiction has a positive association with online compulsive buying.

H0: Instagram addiction is not related to online compulsive buying.

The proposed hypotheses can be seen summarised in Table 4.1.

H1	Mindfulness (observing) has a negative association with Instagram addiction.	-
H2	Mindfulness (describing) has a negative association with Instagram addiction.	-
H3	Mindfulness (non-reacting) has a negative association with Instagram addiction.	-
H4	Mindfulness (awareness) has a negative association with Instagram addiction.	-
H5	Mindfulness (non-judging) has a negative association with Instagram addiction.	-
H6	Self-esteem has a negative association with Instagram addiction.	-
H7	Self-esteem has a negative association with online compulsive buying.	-
H8	Instagram addiction has a positive association with online compulsive buying.	+

Table 4.1 Hypothesis tested in the original structural mode

Based on the literature review and the formulated hypotheses, a proposed research model will be tested in the following sections of this paper, as seen in Figure 4.1.

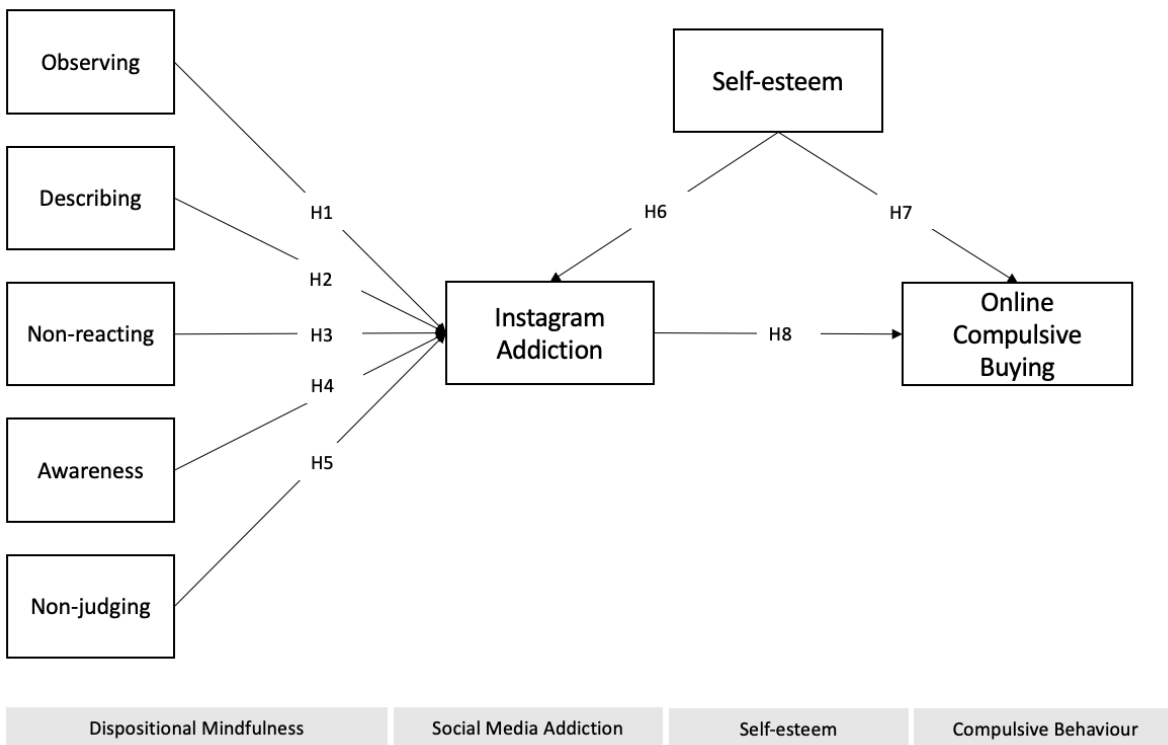


Figure 4.1 Original research model based on the theoretical framework with the hypotheses

5.0 Methodology

In the following, the research methods, approaches and design used throughout the study to collect and analyse primary data will be discussed and justified. The Methodology chapter includes a conceptualisation of the theoretical concepts, as well as a description of the various segments of the methodology, including the discussion of philosophical considerations. Additionally, the reliability and validity of the research will be discussed to evaluate the quality of the present research.

5.1 Conceptualisation

In the literature review, the concepts of mindfulness, self-esteem, Instagram addiction and online compulsive buying have been introduced. As seen, some of these concepts are interpreted differently by scholars, so before explaining the chosen research methods, it is necessary to provide an explanation of how these concepts will be used and understood for the purpose of this study.

5.1.1 Mindfulness approach

First, in the context of psychology and consumer behavioural research, there are two main lines of research on the topic of mindfulness. Both Langer's (1989) and Kabat-Zinn's (1994) approach focus on flexible awareness of the present moment and enhancing the role that mindfulness plays for individual self-regulation in dealing with automatic tendencies of the body and mind (Bahl et al., 2016). However, instead of being centred around meditation, Langer's (1989) approach focuses more on external aspects of the individual, and her mindfulness interventions include active goal-oriented cognitive tasks. Kabat-Zinn's (1994) Eastern approach to mindfulness is more focused on the inner experiences of the individual, such as thoughts and emotions. Kabat-Zinn's (1994) method involves meditation and emphasises the effects of emotion-regulation and non-judgmental observation in order to increase well-being.

After consideration of Langer's (1989) and Kabat-Zinn's (1994) approach to mindfulness, as well as existing studies and operationalisation of the concept, Kabat-Zinn's approach will be used going forward in this paper. Kabat-Zinn's philosophy is widely accepted and used in the scientific field (Fischer et al., 2017; Wheeler et al., 2017; Williams & Grisham, 2012; Rosenberg, 2004), as well as being broader and more detailed than Langer's (Bahl et al., 2016). Moreover, Langer's research focuses a great deal on using mindfulness in order to stimulate creativity and productivity, whilst this

paper is dealing with consumer's addictive and compulsive tendencies as well as overall well-being, making Kabat-Zinn's approach more appropriate. Further, the definition of mindfulness from Bishop et al. (2004) will be used going forward, whereas mindfulness is seen as a two-component construct consisting of self-regulation of attention and orientation to experience, as this definition is highly relevant to the study at hand.

5.1.1.1 Dispositional mindfulness

As mentioned in the literature review, mindfulness can be seen as both a state and a trait (dispositional mindfulness). In this study, there is a focus on the latter, that mindfulness is a trait that individuals may display to various degrees even outside a formal mindfulness practice setting. Dispositional mindfulness can both arise from individual characteristics and intrinsic factors, as well as through specific mindfulness practice and training (Zhuang et al., 2017). In line with Wheeler et al. (2017), dispositional mindfulness refers to individuals' tendency to mindfully pay attention to surroundings and experiences. When measuring dispositional mindfulness, the five facets of mindfulness will be assessed: observing, describing, non-reacting, non-judging and awareness (Hart et al., 2013)

5.1.2 Self-esteem

Waterman's (1992) definition of self-esteem refers to an individual's evaluation and perception of their own self-worth, which will be used going forward. When addressing high and low self-esteem, we will use the terms high and low interchangeably with the definitions of Kernis et al. (2018), respectively: secure self-esteem and fragile self-esteem.

5.1.3 Instagram addiction

This study aims to evaluate participants Instagram addiction, and for that purpose, although focusing on social media addiction in general, the definition by Andreassen and Pallesen's (2014) will be used. Here, social media addiction is seen as a condition where users are extremely worried about social activities, driven by a strong incentive to enter or use social networking sites, and devoting enormous time and effort to social networking sites that interfere with other social activities, studies/work, interpersonal relationships, or mental health and well-being (Andreassen & Pallesen, 2014). As mentioned, this study will specifically assess addiction to the social media platform Instagram.

5.1.4 Online compulsive buying

Later studies on compulsive buying in general, defined the phenomena as “chronic buying episodes of a somewhat stereotyped fashion where the consumer feels unable to stop or significantly moderate the behaviour” (Shahjehan et al., 2012, p. 2187). This study aims to assess compulsive buying in an online setting, where we will focus on the definition from He et al. (2018), where online compulsive buying refers to an individual’s failure to control excessive online purchases.

5.2 Research overview

In the current study, we aim to incorporate the concepts of mindfulness and self-esteem into consumer’s online behaviour, specifically their addictive tendencies towards Instagram and online compulsive buying. Based on the literature review, we hypothesise that an individual's level of dispositional mindfulness and self-esteem will affect their behaviour in an online context. As explained in the hypothesis formulation, we expect that the five facets of mindfulness (observing, describing, non-reacting, non-judging and awareness) will be negatively associated with Instagram addiction. Moreover, we hypothesised that self-esteem will be negatively associated with Instagram addiction and online compulsive buying tendencies. Last, we predicted that Instagram addiction has a positive association with online compulsive buying.

An online questionnaire was developed in order to test the effects of dispositional mindfulness and individuals’ self-esteem on the relationship between addictive and compulsive tendencies towards Instagram and online buying behaviour. Thus, the questionnaire consists of three parts: First, two psychological constructs or personal characteristics are measured, hence mindfulness and self-esteem, through the FFMQ-scale and the Rosenberg Self-Esteem Scale. Second, online consumer behaviour will be measured through the Bergen Instagram Addiction Scale and the Online Buying Behaviour Scale. Third, the last part of the questionnaire involves a set of demographics and one behavioural question. Further details on the different scales and parts of the questionnaire will be discussed in the subsequent sections.

Finally, in order to test these structural relationships, the hypotheses will be tested by employing a multivariate statistical analysis technique: Structural Equation Modelling (SEM). SEM is a combination of factor analysis and multiple regression analysis, which will be used in order to accept or reject the outlined hypotheses.

5.3 Research approach

5.3.1 Research design

The purpose of this study is to explore the relationship between a consumer's level of dispositional mindfulness and self-esteem, and their involvement in certain compulsive online behaviour. Studies that aim to explore the relationship between variables of a situation or problem are called explanatory in nature (Saunders, Thornhill & Lewis, 2009). Hence, the study at hand is explanatory, as its objective is to assess the relationship between mindfulness and several other variables.

A cross-sectional approach is chosen in order to conduct this study. Bryman (2016) explains that 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, 2016, p. 53). For this study, a total of 298 participants were collected over a period of three weeks. The participants were asked to answer an online questionnaire which took between 5-7 minutes to complete. Quantitative data relating to participants’ level of mindfulness, self-esteem as well as compulsive and addictive behavioural tendencies for online shopping and Instagram was recorded.

The present study follows a deductive approach, thus developing hypotheses based on existing theory by collecting, reviewing and finding the correlation between the variables of mindfulness, self-esteem and certain online consumer behaviour. Based on previous research, several hypotheses have been made, which will be tested through applying Structural Equation Modelling.

5.3.2 Research philosophy

Research philosophy describes the assumptions and beliefs that are made on how knowledge is generated (Saunders et al., 2009). It is crucial to understand the concept of research philosophy as it explains how researchers view the world and can be seen as an explanation of choices that are made in their specific research (Saunders et al., 2009). In turn, reflecting upon the reasoning for these choices will help when defending them in relation to another alternative, valid approaches to a similar study (Saunders et al., 2009). Further, comprehending epistemological, ontological and axiological considerations is important as this represents the outline of the scientific model that shapes the research project (Bryman, 2016).

Epistemological assumptions are assumptions about human knowledge, ontological assumptions involve the realities one encounters in research, whereas axiological assumptions are the researchers own values, and how they influence the research process (Saunders et al., 2009). Further, Saunders et al. (2009) argue that there are four different research philosophies that can be applied in the management research field, respectively: positivism, realism, interpretivism and pragmatism. The four research philosophies will vary from each other and can only be compared by evaluating the features of the concepts of ontology, epistemology and axiology (Saunders et al., 2009).

In positivist philosophy, the world is viewed as “being systematic and deductive, relying on theories to explain most behaviours and processes” (Strang, 2015, p. 22), and Strang (2015) argues that this philosophy is the most well-known and oldest. The positivist philosophy believes in empiricism and aims to understand the world through measures and observation, in order to be able to predict and control outcomes (Trochim, 2020). By taking a positivist approach, one can propose theories that can be tested, in order to provide material for literature and development (Bryman, 2016). That said, positivism often focuses on that there is one factual truth, however, Strang (2015) stresses that this pure positivism is rare outside of a highly controlled environment. Believing that there is only one factual truth may limit research and its contributions to literature, thus post-positivism has been a response to this philosophy and is more relevant for the study at hand. Post-positivism argues that it is hard, or almost impossible to fully know what happens in the human brain, as well as having one factual truth to any phenomena (Strang, 2015). Further, post-positivism philosophy states that scientific reasoning and common sense essentially is the same process and that the way scientists think, and work is not that different to how we think and work in everyday life (Trochim, 2020). Thus, through characteristics of post-positivism, our research will be framed in ontology, epistemology and axiology.

First, ontology refers to the nature of reality and is often known as the theory of being (Strang, 2015). Similar to realists, positivist researchers believe in an external reality, where one relies on theories, measures and facts in order to explain different phenomena (Strang, 2015). That said, post-positivists suggest that there is no overall truth, stressing that there is no clear conclusion to any measure, acknowledging the complexity of humans and the world (Bryman, 2016). Critical realism is a form

of post-positivism, which believes that there is a reality that exists independent of individuals' perception and thoughts, which one can explore through science (Trochim, 2020).

Second, epistemology determines which type of knowledge is accepted within a field of study and is often defined as the theory of knowledge (Saunders et al., 2009). As mentioned, the post-positivists are driven by evidence and believe in the idea that no human will be able to see the world for what it truly is (Trochim, 2020). Post-positivists argue that objectivity lies within the responsibility of the scientific community and stresses the importance of being critical of others' work to improve and build on theories through an objective lens (Trochim, 2020). Drawing on this, for this study, hypotheses are built on existing research on the topics of mindfulness, self-esteem and online consumer behaviour, which will be either accepted or rejected based on the quantitative study. As a result, the goal of the study is to contribute to and build knowledge within this field.

Last, axiology revolves around the theory of beliefs, such as the researcher's own religious, cultural, ethical or aesthetic values that may influence the research process (Saunders et al., 2009). Thus, in order to stay true to the post-positivist way, it is important to stay neutral of one's own cultural or religious beliefs when conducting a study. For this research project, data will be collected through an online self-report questionnaire, as this provides little possibility of influence from the researcher's values on the research process itself. That said, post-positivists accept that some of the research may be affected by the researcher's assumptions and perceptions of the world (Trochim, 2020). In this case, hypotheses and variables have been chosen based on a review of existing research and literature, whereas our own personal beliefs have been left out when conducting the study itself to avoid potential influence.

5.4 Definition of variables

The variables used to conduct the research are categorised as either dependent or independent variables and Dillman's (2007) classification of variables will assist in the explanation. Our research includes solely behavioural variables (provide insight on what respondents do or behave) and attribute variables (inform about the characteristics of the respondents) (Dillman, 2007; Saunders et al., 2009).

5.4.1 Dependent variables

The dependent variables of interest are Instagram Addiction (IGA) and Online Compulsive Buying Behaviour (CBB). These variables are considered based on an individual's perception of their own behaviour in an online environment and will be explained below.

The variable Instagram Addiction refers to individuals' habits and behaviour related to Instagram and is measured through one behavioural question (“What is the main reason you go on Instagram?”) and a Likert Scale. First, considering Dillman’s (2007) classification of variables, IGA is a behavioural variable, as it provides insight into the participants' tendencies on Instagram (view, post content or other). An average of numbers is computed to establish the level of what participants main reason behind Instagram usage is. To further measure the variable of the participants' Instagram habits, the Bergen Instagram Addiction Scale (Lin, Broström, Nilsen, Griffiths, & Pakpour, 2017) ranging from 1 (strongly disagree) to 7 (strongly agree) was provided, where participants were asked to rate how strongly they agree or disagree with the affirmation about their behaviour towards Instagram. The second dependent variable, Online Compulsive Buying Behaviour, is measured through a seven-point Likert scale, also ranging from 1 (strongly disagree) to 7 (strongly agree). Similarly, the CBB variable is considered a behavioural variable where the participants are asked to rate to which extent they agree with the affirmations about their compulsive buying behaviour in an online context.

5.4.2 Independent variables

The independent variable, Dispositional Mindfulness (FFMQ), is measured by a short version of the FFMQ, the FFMQ-18 (Medvedev, Titkova, Siegert & Krägeloh, 2018). Originally, the FFMQ is a 39-item questionnaire that measures dispositional mindfulness across five different facets: observing, describing, acting with awareness as well as non-judgement and non-reaction to inner experience (Baer et al., 2006). However, the modified 18-item FFMQ includes all five facets and is considered equally valuable when investigating the associations of mindfulness with other variables (Medvedev et al., 2018). The respondents faced questions such as: “I rush through activities without being really attentive to them” or “I’m good at finding words to describe my feelings”. The FFMQ is a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), and higher scores indicate higher levels of dispositional mindfulness (Baer et al., 2006). In this study, the five facets of mindfulness will be analysed individually to understand how they are related to the other variables.

Dispositional mindfulness is considered as an attribute variable that showcases the participants' characteristics of being high or low on dispositional mindfulness. The variable describes the sample as it is a trait that affects the behaviour and characteristics of consumers (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 aim of the research, we explain the characteristics of the sample based on this variable and hypothesise that depending on the individual's level of dispositional mindfulness, he or she will behave differently in an online environment.

Moreover, Self-esteem (SE) is also considered to be an independent variable. An attribute variable where the participants are asked to rate their thoughts and feelings about their own importance and worth, showcasing the participants' characteristics of self-esteem. The Rosenberg Self-esteem ranging from 1 (strongly disagree) to 7 (strongly agree) was provided to measure this variable.

Additionally, age and gender will be collected as previous research considers these as important predictors of the dependent variables. Together with the variables of nationality, the independent attribute variables are used in the research to provide a demographic understanding of the sample. Similarly, the variable Meditation Habits classifies the participants of the sample between frequent meditators and non-meditators ("How often do you meditate?") and is considered an independent attribute variable and is collected to define the sample and support the descriptive statistics of the research findings.

5.5 Data collection methods

Both primary and secondary data was collected to conduct the study at hand. The collection of secondary data is focused on relevant information from various sources, including books, peer-reviewed journals and studies. Secondary data provided the groundwork for the primary data analysis. Deriving from the cross-sectional character of our study and philosophical considerations, a self-administered online questionnaire was used to collect primary data. The aim of the quantitative method is to reach a potentially larger sample compared to other instruments (Bryman, 2016). 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.

5.5.1 Sample selection

An online administered questionnaire, using the survey tool Qualtrics^{XM}, was chosen as an instrument to appropriately answer the hypotheses and the research question. The data collection process started on the 1st of March and ended on the 22nd of March, lasting for a period of three weeks, with an end total of 298 respondents. After cleaning out the incomplete answers and the participants without an Instagram account, the final number of the sample came to 210 respondents. In the following, the strategy used to acquire the respondents will be discussed.

In the present research, the population presents everyone who can access the online questionnaire. Hence, it consists of social media users over the age of 20 with an Instagram account that are users of the various platforms where the questionnaire was shared. The questionnaire was initially shared on our personal LinkedIn and Facebook profiles, as well sent out in direct messages to acquaintances asking them to forward and share the questionnaire with their contacts; a method referred to as snowball sampling (Bryman, 2016). Snowball sampling makes the generalisation of the research result difficult as it is often regarded as a form of a convenience sample rather than a random sampling (Bryman, 2016). However, snowball sampling is the predominant strategy used in the present research. After the initial distribution of the questionnaire, we have broadened the horizon and shared the questionnaire into various groups with a more significant number of people. These groups were made sure to have a more general purpose, thus, avoiding biased answers and extreme answers that weakens the result. Both of these methods of sampling fall under an umbrella term, non-probability sample (Bryman, 2016).

When cost and time constraints are present and the sample frame is not clearly defined, non-probability sampling is often used (Bryman, 2016). These circumstances are the fundamental reason to utilise non-probability sampling in the present research. Accordingly, distributing the questionnaire through online platforms was considered suitable, convenient and easily accessible. 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.

5.5.2 Questionnaire description

The online questionnaire, developed through Qualtrics, was optimised for both phone and computer use. The headline of the questionnaire and the research description provided to the respondents did

not include the terms “Instagram addiction”, “self-esteem”, “compulsive buying” nor “dispositional mindfulness”. Instead, the respondents were notified that the purpose of the study was to understand and connect individual personality traits with consumers’ behaviour in an online context. The goal was to decrease bias in the participant’s answer, in addition to increasing ecological validity.

The questionnaire was solely composed of closed-ended questions that allowed for better comparability amongst the variables. Moreover, it is structured in three main parts with five-page breaks: the “online consumer behaviour” segment including participants’ self-rating of Instagram behaviour and compulsive buying behaviour; the personality segment including self-esteem and dispositional mindfulness (FFMQ); and last, a small set of demographic and behavioural questions. All the scales were converted into 7-point scales ranging from strongly disagree to strongly agree, thus avoiding confusing the respondents by ensuring a relatively consistent response format and providing respondents with more choice (increase sensitivity), as well as to ensure better understanding of the results from the questionnaire. Some modifications were done to the scales, and in the following, the Likert scales provided to measure the different variables will be described in more detail and demonstrated in Table 5.1.

5.5.2.1 The Bergen Instagram Addiction Scale

The Bergen Instagram Addiction Scale is adapted from the Bergen Facebook Addiction Scale developed by Andreassen et al. (2016). It comprises six items based on the six core addiction components (salience, mood, modification, tolerance, withdrawal conflict and relapse) proposed by Griffiths (2005) to originally assess Facebook addiction (Andreassen et al., 2016). Some modification was done to the scale. First, the wording was changed to fit the purpose of the research, hence, “Facebook” was changed to “Instagram”. Second, one of the items was divided into two as the words “thinking” and “planning” (originally put together in one item) can be seen as two different things by the respondents, thus it was deemed necessary to split the item to avoid confusion. The six components examine and measure the respondents’ experience of using Instagram through a 1 (strongly disagree) to 7 (strongly agree) Likert scale (originally ranging from 1 to 5). A high score of The Bergen Instagram Addiction Scale indicates stronger addiction to Instagram, and an individual’s score above the middle (4) can indicate that they are at risk of developing problematic Instagram use (Lin et al., 2017).

5.5.2.2 Online Compulsive Buying Scale

Faber et al. (1987) introduced the concept of compulsive buying behaviour to consumer research literature more than two decades ago. This study aims to assess compulsive buying in an online setting, thus focusing on the definition by He et al. (2018), where online compulsive buying refers to an individual's failure to control excessive online purchases. To measure online compulsive buying, Sharif & Khanekharab (2017) built a scale of 10-items, from Dittmar's (2005) scale on conventional compulsive buying. Hence, the scale was adapted to suit an online environment. All items are measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

5.5.2.3 Rosenberg Self-Esteem Scale

In another part of the comprehensive questionnaire, Rosenberg's Self-Esteem Scale is included. Rosenberg (1965) defines self-esteem as a component of self-concept and considers it an individual's set of thoughts and feelings about his or her own worth and importance, and positive or negative attitude towards oneself. When measuring self-esteem, the Rosenberg Self-Esteem Scale (RSE) is by far the most widely used self-report method (Rosenberg, 1979; Robins, Hendin & Trzesniewski, 2001). The scale has been empirically validated numerous times, and more than any other self-esteem measure (Robins et al., 2001). The RSE is a unidimensional instrument on the concept of self-esteem that captures participants' perception of their own worth by means of a 10-item scale (Martín-Albo, JNúñez, Navarro & Grijalvo, 2007). The 10-item scale involves 5 positively worded items, and 5 negatively worded items (Robins et al., 2001). Scoring is done on a Likert scale, whereas a final means of the score reflects the individual's level of self-esteem.

5.5.2.4 FFMQ-survey

The FFMQ-scale aims to measure the participants' dispositional mindfulness. There are several scales available that measure dispositional mindfulness, however, the FFMQ-scale was chosen as it is a multifaceted construct encompassing the five components of mindfulness (observing, describing, awareness, non-judging and non-reactive) (Baer et al, 2006). Further, the FFMQ-scale is a valid combination of other validated mindfulness scales, including for example the most popular, the Mindful Attention Awareness Scale (MAAS). Whilst the MAAS mainly engages in self-awareness, the FFMQ also accounts for attention control and emotional regulation, which is considered important when dealing with other human conditions such as self-esteem and compulsive or addictive behaviour (Zhuang et al., 2017). Further, the FFMQ is consistent with the proposed two-component model of

mindfulness (attention and motivation) (Bishop et al., 2004). The FFMQ score is based on the means of numbers chosen on the Likert scale, shown in Table 5.1. In this study, dispositional mindfulness is measured by a shorter modified version of the FFMQ, the FFMQ-18 (Medvedev et al., 2018), which is considered equally valuable when investigating the associations of mindfulness with other variables.

Construct	Items (7-point Likert Scale)	Source
The Bergen Instagram Addiction Scale (IGA)	<ol style="list-style-type: none"> 1. I spend a lot of time thinking about Instagram 2. I feel an urge to use Instagram more and more 3. I use Instagram in order to forget about personal problems 4. I try to cut down on the use of Instagram without success 5. I become restless or troubled if I have been prohibited from using Instagram 6. I use Instagram so much that it has had a negative impact on my job/studies 7. I spend a lot of time planning to use Instagram 	(Lin, Broström, Nilsen, Griffiths, & Pakpour, 2017)
Online Compulsive Buying Scale (CBB)	<ol style="list-style-type: none"> 1. When I have money, I cannot help but spend part or all of it on online shopping 2. I often buy something I see online without planning, just because I have to have it 3. Online shopping is a way of relaxing and forgetting my problems 4. I sometimes feel that something inside me pushes me to go online shopping 5. There are times when I have a strong urge to buy online (clothing, music, jewelry etc.) 6. At times, I have felt somewhat guilty after buying something online because it seemed unreasonable 7. There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money 8. I often have a real desire to go online shopping and buy something 9. I have often bought a product online that I did not need 10. I like to spend money on online shopping 	Ridgway, Kukar-Kinney & Monroe, 2008)
Rosenberg Self-esteem Scale (SE)	<ol style="list-style-type: none"> 1. On the whole, I am satisfied with myself 2. At times I think I am no good at all 3. I feel that I have a number of good qualities 4. I am able to do things as well as most other people 5. I feel I have not much to be proud of 6. I certainly feel useless at times 7. I feel that I am a person of worth 8. I wish I could have more respect for myself 9. All in all, I am inclined to think that I am a failure 10. I take a positive attitude towards myself 	(Rosenberg, 1965; Robins, Hendin & Trzesniewski, 2001)
FFMQ-Survey (FFMQ)	<ol style="list-style-type: none"> 1. I pay attention to physical experiences, such as the wind in my hair or sun on my face 2. I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow 3. I notice the smells and aromas of things. 4. I find it difficult to stay focused on what's happening in the present moment 5. I rush through activities without being really attentive to them 6. It seems I am running on automatic without much awareness of what I'm doing. 7. I make judgments about whether my thoughts are good or bad 8. I think some of my emotions are bad or inappropriate and I shouldn't feel them 9. I tell myself I shouldn't be feeling the way I'm feeling 10. I'm good at finding words to describe my feelings 11. It's hard for me to find the words to describe what I'm thinking 12. I can easily put my beliefs, opinions, and expectations into words 13. Even when I'm feeling terribly upset, I can find a way to put it into words. describe it. 15. Usually when I have distressing thoughts or images I am able just to notice them without reacting 16. When I have distressing thoughts or images, I feel calm soon after. 17. I watch my feelings without getting carried away by them. 18. When I have distressing thoughts or images, I don't let myself be carried away by 	(Medvedev et al., 2018)

Table 5.1 Items of the study

5.6 Validity and Reliability

Considering the aspects of validity and reliability issues will help reduce the possibility of getting defective or biased research results and improve the credibility of the research findings (Saunders et al., 2009), thus contributing to establishing the overall quality of the research (Bryman, 2016).

5.6.1 Validity

Validity of a research study refers to whether an indicator used to evaluate a concept actually measures that concept (Bryman, 2016), as well as the accuracy of the analysis of the results and thus the generalisability of the findings within the study (Saunders et al., 2016). In this paper, four major types of validity are addressed: external validity, internal validity, construct validity, and ecological validity.

External validity is the degree to which the conclusions of a study would be the same if the study would be done with different participants or at different times. Here, the sampling process is essential to investigate to ensure that external validity is given in a particular study. As previously described, the sampling process in this study is based on snowball and convenience sampling, two types of non-probability samples. Generalisation is limited in non-probability samples as the samples collected might turn out biased, thus the external validity is confined in the study. Nevertheless, the study can gain a well-represented population with the use of non-probability samples (Trochim, 2020). The data collected from the research showed that the majority of participants are from Norway, Denmark and Sweden, and the average age showcases a relatively varied sample ($m = 37.9$ years old). However, the relatively high number of participants ($n = 210$) is favourable for external validity.

Internal validity is concerned with the relative truth about inferences of cause-effect relationships in research (Trochim, 2020). In studies that assess the effects of social treatments or programs, internal validity is especially relevant. A cross-sectional research design produces association rather than findings from which inferences can be clearly made (Bryman, 2016). Hence, it is almost impossible to establish causal direction from the variables with the cross-sectional nature of the research design in the study. The present study aims to demonstrate how the independent variable (individual's dispositional mindfulness) is predictive of the dependent variables (Instagram addiction and online compulsive buying behaviour). Consequently, internal validity is limited due to difficulties in grasping the issue of causality.

Ecological validity refers to whether the findings are representative of what would happen in real life and to what extent the findings can be generalised from one group to another (Saunders et al., 2009). Ecological validity is a type of external validity and generally, the setting in which the data is collected defines ecological validity. Observation entails that the participant is observed in their natural contexts and is the type of data collection that can prove more ecological validity (Saunders et al., 2009). Ecological validity will be compromised the more the setting is controlled by the researcher. For the study at hand, the questionnaire lacks open-ended questions, and the respondents are not in a natural environment when answering the questions, thus ecological validity is to some extent limited due to the use of an online questionnaire to collect data. To address this issue, the topic of the research was not openly explained. More specifically, the description of the questionnaire said that the research was about consumer behaviour and personality instead of specifically mindfulness, social media addiction and compulsive buying.

Construct validity is concerned with generalising, however, in this case, generalisations are drawn from the measures to the concepts that are measured. It refers to the degree to which conclusions can be drawn from the study's operationalisations to the theoretical constructs on which the operationalisations were based (Trochim, 2020). Construct validity of the FFMQ, Rosenberg Self-esteem Scale, Bergen Instagram Addiction Scale and Online Compulsive Buying Scale has been tested by several researchers concerned about how the different concepts have been interpreted and understood (e.g., Robins et al., 2001, Medvedev et al., 2018, Sharif & Khanekharab, 2017 and Lin et al. 2017). 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). However, evidence suggests that individuals may respond differently to items 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 when discussing the results of their studies (Rau & Williams, 2015), thus a question about meditation habits is included. Additionally, convergent and discriminant validities are both considered to be subtypes of construct validity. Previous research concludes that dispositional mindfulness behaves as theoretical predictions while keeping independence, thus, it measures more than previously familiar constructs (Rau & Williams, 2015). In conclusion, the construct validity of the measurements in this research has been widely accepted.

5.6.2 Reliability

On the other hand, reliability refers to the extent to which the data collection techniques and analysis procedures yield consistent findings (Saunders et al., 2009). Thus, if it is possible for future studies to repeat this research design and achieve the same 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 also recorded in the same manner. By ensuring respondent anonymity, the researchers have strived to avoid participant bias; also referred to as social desirability bias (Auger & Devinney, 2007). In the context of this study, this especially appears when respondents are asked about personal characteristics and behaviour, where people might tend to feel a certain pressure to respond in accordance with what they believe to be socially acceptable (Auger & Devinney, 2007). To reduce bias and to ensure transparency, a logical structure and clear messaging, the chosen scales have been pre-tested in previous studies. Accordingly, the constructs used to measure social media addiction (Instagram Addiction Scale), online compulsive buying behaviour (Online Compulsive Buying Scale), self-esteem (Rosenberg Self-Esteem Scale) and the dispositional mindfulness of the participants (FFMQ) has been widely used in previous studies, and its reliability has thus been tested by several other authors. For this reason, it can be concluded that the reliability of this study is considerably high.

5.7 Analytical approach

Last, this section explains the applied procedures for descriptive and inferential statistical analysis. The statistical analysis is done with IBM SPSS software, SPSS Statistics. Descriptive statistics are used to summarise the participants' baseline characteristics in terms of demographic traits and their meditation and Instagram habits. Continuous variables, Dispositional Mindfulness, Self-esteem, Instagram Addiction and Online Compulsive Buying Behaviour, are described by using the means and standard deviations. The IBM SPSS Amos software was used to support the research and theories

by extending standard multivariate analysis methods, including regression, factor analysis, correlation and analysis of variance. Additionally, to understand the results better, it is necessary to state that the data analysis chapter 6.0 contains values that are rounded up to two decimals except for a p-value with three decimals.

6.0 Data analysis

The data analysis section reports quantitative results of descriptive and inferential statistics to accept or reject the hypotheses. First, descriptive statistics of both the independent and dependent variables will be provided to show an overview of the participant's characteristics that represent the sample. Second, the measurements of the research model will be described. Structural equation modelling (SEM) was used to validate the theoretical model, aiming to understand to what extent dispositional mindfulness and fragile and secure self-esteem can influence individuals' Instagram addiction, and the following online compulsive buying behaviour. To construct a final SEM and evaluate the significance levels of the hypothesised relationships, an Exploratory Factor Analysis (EFA) was performed, and then the factors were confirmed through a Confirmatory Factor Analysis (CFA); all the constructs were assessed to ensure adequate reliability and validity.

6.1 Descriptive statistics

In the following age, gender, nationality, meditation habits and Instagram habits variables of the sample will be described. After cleansing the data set of incomplete answers and participants who replied no to having an Instagram account, the total sample size was 210. From this sample, 64% were women ($n = 135$) and 35% were men ($n = 73$), whereas 1% preferred not to say ($n = 2$). The sample is composed by respondents originating from 14 different countries, with the highest number of respondents from Norway ($n = 155$), representing 73,81% of the sample, followed by Denmark ($n = 17$) that rounds to 8,1%, Sweden ($n = 11$; 5,24%), and UK ($n = 6$; 2,86%). The age of the respondents ranged from 20 up to 80 ($M = 37,93$, $SD = 14,8$). The majority ($n = 66$) of respondents were in the age group between 20-25 (31,43%). Regarding Instagram habits of the sample, the majority mainly use Instagram to view the content ($n = 182$, 87.67 %), while 16 (7.62 %) respondents answered that they mainly use Instagram to post content and 12 respondents (5.71 %) answered other reasons. Moreover, the majority of the sample (72,38 %) practices meditation less than 1-3 times a month or never ($n = 152$), whereas only one respondent meditates daily (0.48 %). Full details of the participants' characteristics are shown in Table 6.1.

	Sample (n=210)	
	n	%
Gender		
Female	135	64.29 %
Male	73	34.76 %
Non-binary/third gender	0	0 %
Prefer not to say	2	0.95 %
Age Gropups (M = 37.9)		
20-25	66	31.43 %
26-35	48	22.86 %
36-45	22	10.48 %
46-55	37	17.62 %
56-65	31	14.76 %
66+	6	2.86 %
Top four nationality		
Norwegian	155	73.81 %
Denmark	17	8.10 %
Sweden	11	5.24 %
UK	6	2.86 %
Meditation		
Less often or never	152	72.38 %
1-3 times a month	33	15.71 %
2-3 times a week	16	7.62 %
4-6 times a week	8	3.81 %
Daily	1	0.48 %
Instagram habits		
View content	182	87.67%
Post content	16	7.62%
Other	12	5.71%

Table 6.1 Descriptive statistics of the Sample Population

6.1.1 Dispositional Mindfulness

The aim of the study is to test whether Dispositional Mindfulness affects consumers' addictive and compulsive tendencies online. As previously mentioned, the variable Dispositional Mindfulness is measured with the short version of the FFMQ, the FFMQ-18, which is a multi-facet measurement

ranging from 1 to 7 in our questionnaire. In our sample, participants' level of Dispositional Mindfulness ranged from 3.22 to 5.56. Specifically, 105 respondents scored below the mean score of 4.2 (SD = 1.69) and 105 respondents scored above the mean. Details of the participants' Dispositional Mindfulness and the five facets are shown in Table 6.2. Observing the different facets of the FFMQ, our participants, on average, scored noticeably higher in the Observing facet with a mean of 5.37 compared to the overall Dispositional Mindfulness mean of 4.2.

FFMQ scales	Sample (n =210)	
	Total	
	M	SD
Dispositional Mindfulness	4.2	1.69
Observing	5.37	1.43
Describing	4.10	1.71
Acting with awareness	3.61	1.63
Non-Judgement	3.9	1.63
Non-Reacting	4.15	1.5

Table 6.2 Descriptive statistics of the variable Dispositional Mindfulness (FFMQ)

It is interesting to observe the difference in means of Dispositional Mindfulness in relation to the participant's Meditation Habits. Regular meditators (ranging from 1-3 times a month to daily) scored higher in the average of each of the facets, except for Acting with Awareness. Specifically, the Dispositional Mindfulness score for Regular Meditators was $M = 4.25$ and for Non-Meditators (less or never meditators) was $M = 4.19$. A summary of the means and standard deviations can be found in Table 6.3.

FFMQ scales	Sample (n = 58)		Sample (n = 152)	
	Regular meditators		Less or never meditators	
	M	SD	M	SD
Dispositional Mindfulness	4.25	1.72	4.19	1.68
Observing	5.72	1.13	5.23	1.47
Describing	4.14	1.74	4.08	1.61
Acting with awareness	3.28	1.57	3.74	1.63
Non-Judgement	4.0	1.55	3.86	1.63
Non-Reacting	4.18	1.56	4.12	1.47

Table 6.3 Descriptive statistics of Meditation Habits of the sample

6.1.2 Instagram Addiction

The results of the variable Instagram Addiction have an $M = 2.64$ ($SD = 1.8$), whereas the individuals that mainly use Instagram to post content has a noticeable higher mean ($M = 3.9$) than the individuals that use Instagram to mainly view the content ($M = 2.58$). The results show that 87% ($n = 182$) of the respondents ($n = 210$) mainly go on Instagram to view content, hence, only 7% ($n = 16$) mainly use Instagram to post content and 6% ($n = 12$) mainly go on Instagram for other reasons (Figure 6.1). The mean and standard deviation for Instagram Addiction divided into Instagram habits is summarized in Table 6.4.

	Sample (n = 210)		Sample (n = 182)		Sample (n = 16)		Sample (n = 12)	
	Total		View Content		Post Content		Other	
Bergen Instagram Addiction Scale	M	SD	M	SD	M	SD	M	SD
Instagram addiction	2.64	1.8	2.58	1.8	3.9	1.85	1.79	1.84

Table 6.4 Descriptive statistics of the variable Instagram Addiction (IGA)

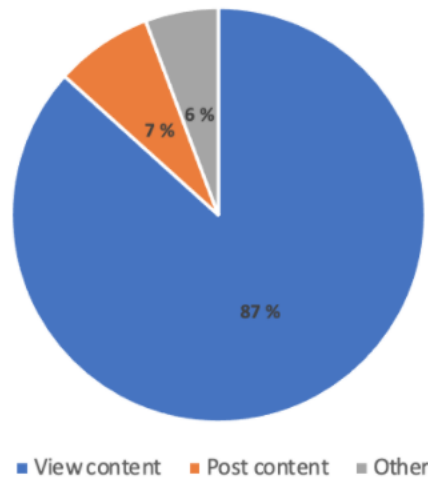


Figure 6.1 Descriptive statistics of Instagram Habits

Previous studies of social media users on Facebook, Instagram and Twitter found a correlation between addictive use and gender, more specifically, females (Andreassen et al., 2016). Table 6.5 demonstrates the gender differences in Instagram Addiction based on the Bergen Instagram Addiction Scale. The mean for male participants was 2.14 ($SD = 1.81$), whereas the mean for female participants was 2.92 ($SD = 1.8$). Additionally, the maximum score had a quite big gap of 1.58, the male

participants had a 4.71 maximum score on the scale (MIN = 1.1) and the female participants had a maximum score of 6.29 (MIN = 1.29).

	Sample (n = 73)				Sample (n = 135)			
	Male				Female			
Bergen Instagram Addiction Scale	M	SD	MIN	MAX	M	SD	MIN	MAX
Instagram Addiction	2.14	1.81	1.1	4.71	2.92	1.8	1.29	6.29

Table 6.5 Descriptive statistics of gender differences in Instagram Addiction

6.1.3 Self-esteem

Regarding the Self-esteem variable, the mean is 4.44 (SD = 1.86), whereas the minimum is 3.5 and the maximum score of the respondents is 5.7 on the Rosenberg Self-Esteem scale. The numbers are summarised in Table 6.6.

	Sample (n = 210)			
	Total			
Rosenberg Self-Esteem Scale	M	SD	MIN	MAX
Self-esteem	4.44	1.86	3.5	5.7

Table 6.6 Descriptive statistics of the variable Self-esteem (SE)

6.1.4 Online compulsive buying behaviour

Table 6.7 summarise the variable Online Compulsive Buying Behaviour, which shows the mean (M = 2.98), standard deviation (SD = 1.92), and minimum (MIN = 1.3) and maximum (MAX = 6.3) of respondents' self-evaluation of their buying behaviour in an online environment.

	Sample (n = 210)			
	Total			
Compulsive Buying Scale	M	SD	MIN	MAX
Online compulsive buying behaviour	2.98	1.92	1.3	6.3

Table 6.7 Descriptive statistics of the variable Online Compulsive Buying Behaviour (CBB)

Most studies found significant gender differences in compulsive buying behaviour (Claes, Müller, & Luyckx, 2016), however, Table 6.8 shows that the mean for male participants was 2.35 (SD = 1.93), whereas the mean for female participants was 2.35 (SD = 1.92). The difference also applies to the minimum and maximum score of the participants. The maximum score had a noticeable difference

where the male participants had a 5.1 maximum score on the scale (MIN = 1.3) and the female participants had a maximum score of 6.3 (MIN = 1.7).

Compulsive Buying Scale	Sample (n = 73)				Sample (n = 135)			
	Male		Female		Male		Female	
	M	SD	MIN	MAX	M	SD	MIN	MAX
Online compulsive buying behaviour	2.35	1.93	1.3	5.1	3.35	1.92	1.7	6.3

Table 6.8 Descriptive statistics of gender differences in Online Consumer Buying Behaviour

6.2 Measurement model

Before constructing the final SEM and testing the hypotheses, the items within the different variables of the questionnaire were reduced, creating reflective constructs through the following Exploratory and Confirmatory Factor Analysis. Some modifications were done to the scales to fit the purpose of the research, thus it was decided to conduct the EFA to see if the altered structure reflects the current definitions of all the variables, or previous empirical analyses of mindfulness, self-esteem, Instagram addiction and online compulsive buying behaviour. The EFA was also conducted on the basis of research done by Goodall, Trejnowska and Darling (2012) and Wood, Gnonhosou and Bowling (2015), in addition to a previous master thesis similar to this study (Cortesi, 2019). Castello and Osborne (2016) states that previous data and literature supports the argument that optimal results will be achieved by use of a true factor analysis extraction method for information on how many meaningful factors might be in a data set. Additionally, previous theory showed a profound link between the variables and it was assumed that some of the variables were to some extent similar in terms of content or meaning, thus examining the inter-correlations between the variables was deemed necessary. We did not want to rule out the possibility that the various constructs of the variables could have been divided into underlying and more distinct factors that can explain the association more thoroughly.

6.2.1 Appropriateness of data

Before conducting an EFA, the KMO and Bartlett's test were measured to assess the adequacy of the data from the model. The results show a high KMO value of 0.918, which indicates that a factor analysis might be useful with the data. Further, it was confirmed by Bartlett's test of sphericity, which reports a significant result (<0.05) – Table 6.9.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,918
Bartlett's Test of Sphericity	Approx. Chi-Square	6,662,540
	df	990
	Sig.	0,000

Table 6.9 KMO Test and Bartlett's Sphericity

6.2.2 Exploratory Factor Analysis

The Exploratory Factor Analysis was conducted to assess whether the observed variables loaded together as expected and were adequately correlated, and as well meeting the criteria of reliability. The items were initially 45 and divided as followed: 18 describing the independent variable Dispositional Mindfulness (FFMQ, and 22 describing the three dependent variables of the model, Instagram Addiction (IGA: 7), Online Compulsive Buying Behaviour (CBB: 10) and Self-esteem (SE: 10) - see Table 5.1 in the Methodology chapter. Maximum Likelihood was chosen as the factor extraction model as it is the most indicated before a Confirmatory Factor Analysis, and “*it allows for the computation of a wide range of indexes of the goodness of fit of the model*” (Fabrigar, Wegener, MacCallum, & Strahan, 1999, p. 277). It was decided to use the oblique rotation, as it should provide a more accurate solution (Costello & Osborne, 2005).

The analysis was conducted two times to meet acceptable criteria in terms of communalities and total variance explained. Four items (SE5, FMMQ7, FMMQ15, FMMQ16) were omitted due to their communalities being below the alerting criteria recommended by Piddock and Stevens of 0.400 (Crowson, 2019), Appendix 2, Table 6.10. SE2 shows moderate communalities, nearly above the threshold (between 0.400 and 0.500), however, was kept because it was meaningful for the construct it is related to (Costello & Osborne, 2005). Accordingly, all the scales have been previously validated by researchers and therefore, items will only be omitted with careful consideration if it is highly necessary (items below alerting criteria) or recommended. Additionally, the Pattern Matric shows that the item SE4 (“I am able to do things as well as most other people”) is categorized alone in factor 8, which contradicts recommendations of factors being made of at least three items (Yong & Pearce, 2013).

The EFA was conducted again without the four omitted items, and acceptable values of commonalities and total variance explained can be observed – Appendix 3. The Total Variance Explained table (Appendix 3) shows that seven factors have an eigenvalue greater than 1, confirmed by the Screen Plot, leading to a seven-factor solution for the model (Crowson, 2019). The seven factors have a total variance explained of 69,52% and are above the threshold of 60%. Looking at the Pattern Matrix, all the items of the variables Online Compulsive Buying Behaviour (CBB) and Instagram Addiction (IGA) correctly show the correlation with the original constructs. Further, the independent FFMQ variable is divided into the original facets the FFMQ is built upon; Observing, describing, non-reacting, acting with awareness and non-judgement, as demonstrated in the original research model. However, the items of the Self-esteem variable, which originally states the participants' set of thoughts and feelings about his or her own worth and importance, was divided under two of the same factors as the FFMQ items. SE was initially thought of as a general and single indicator of individuals' perception of self-worth, however, based on the pattern matrix SE is clearly divided into more distinct factors of positive and negative loaded items. More specifically, self-esteem was divided under the mindfulness factors of Observing (OBS) and Non-judgement (NJ). Thus, resulting in a merge between the positive loaded self-esteem items and the observing facet and negatively loaded self-esteem items and the non-judgement facet of mindfulness.

Going forward, the original research model (Figure 4.1) will be disregarded, as the EFA has shown that the original construct of mindfulness and self-esteem used in the quantitative method were not necessarily meaningful or separate factors in the data set of the present research. More specifically, observing and positive self-esteem is merged into one factor (OBS) and non-judging and negative self-esteem is merged into one factor (NJ).

All the factors are made of at least three items (Table 6.10), apart from Non-Reacting, which is represented by two. Although it is widely assumed that a factor should have at least three items, the study conducted by Yong and Pearce (2013) shows that a construct with two items is considered reliable when the items are highly correlated with each other ($r > 0.70$). The items FFMQ17 and FFMQ18 show a high correlation ($r = 0.89$) and are extremely meaningful in defining the factor NR and the all-over Dispositional Mindfulness variable. For these reasons, it will be considered acceptable (Yong & Pearce, 2013).

	Factor	Abbreviation	Items
1	Online Compulsive Buying Behaviour	(CBB)	CBB1-10
2	Observing / positive self-esteem	(OBS)	SE1, SE3, SE4, SE7, SE10, FFMQ1-3
3	Instagram Addiction	(IGA)	IGA1-7
4	Non-judging / negative self-esteem	(NJ)	SE2, SE6, SE8, FFMQ8-9
5	Describing	(DES)	FFMQ10-14
6	Non-reacting	(NR)	FFMQ17-18
7	Awareness	(AWA)	FFMQ4-6

Table 6.10 Factors with associated items

6.2.3 Reliability and validity

A reliability test was conducted to measure whether the set of variables would consistently load on the same factor. Cronbach's alpha is arguably the most commonly used metric to evaluate the internal consistency reliability associated with scores derived from a scale. The negatively loaded items (FFMQ4, 5, 6, 8, 11, 14 and SE2, 6, 8) were re-coded into positive loaded items to fit with the rest of the items. Table 6.11 shows the Cronbach's Alpha computed for each of the seven factors, all their values are above the acceptable threshold of 0.70 (Nunnally, 1967).

	Factor	$\alpha > 0.7$	n of Items
1	Online Compulsive Buying Behaviour	0.942	10
2	Observing / positive self-esteem	0.897	8
3	Instagram Addiction	0.912	7
4	Non-judging / negative self-esteem	0.817	5
5	Describing	0.905	5
6	Non-reacting	0.886	2
7	Acting with awareness	0.870	3

Table 6.11 Internal reliability (Cronbach's alpha)

Additionally, the discriminant validity of the EFA was tested by checking the Factor Correlation Matrix. As shown in Appendix 4, the constructs are distinct and uncorrelated as the correlations between the factors do not exceed 0.7.

6.2.4 Confirmatory Factor Analysis

Following, a CFA was computed using the IBM SPSS Amos software to ensure the stability of the EFA solution – Appendix 5a and 5b. The items FFMQ3 and SE2 were omitted, as FFMQ3's factor

loading was below and SE2's was slightly over the alerting criteria of 0.6. As mentioned, if possible, we try to not omit too many items to avoid tampering with the already valid scales.

6.2.5 Internal reliability, convergent and discriminant validity

Internal reliability, convergent and discriminant validity were measured to ensure the reliability and validity of the constructs. Composite Reliability (CR) and Average Variance Extracted (AVE)² are two widely accepted indicators of internal reliability, and as theorised by Nunnally (1967), the values should be greater than 0.7 and 0.5, respectively (Fornell & Larcker, 1981). Convergent and discriminant validity can both be assessed by checking the constructs' factor loadings. The standardised estimates indicate the factor loading for each item in a measurement model, and items with a factor loading less than 0.6 should be omitted (Awang, 2012). When considering the construct Observing, the FFMQ3 was below the alerting criteria of 0.6 (0.59), thus the item FFMQ3 was omitted. The Non-judging construct had an AVE that was initially below the threshold of 0.5, and checking the factor loadings, the values of the item SE2 were slightly over 0.6 (0.61), hence, to get an AVE > 0.5 the SE2 was omitted. (Appendix 6 for calculations).

After deleting the items FFMQ3 and SE2, the constructs exhibit good reliability and validity, as shown in Table 6.12. All the requirements previously presented are met: CR values range from 0.80 to 0.99, AVE values range from 0.50 to 0.82, and the factor loadings are higher than 0.6. It was also tested the existence of multicollinearity among the seven constructs through the calculation of the Variance Inflation Factors (VIF). As a result, multicollinearity is not a threat in this study because all the VIF values were lower than the recommended threshold of 3.33, except for NR (Table 6.12). The items FFMQ17 and FFMQ18 are highly correlated ($r = 0.89$, $r^2 = 0.81$) and the high VIF is caused by the proportion of cases in the reference category being small (Crowson, 2019). However, the multicollinearity has no adverse consequences and the items and the factor NR will be kept due to the importance of the construct of Dispositional Mindfulness in the research.

² The AVE measures the amount of variance extracted by a construct, relating it to the amount of variance due to measurement errors (Zait & Berteau, 2011)

Factor	Item	Factor loading > 0.6	CR > 0.7	AVE > 0.5	VIF < 3.33
CBB	CBB1	0,79	0,94	0,62	2,62
	CBB2	0,72			
	CBB3	0,84			
	CBB4	0,84			
	CBB5	0,84			
	CBB6	0,83			
	CBB7	0,73			
	CBB8	0,83			
	CBB9	0,76			
	CBB10	0,69			
OBS	SE1	0,74	0,9	0,57	2,25
	SE3	0,86			
	SE4	0,79			
	SE7	0,78			
	SE10	0,8			
	FFMQ1_OBS	0,61			
	FFMQ2_OBS	0,66			
	FFMQ3_OBS	deleted			
IGA	IGA1_SAL	0,82	0,99	0,6	2,52
	IGA2_TOL	0,76			
	IGA3_MOO	0,79			
	IGA4_REL	0,78			
	IGA5_WIT	0,76			
	IGA6_CON	0,76			
	IGA7_SAL	0,77			
NJ	SE2	deleted	0,8	0,5	1,94
	SE6	0,67			
	SE8	0,68			
	FFMQ8_NJ	0,74			
	FFMQ9_NJ	0,73			
DES	FFMQ10_DES	0,81	0,91	0,66	2,92
	FFMQ11_DES	0,86			
	FFMQ12_DES	0,82			
	FFMQ13_DES	0,73			
	FFMQ14_DES	0,83			
NR	FFMQ17_NR	0,81	0,9	0,82	5,14
	FFMQ18_NR	0,99			
AWA	FFMQ4_ACT	0,78	0,87	0,7	3,25
	FFMQ5_ACT	0,86			
	FFMQ6_ACT	0,86			

Table 6.12 Composite reliability, factor loading and convergent validity

Additionally, the Model Fit will be examined, where several indexes will be used to indicate how well the model fits the data. The index is divided into three categories: absolute fit, incremental fit,

and parsimonious fit. Hair et al. (2014) and Holmes-Smith (2006) recommend using at least one fitness index from each category, and based on the recommendation of Sharma, Mukherjee, Kumar, & Dillon, (2005) RMSEA, CFI, TLI and Chisq/df will be used to evaluate the model fit (Sharma et al., 2005).

Name of category	Name of index	Index full name	Literature
Absolut fit	Chi-Square	Discrepancy Chi Square	Wheaton et al. (1977)
	RMSEA	Root Mean Square of	Browne & Cudeck (1993)
	GFI	Goodness of Fit Index	Joreskog & Sorbom (1982)
Incremental fit	AGFI	Adjusted Goodness of Fit	Tanaka & Huba (1985)
	CFI	Comparative Fit Index	Bentler (1990)
	TLI	Tucker-Lewis Index	Bentler & Bonett (1980)
	RNI	Relative noncentrality	Bentler & Bonett (1980)
	NFI	Normed Fit Index	Bollen (1989)
Parsimonious fit	Chisq/df	Chi Square/Degree of	Marsh & Hocevar (1985)

Figure 6.2 Literature review regarding model fit indexes

As shown in Table 6.13, the model fit indexes of the CFA are RMSEA and Chisq/df above the threshold, except for the CFI and TLI, which have registered a value slightly below the threshold (> 0.90). In order to not debilitate the validity of the original scales, the information provided from Residuals and Modification Indices will not be considered to get greater numbers in the fitting model. Accordingly, modification indices on SPSS Amos are considered reliable, however, the theoretical framework of the study is not taken into consideration, thus it is recommended to not depend 100% on it.

To sum up, EFA and CFA, supported by their reliability and validity measurement, were helpful in defining the final constructs of the model, whose path model will be explored in the next paragraph.

	Acceptance level	CFA result
RMSEA	< 0.08	0.068
CFI	> 0.90	0.890
TLI	> 0.90	0.880
Chisq/df	< 3	1.954

Table 6.13 CFA model fit index

6.3 Structural Equation Modelling (SEM)

The research model was compiled to test the research hypothesis through conducting an SEM in SPSS Amos. SEM is a commonly used tool in psychology for investigating the plausibility of theoretical models that might explain the interrelationships among a set of variables (Hu, Hu, & Bentler, 1999). The aim of this study is to determine, supported by previous research, whether dispositional mindfulness (independent variable) and the mediating role of self-esteem, can affect individuals' addictive tendencies toward Instagram and online buying behaviour, as well as whether Instagram addiction may affect online compulsive buying (dependent variables). To keep the new constructed research model as similar as possible to the original research model, as well as be able to measure all eight hypotheses, the new research model was decided to measure OBS and NJ association towards Online Compulsive buying (CBB) as they contain the self-esteem variable (H7). The SEM model on SPSS AMOS is demonstrated in Appendix 7.

The theoretical model was assessed using the goodness-of-fit indices of RMSEA, CFI, TLI, and Normed Chi-square (Table 6.14). The RMSEA value is acceptable, as lower than 0.08. While CFI and TLI values were lower than the cut-off value of 0.90. The Chi-square/degree of freedom was less than the cut-off value of 3 (2.041).

	Acceptance level	CFA result
RMSEA	< 0.08	0.71
CFI	> 0.90	0.872
TLI	> 0.90	0.861
Chisq/df	< 3	2.041

Table 6.14 Research model fit index

The hypotheses of the structural model were analysed based on the estimation of path coefficients and R² (Table 6.15 and 6.16). The results demonstrate that four hypotheses are supported, while four were not confirmed. Among the refused ones, three hypotheses (H1, H2, H5) were found not to be statistically significant (p-value>0.05), while one of them (H4) hypothesised a negative effect that the sign of the coefficient β indicates to be positive. Therefore, we can verify and accept the hypotheses H3, H7 and H8.

Squard Multiple Correlation

Instagram Addiction	0.409
Compulsive Buying	0.558

Table 6.15 Squared Multiple Correlation coefficients

Due to the newly constructed and merged factors from the analysis, the original hypotheses are to some extent defected. Therefore, Table 6.16 will show the hypotheses from the original research model that still are included in the new research model (H2, H3, H4 and H8). Table 6.17 will demonstrate the estimates for the merged factors and the new pathway of the original hypotheses H1, H5, H6 and H7. This will be more thoroughly explained and discussed in the following part of the research (7.0 Discussion).

Original Hypotheses		Estimates	p-value	H0:βi=0
H2	Describing → Instagram Addiction (-)	0.016	0.855	Rejected
H3	Non-reacting → Instagram Addiction (-)	-0.172	0.022	Accept
H4	Awareness → Instagram Addiction (-)	0.453	***	Rejected*
H8	Instagram Addiction → Online Compulsive Buying (+)	0.492	***	Accept

Table 6.16 SEM results and support of the original hypothesis - **the coefficient associated with the variable is statistically significant, but the direction of the effect differs from the predicted one*

OH**	New Pathways		Estimates	p-value	H0:βi=0
H6	H1	Observing/ pos. self-esteem → Instagram Addiction (-)	-0.163	0.077	Rejected
	H5	Non-judging/neg. self-esteem → Instagram Addiction (-)	-0.002	0.987	Rejected
H7	Non-judging/neg. self-esteem → Online Compulsive Buying(-)		0.215	0.002	Rejected*
	Observing/pos. self-esteem → Online Compulsive Buying(-)		-0.212	***	Accept

Table 6.17 SEM results and support of the merged hypothesis with new pathways - ***original hypothesis that got merged: self-esteem with the mindfulness facet Observing and Non-judging. | *the coefficient associated with the variable is statistically significant, but the direction of the effect differs from the predicted one*

Table 6.16 reports the squared multiple correlation coefficients of the multiple regressions. R2 values are in line with the predictive validity of most of the considered and inspected models in the literature review. Figure 6.3 demonstrates the new pathways of the hypotheses and the modified measurement model of the research.

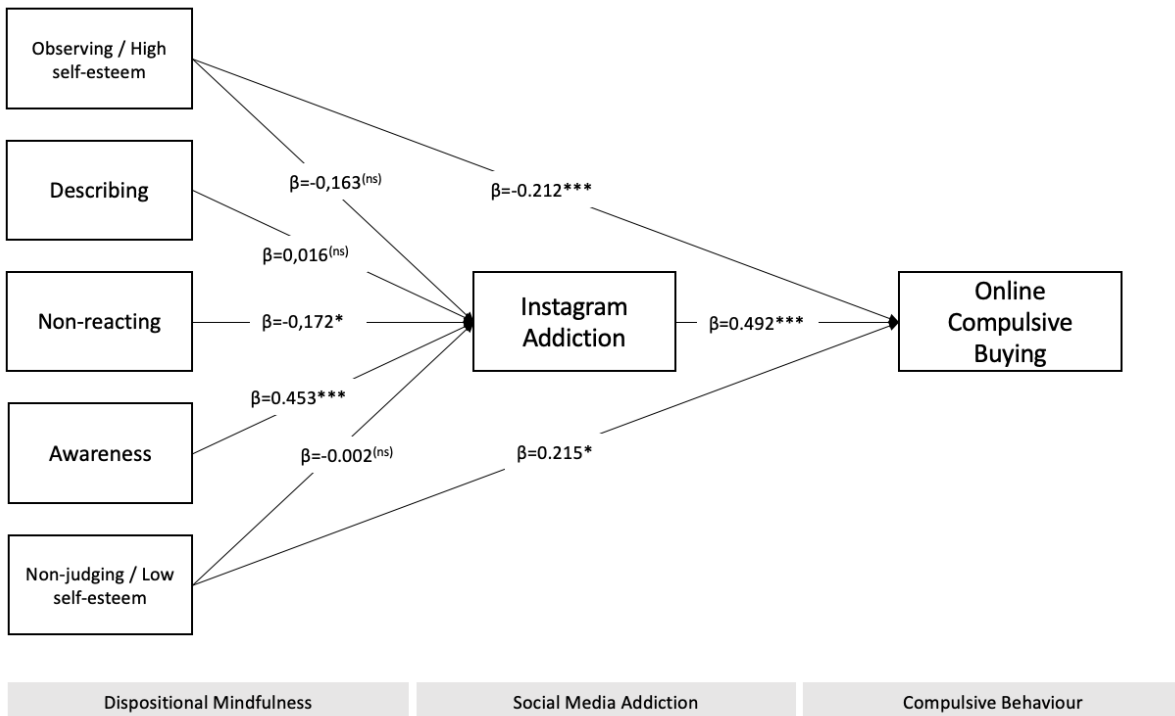


Figure 6.3 Modified research model and path coefficients

* P-value < 0.05

*** P-value < 0.05

6.3.1 Mediating Effects

Additionally, it was measured whether the channel integration strategies might have an indirect effect on Online Compulsive Buying Behaviour (CBB), thanks to the mediating role of Instagram Addiction (IGA). To reach this goal, Standardized Indirect Effects, as well as bootstrapped bias-corrected confidence intervals and p-values were considered. The “Standardised Indirect Effect” is what Preacher and Hayes (2008) called the index of mediation – Table 6.17. The only significant results were the indirect effect of Awareness on Online Compulsive Buying Behaviour: CBB increases by 0.223 standard deviations for every one standard deviation increase in Awareness (AWA) – p-value=0.005, CI [0,122-0,413]. Table 6.18 - 6.21.

	NR	DES	OBS	NJ	AWA	IGA	CBB
IGA	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CBB	-0.085	0.008	-0.080	- 0.001	0.223	0.000	0.000

Table 6.18 Standardized Indirect Effects

	NR	DES	OBS	NJ	AWA	IGA	CBB
IGA	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CBB	-0.223	-0.102	-0.362	-0.183	0.122	0.000	0.000

Table 6.19 Indirect Effects Lower Bounds (BC)

	NR	DES	OBS	NJ	AWA	IGA	CBB
IGA	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CBB	-0.024	0.086	0.041	0.159	0.413	0.000	0.000

Table 6.20 Indirect effects Upper Bounds

	NR	DES	OBS	NJ	AWA	IGA	CBB
IGA
CBB	0.021	0.968	0.220	0.955	0.005

Table 6.21 Indirect Effects Two-Tailed Significance (BC)

7.0 Discussion

This study aimed to investigate the relationship between the psychological constructs of mindfulness, self-esteem and consumers' behaviour online, respectively, towards the social media platform Instagram and online shopping tendencies. Based on previous research, several hypotheses were made concerning the effects of an individuals' dispositional mindfulness and self-esteem on Instagram addiction and online compulsive buying behaviour. The relationship between Instagram addiction and online compulsive buying was also of interest. Initially, we hypothesised that the mindfulness facets of observing, describing, non-reacting, non-judging and awareness would be negatively associated with Instagram Addiction. Moreover, we hypothesised that self-esteem would be negatively associated with both Instagram addiction and online compulsive buying. Last, we predicted that Instagram Addiction would increase the chance of buying more compulsively online. Before discussing the results, however, it is important to highlight the results from the EFA as it brought about changes to the original predictions and research model.

7.1 Results of the EFA

The results of the EFA revealed that two of the mindfulness facets should be merged with self-esteem, respectively, observing and positively loaded self-esteem items and non-judging with negatively loaded self-esteem items. Due to the results of the EFA, some pathways in our initial research model were slightly changed. Initially, we hypothesised that self-esteem would have a negative association with both Instagram addiction and online compulsive buying. The results of the EFA, however, merged positively loaded self-esteem measures and mindfulness (observing), meaning that the new pathway will test the combination of mindfulness (observing) and positive self-esteem on Instagram addiction and online compulsive buying instead of self-esteem alone. Similarly, this happened for mindfulness (non-judging) and negatively loaded self-esteem measures when testing the same pathways. Originally, the pathway between mindfulness and online compulsive buying was not going to be tested due to the scope of the paper. However, in order to be able to test the relationship between these variables and self-esteem, the new combination of variables was tested in the final SEM analysis.

Thus, it is important to have a discussion on the potential reasons why the EFA results merged mindfulness and self-esteem measures into two of the same factors. First, the results could be a

reflection of the discussion done by Kernis et al. (2008), that it is necessary to separate self-esteem into separate categories, explaining that all individuals have some contingent self-esteem (reliant on external factors), but more specifically, that self-esteem can be both secure and fragile. Moreover, positively loaded self-esteem measures in our questionnaire are, for example: “I feel that I am a person of worth”, reflecting more secure self-esteem. On the other hand, negatively loaded self-esteem measures are, for example: “I wish I had more respect for myself”, reflecting more fragile self-esteem. Due to the findings of the study and the discussion done by Kernis et al. (2009), this could explain why the self-esteem scale was divided into positive and negatively loaded statements in the EFA. Similarly, observing (mindfulness) statements in the questionnaire are generally positively loaded, e.g. “I pay attention to physical experiences, such as the wind in my hair or sun on my face”, and non-judging (mindfulness) statements are generally negatively loaded, e.g. “I tell myself I shouldn’t be feeling the way I’m feeling”. This could further clarify why the positive self-esteem statements were merged with mindfulness (observing), and negative self-esteem statements with mindfulness (non-judging), due to the loading of the specific statements.

Moreover, several researchers have found mindfulness to have positive associations with more secure levels of self-esteem, and that the concepts often are highly correlated (Brown & Ryan, 2003; Thompson & Waltz, 2008; Rasmussen & Pidgeon, 2011). Accordingly, as mindfulness involves a decentred stance towards thoughts and feelings, it is possible that people who are higher in mindfulness, are less likely to be consumed by negative thoughts and emotions regarding themselves (Pepping, O’Donovan & Davis, 2013). Further, individuals with lower self-esteem may have cognitive biases based on past experiences, as well as frequent negative beliefs about the self (Pepping et al., 2013). Mindfulness, however, facilitates non-judgemental attention to thoughts and emotions, allowing individuals to avoid potential cognitive bias and negative perception of themselves (Pepping et al., 2013).

In their research, Pepping et al. (2013) found the strongest correlation between the non-judging facet and self-esteem, as individuals high on this facet are less likely to experience self-critical thoughts, but also better at perceiving these as thoughts, without evaluating them as good or bad (Pepping et al., 2013). On the other hand, individuals who are low on this facet, are more likely to get caught up in harsh and judgemental thoughts and feelings regarding themselves, thus risking lower self-esteem (Pepping et al., 2013). Pepping et al. (2013) did not find the facet observing to have associations to

high self-esteem. That said, the authors argue that it is likely that individuals that are both high and low on self-esteem may be able to better observe internal and external stimuli regarding themselves. As a result, observing cannot be ruled out when discussing possible correlation with self-esteem, and as seen in the findings of this study, further research is required to explore these associations further. Consequently, for the purpose of this research, the concepts of mindfulness and self-esteem were not as easy to separate into individual constructs as initially predicted.

7.2 Results of the individual hypotheses

Although the EFA analysis provided us with a different path to the results than originally predicted, the findings from the study provide us with a good starting point to have a discussion on the potential relationships between mindfulness, self-esteem, Instagram addiction and online compulsive buying tendencies. Due to the results of the EFA, the original hypothesis H6 will be seen in combination with H1 and H5, whereas the original H7 remains, although two pathways were tested for this hypothesis instead of one, see Table 7.1 and 7.2.

Original Hypotheses		Estimates	p-value	H0:βi=0
H2	Describing → Instagram Addiction (-)	0.016	0.855	Rejected
H3	Non-reacting → Instagram Addiction (-)	-0.172	0.022	Accept
H4	Awareness → Instagram Addiction (-)	0.453	***	Rejected*
H8	Instagram Addiction → Online Compulsive Buying (+)	0.492	***	Accept

Table 7.1 SEM results and support of the original hypothesis - **the coefficient associated with the variable is statistically significant, but the direction of the effect differs from the predicted one*

OH**	New Pathways		Estimates	p-value	H0:βi=0
H6	H1	Observing/ pos. self-esteem → Instagram Addiction (-)	-0.163	0.077	Rejected
	H5	Non-judging/neg. self-esteem → Instagram Addiction (-)	-0.002	0.987	Rejected
H7	Non-judging/neg. self-esteem → Online Compulsive Buying(-)		0.215	0.002	Rejected*

	Observing/pos. self-esteem → Online Compulsive Buying(-)	-0.212	***	Accept
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Table 7.2 SEM results and support of the merged hypothesis - ***original hypothesis that got merged: self-esteem with the mindfulness facet Observing and Non-judging. | *the coefficient associated with the variable is statistically significant, but the direction of the effect differs from the predicted one*

H1 + H6: Our original hypotheses 1 and 6 predicted a negative association between Instagram addiction and the mindfulness facet of observing (H1) and self-esteem (H6). This was based on research findings that show that individuals with both high levels of mindfulness and high self-esteem had a lower risk of suffering from social media or Instagram Addiction (Andreassen et al., 2017; Charoensukmongkol, 2016; Sriwilai & Charoensukmongkol, 2016). That said, with the combination of variables: observing and positive self-esteem and Instagram addiction, we found a negative correlation between the variables, which is in line with previous research findings. However, the hypothesis cannot be confirmed as it is not significantly correlated ($\beta = -0.163$, $p = 0.077$). Attempting to interpret these results, this could entail that some individuals who have more secure self-esteem, and who have high scores on the observing facet of mindfulness, may still use Instagram excessively, perhaps as a platform for self-campaigning, as found by Alhabash & Ma (2017). Additionally, the descriptive statistics show that the research sample has a mean of 2.64 on the Bergen Instagram Addiction Scale (Table 6.4) and is considered a relatively low score (Lin et al., 2017) Accordingly, a relationship between mindfulness, self-esteem and addiction might in fact be more present among individuals who are more seriously addicted or disturbed by their addiction than participants in this particular sample (Greenberg et al., 1999).

H5 + H6: As discussed, we originally predicted mindfulness (non-judging) (H5) and self-esteem (H6) to have a negative association with Instagram addiction. Due to the EFA, the relationship was tested on the combination of the variables, hence non-judging and negative self-esteem to Instagram addiction. The reasoning for the hypotheses was based on a number of studies that have found a significant relationship between low self-esteem and addictive use of various social media platforms (Andreassen et al., 2016; Błachnio et al., 2016; Denti et al., 2012; Gonzales & Hancock, 2011; Steinfield et al., 2008). Similarly, researchers have found that those that are less mindful are more likely to show addictive tendencies towards social media (Charoensukmongkol, 2016; Sriwilai & Charoensukmongkol, 2016), and specifically significant for those with low scores on the Non-judging facet (Calvete et al., 2017). Thus, H5 represents a combination with H6, whereas the path tested is a

combination of non-judging and negative self-esteem, and whether there is a negative association with Instagram addiction. Here, there was a slight negative correlation, however not significant, hence the hypothesis could not be confirmed ($\beta = -0.002$, $p = 0.987$). A possible explanation is that due to social comparison, one's self-esteem may influence Instagram use (Denti et al., 2012) whereas positive and negative (or lack of) feedback from peers may lower self-esteem (Valkenburg et al., 2006). Moreover, this could make individuals more likely to take a judgemental stance towards themselves, making them spend less time on platforms such as Instagram due to the negative consequences it may cause.

H2: The facet describing has been proven by previous research to be negatively correlated with addictive behaviour (Baer et al., 2006). Addictive behaviour, in this case towards Instagram, is for example characterised by the tendency to maintain and achieve preferred emotions by increment social media use (tolerance) and by social media dominating individuals' behaviour and thinking (salience) (Griffiths, 2005). That said, the describing facet prevents individuals from getting caught in negative emotions, and instead these dominant thoughts are identified and labelled, thus decreasing the chance of becoming consumed or overwhelmed by them (Calvete et al., 2017). Hence, these individuals may avoid resorting to Instagram to cope with these feelings (Baer et al., 2006; Pepping et al., 2013). However, the results disconfirm the research by Baer et al. (2006). The facet describing was not significantly associated ($\beta = 0.016$, $p = 0.855$) with Instagram Addiction, as well as the direction of the effect (positive) differs from the predicted (negative). Thus, hypothesis H2 was rejected. As a result, this facet of mindfulness does not necessarily play a fundamental role in connection to Instagram addiction.

H3: Consistent with previous research (Charoensukmongkol, 2016; Sriwilai & Charoensukmongkol, 2016), the non-reacting facet of mindfulness shows a significant negative association with the variable Instagram Addiction ($\beta = -0.172$, $p = 0.022$). In our study, the non-reacting facet appears to be the only facet that we can confirm has a negative correlation with addictive behaviour towards Instagram. Individuals with high scores on the non-reactivity facet allow self-critical feelings and thoughts to appear, but without getting caught up in them and responding to them in maladaptive ways (He et al., 2018). Moreover, Chambers et al. (2009) proposed that non-reactivity may promote healthy engagement with emotions and, thus, facilitate alternative emotion-regulation strategies (Calvete et al., 2017). As seen in the results of this study, participants high on this facet may thus not

turn to social media to relieve negative emotions as they may have a lesser need for mood modification (e.g., to forget personal problems and reduce unpleasant feelings when using or participating in certain behaviour, Figure 3.3) (Griffiths, 2013). Moreover, the descriptive statistics show that the sample is dominating female respondents ($n = 135$, 64,29 %), and previous research has argued that females score higher on the facet non-reacting than males (Pang & Ruch, 2019), which may further explain the results.

H4: The analysis shows that the mindfulness facet awareness has a highly significant positive correlation with the variable Instagram addiction ($\beta = 0.453$, $p = ***$). Acting with awareness means paying attention to events in the moment, as opposed to acting mindlessly or on autopilot (Hart et al., 2013). The result contradicts previous studies which state that the awareness facet of mindfulness directly predicted less deficient self-regulation of social media use and indirectly predicted less excessive use through its impact on self-regulation (Calvete et al., 2017). Accordingly, hypothesis H4 was rejected due to the direction of the effect (positive) differs from the predicted (negative).

Moreover, when discussing H4, several studies suggest that the practice of meditation is important to increase positive qualities such as awareness (Baer et al., 2006), however, looking at the descriptive data (Table 6.1), 72.38 % of the sample corresponds to a non-mediator group (less or never). Non-meditators scored higher than regular meditators on the awareness facet (Table 6.3), with a mean of 3.74 for non-meditators and a mean of 3.28 for regular meditators. Accordingly, meditation practice is shown to have various benefits including increased well-being and cognitive outcomes (Anderson et al., 2019). These outcomes can range from depression, self-esteem to self-control and enhanced attention (Anderson et al., 2019), which are all considered as mediating effects for addictive tendencies online (Turel & Serenko, 2012). Thus, the difference between non-meditators and regular mediators may explain why the result showed a positive correlation between awareness and Instagram addiction, as a large part of our sample represents non-meditators.

The joint review of the five first hypotheses, concerning the association between the five facets of mindfulness, self-esteem and Instagram addiction, allow us to assume that high levels of dispositional mindfulness and self-esteem do not necessarily decrease individuals' addiction tendencies towards Instagram. H3, involving the facet non-reacting and Instagram addiction, was the only one out of the five facets that were accepted. This led us to believe, together with the fact that the sample is female

dominant, that healthy engagement with emotions (Chambers et al., 2009) and the ability to not respond to negative feelings in maladaptive ways (He et al., 2018) are the most important factors influencing individuals' addictive tendencies towards Instagram.

H7: We originally hypothesised that self-esteem would be negatively associated with online compulsive buying (H7). That said, due to the EFA, self-esteem was tested in combination with the mindfulness facets of observing and non-judging, and its relationship with online compulsive buying (see Table 7.2). This resulted in two pathways being tested for H7 instead of one. Our initial predictions were based on previous research that found that self-esteem predicted a decrease in compulsive buying tendencies (Hanley & Wilhelm, 1992) and similarly, that those with low self-esteem would thus be more likely to indulge in compulsive buying. Moreover, although mindfulness initially was not meant to be tested in relation to online compulsive buying, previous studies have also found a correlation between low mindfulness and compulsive buying tendencies (Chiesa, 2013), making it an interesting relationship to test. Here, the results show a significant correlation between the variables for both pathways, respectively 1) positive correlation for the online compulsive buying, non-judging and negative self-esteem pathway and 2) negative correlation for the online compulsive buying, observing and positive self-esteem pathway ($\beta = 0.215$, $p = 0.002$ and $\beta = -0.212$, $p = ***$) (see table 7.2).

First, our original prediction for H7 was a negative association between self-esteem as a single variable and online compulsive buying, making our predictions somewhat wrong due to the positive correlation between online compulsive buying, non-judging and negative self-esteem. That said, as this variable included only negatively loaded self-esteem and non-judging measures, the findings may support previous research that individuals with low self-esteem, and a propensity to be more judgemental towards themselves, thoughts and feelings (thus high scores on these variables), are more likely to end up in a cycle of compulsive buying for momentary relief of such feelings (Hanley & Wilhelm, 1992). Second, individuals that are more attentive to influences and that are more secure in themselves (observing and positive self-esteem), are not expected to be online compulsive buyers, which can be seen through the findings of this study, whereas the correlation is also significant (see table 7.2). That said, although two pathways were tested in the SEM, our original hypothesis 7 is rejected.

H8: Last, we hypothesised that Instagram addiction has a positive association with online compulsive buying behaviour. This was based on previous research and theory which state that increased use of social media may activate cognitive and affective responses in online buyers and reduce inhibitory control, which may eventually lead to specific problematic behaviours (Brand et al., 2016). Due to the nature of Instagram, users are often exposed to consumption-related activities such as product advertising by both businesses and peers, which may serve to increase materialism (Gupta & Vohra, 2019, Ho et al., 2017), and the risk of intensifying online compulsive buying (Li et al., 2016, Sharif & Khanekharab, 2017). Our result indicates that addictive behaviour towards Instagram is a risk factor for online compulsive buying behaviour, consistent with the I-PACE model (Brand et al., 2019). The results show that Instagram addiction has a significant positive association with the variable online compulsive buying behaviour ($\beta = 0.492$, $p = ***$). Thus, the hypothesis is confirmed, and we can argue that an increase in addictive behaviour towards Instagram may result in an increase of compulsive buying behaviour in an online environment.

In summary, the examined hypotheses have shown a varied correlation between dispositional mindfulness, self-esteem and Instagram addiction, whereas only one of the facets (non-reacting) were significantly correlated with Instagram addiction. From this, we may suggest that mindfulness is not necessarily a valid construct that influences individuals' Instagram addiction. However, further research is needed as some of our testing requires mindfulness and self-esteem to be merged due to the results from the EFA, which may disrupt the validity of the results. Further, although the results are not necessarily in line with predictions, mindfulness and self-esteem seem to be correlated with online compulsive buying to some extent. That said, predictions and findings are in line with the correlation between Instagram addiction and online compulsive buying tendencies. The findings from the research are visually depicted in Figure 7.1, which represent the negative and positive associations between the variables.

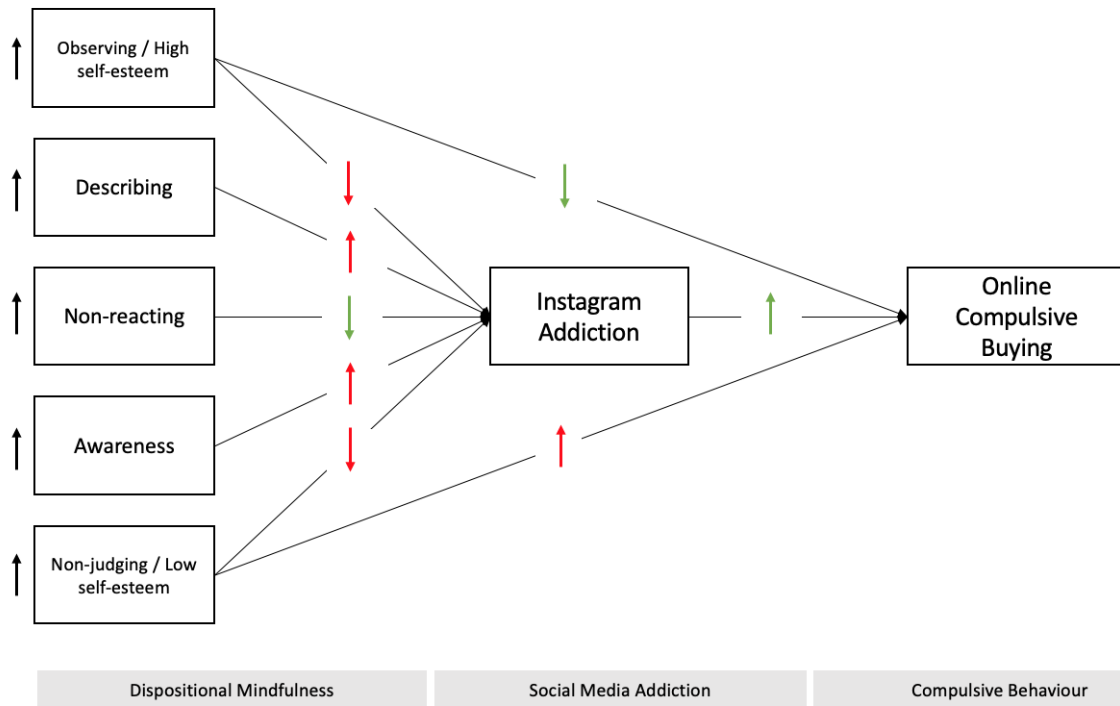


Figure 7.1 Visual representation of the associations between the variables (the red arrows indicate rejection of the hypothesis based on not being statistically significant or the direction of the effect differs from the predicted one).

8.0 Theoretical contribution and managerial implications

The study provides insights into further research in the transformative consumer research paradigm of getting a better understanding of consumer and societal well-being, in addition to highlighting relevant issues that businesses and marketers may encounter when developing their business strategies. In the following section, the contributions of our research will be discussed for both areas.

8.1 Theoretical contributions

The findings from this study contribute to a deeper understanding of the psychological concepts of mindfulness and self-esteem, and their effects on social media usage and consumers' consumption patterns in an online environment. More specifically, this study builds on existing research that suggests that mindfulness is a tool that can be effective in treating and preventing addictive behaviour (Sriwilai & Charoensukmongkol, 2016), and promoting more sustainable buying behaviour (Rosenberg, 2004; Baer et al., 2016; Fischer et al., 2017). Similarly, the study draws on an existing theory that proposes a strong correlation between the concepts of mindfulness and self-esteem (Pepping et al., 2013), and that low self-esteem is related to a heightened risk of suffering from social media addiction and compulsive buying (Hanley & Wilhelm, 1992; Lejoyeux et al., 2011; Andreassen et al., 2017). Last, the study was built on the presumption that social media usage is related to compulsive buying tendencies (e.g.: Brand et al., 2016). To the best of our knowledge, although some previous research has found a correlation between the different concepts of this study, this is one of the first attempts at looking at the possible relationship between all four.

First, the results of this study show a relationship between dispositional mindfulness and Instagram addiction, however only for the non-reacting facet of mindfulness. A relationship was not found between the other mindfulness facets, which may be due to the mentioned merging of mindfulness and self-esteem variables. Consequently, our findings are only partly in line with previous research findings on the relationship between mindfulness, self-esteem and addiction to social media. That said, our study contributes to the understanding of the importance between addictive tendencies towards Instagram and consumers' healthy engagement with emotions (Chambers et al., 2009) and the ability to not respond to negative feelings in maladaptive ways (Pepping et al., 2013).

Second, we specifically investigated the connection between self-esteem and the mindfulness facet of observing, and self-esteem and the facet of non-judging, and its implications for online compulsive buying tendencies. Although our initial research model and pathways that were tested changed due to the results of the EFA, our study confirms that there is a relationship between mindfulness, self-esteem and online compulsive buying, although different to what was originally predicted. That said, further research is needed to confirm whether there is a significant relationship with self-esteem alone, as well as between the other facets of mindfulness, separated from the self-esteem concept.

Last, in line with several other research findings, our study confirms a correlation between addiction related to social media, here specifically to Instagram and a heightened risk of buying more compulsively online. Consequently, this study contributes to a deeper understanding of potentially harmful consumer behaviour in this respect, and that Instagram may contribute negatively when discussing global issues such as sustainability and overconsumption.

8.2 Managerial implications

From a practical and managerial perspective, this study holds significant implications for business and marketing practitioners. The findings in this study show the associations between consumer's mindfulness, self-esteem and social media usage and their online compulsive buying tendencies, whereas all will have negative or positive consequences for consumer's overall well-being. As a result, this delivers insights to businesses on what should be considered when developing marketing strategies in order to strengthen the relationship with their customers, in addition to decreasing their negative impact on both their well-being and their overall environmental impact.

On one side, the current digitised era is providing consumers with technology and tools at a speed that has never been seen before, however, the dark side is that scholars see an increase of misuse and issues related to technology and social media. Due to businesses purposefully tapping into well-known consumer psychology when designing their services, means that companies can take further advantage of this in their marketing efforts (The Social Dilemma, 2020). Parts of the findings in our study shows how both mindful and self-secure individuals are less likely to show addictive and compulsive symptoms in dealing with social media and online shopping. Drawing on this, the mentioned younger generation Z is often described as more woke and aware of personal and societal issues (Mkele, 2018), and studies show that they are likely to purposefully spend less time online than

older generations (Stefanyk, 2020). Contrary to the already mentioned “FOMO” which drives individuals to spend more time online, research shows that Gen Z embraces “JOMO”, hence the “joy of missing out” (Stefanyk, 2020). As a result, companies may need to spend less time focusing on reaching mass audiences online through their marketing strategies and instead spend more time on engaging their audience in meaningful ways and show support for the same causes that are important to their own customer base (Stefanyk, 2020).

Moreover, our study provides the first step for businesses in the understanding of relationships that may affect overconsumption in the current digitalised world and their possible contribution to this issue. There are many possible antecedents of overconsumption overall, however, this study focuses specifically on the consumer, providing knowledge on how consumer’s engagement in online platforms may not only negatively affect their well-being but also their consumption patterns. Our research provides companies with an understanding of the implications of specifically using Instagram in their marketing strategies. As more and more businesses are advertising their products on Instagram (Nuseir, 2020), and users are constantly targeted with ads that are specifically tailored to their personal profile and behaviour online (Whitney, 2020), Instagram is directly affecting purchasing behaviour. Moreover, this study shows that individuals who are addicted to Instagram (thus using it more excessively than others) are more likely to indulge in compulsive online shopping. As a result, and as seen in the findings of this study, Instagram usage may increase compulsive buying behaviour online for some users, whereas businesses and marketers need to take part in the responsibility and encourage change.

In sum, businesses have a responsibility both when it comes to how they contribute negatively to their customers' well-being through frequent, targeted advertising and constant encouragement to buy, as well as the negative consequences this also has for the environment and the overconsumption issue (Rosenberg, 2004). This means that businesses and marketers may need to take more responsibility and apply marketing strategies that are more mindful when advertising on social media platforms such as Instagram. Moreover, marketers should consider the results of this study and improve their societal impact by helping consumers make better purchasing decisions and consequently also increase their overall well-being. As mentioned, businesses can revolve their marketing and advertising efforts more around relationship building and educating consumers, rather than promotions and persuasion tactics that only stimulate purchasing. For example, for businesses who

want to practice mindful marketing and more conscious capitalism, gaining insights into how mindfulness may influence consumption is essential, whereas businesses may take part and use their voice and platform to deliver that message to their audience as well (Milne et al., 2019).

9.0 Limitations and further research

Several important limitations must be kept in mind when considering the results of this study, nevertheless, it offers potential starting points for future research. Both limitations and recommendations for further research will be discussed in the following paragraphs. Even though quantitative research is deemed applicable in this study, it should be pointed out that quantitative research also receives some critique. First, the questionnaire format of the data collection is a self-report method, thus, it only provides information about how the participants themselves believe they would behave in a hypothetical situation and not necessarily how they do in real life. Accordingly, it is argued that individuals both under and over-report in their responses, for example, particularly regarding mindfulness relating to the socially desirable response bias (Sun & Morwitz, 2010). Relying on self-reports might therefore affect the validity of the research findings (Kormos & Gifford, 2014).

Further, the quantitative measurement process is considered to be flawed, as there is too much reliance on measurement instruments and procedures, and the actual meaning and relation to daily life are ignored by only analysing relationships (Bryman & Bell, 2015). For example, individuals' psychosocial well-being and pathological buying behaviour are areas the individual might not be consciously aware of (Bryman & Bell, 2015). Therefore, in-depth interviews, focus groups or even participant observation (Bryman & Bell, 2015) could have better revealed psychological insights. Accordingly, it might be difficult for the respondents to assess how they feel or think about some of the subjective elements that are included in this research, which could weaken the validity and reliability from a quantitative standpoint (Bryman & Bell, 2015).

Another critical consideration to contemplate when discussing the limitations of the study is the time constraint that comes with the writing process of a master thesis. 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. Additionally, the cross-sectional research design that was adopted to perform the study limits the possibility to draw causal relationships within the variables as well as changes in consumers' levels of mindfulness cannot be seen over time (Doran & Larsen, 2016), which could increase the relevance of the research. While SEM models offer ways to draw causal inferences, they can be drawn with less certainty (Hair, Black, Babin & Anderson, 2014).

The goal of the study was to provide insights into the influence of dispositional mindfulness and self-esteem on Instagram addiction and online compulsive buying, and whether Instagram addiction influences consumers' compulsive buying behaviour online. With the development of the questionnaire, we had to select and explore only a few variables, leaving out some potential other variables that could explain changes in the participants' social media habits and online buying tendencies. For example, including variables such as peer pressure, materialistic values, environmental awareness and behaviour or other consumer characteristics could have influenced the outcome of this study. Further research could study how those features influence the online habits of a mindful consumer to get a deeper understanding of how this may contribute to overconsumption. This also applies to the variables we chose not to include in the research model that was not tested through conducting the SEM: gender, age, Instagram habits and meditation habits. The study measures meditation as a trait of a more stable, individual characteristic, however, the relevance of meditation and mindfulness as a "state" would have been interesting to investigate further. Consequently, the left-out variables could explain the negative and positive association towards the dependent variables more thoroughly.

Additionally, the study is focusing on a very broad sample which surely adds some significant results. However, it also limits the practical application of the result to particular consumer segments which previous sustainability literature has shown interest in (Fook & McNeill, 2020). Consequently, further research could investigate whether different segments are associated with the aim of the research, for example, young females between 35 and 40 which are most likely to experience the consequences associated with compulsive buying (Maraz et al., 2016; Manchiraju et al., 2016). This study, therefore, may serve as a preliminary study for more specified substantial research in this respect.

While the sample size of 210 is argued to generally be sufficient, a higher sample size might have yielded a higher generalisation of the results (Hair et al., 2014). This research was further based on a convenience sampling due to time and budget restrictions, yet this might have caused biased responses (Zur & Klöckner, 2014). Moreover, as the questionnaire was posted on personal social media platforms, it might have impacted the generalisability of the results due to the fact that certain groups have a relatively higher chance to be part of the sample (Bryman & Bell, 2015). It should thus be noted that the findings of this study might be generalised only within the target population, rather than the wider population. In addition, cultural differences may also influence the generalisation of

our research findings. Several cross-cultural studies have demonstrated that consumer behaviour is culture related (Pantano, 2011), and it should be noted that this study is primarily focused on respondents from Norway, Denmark and Sweden. However, the sample consisted of various nationalities. Thus, generalisations to certain countries and cultures should be made carefully. Further research could have narrowed the research sample down solely focusing on the Scandinavian countries to make sure generalisation is feasible.

Limitations regarding the Likert scales must be taken into consideration. To keep the interest of the respondents and decrease the timeframe, the questionnaire consisted of relatively small Likert scales. There were 18 items in the FFMQ-scale and the other scales were ranging from 7 to 10 items each. It is argued that more items might result in higher generalisability and reliability estimates, however, a higher number of items also requires a larger sample size (Hair et al., 2014). Therefore, strong inferences from the analysis should be made with some caution, as the results could be improved by using more advanced and rigorous scales that could determine a better cause-and-effect relationship of the variables. Further research could include the full FFMQ scale, as well include more in-depth scales regarding self-esteem, Instagram addiction and compulsive buying, given that further research does not have the same time constraints and could get a greater sample size.

Another limitation that should be taken into consideration is the values in the model fit index (Table 6.14) that were lower than the recommended cut-off value, the CFI and TLI. Accordingly, the information provided from Residuals and Modification Indices was not taken into consideration in order to not debilitate the validity of the original scales. Thus, only a few items were omitted, and the validity of the scales remained. However, this has to be kept in mind regarding the validity of the research model. Further research using more in-depth scales with more items could implement the information provided from Residuals and Modification Indices as omitting items is not as critical as it is in our study.

The choice of conducting an exploratory factor analysis was based on previous research done by Goodal et al. (2012) and Wood et al. (2015), in addition to an earlier master thesis, similar to our study, investigating consumer behaviour related variables through conducting an SEM (Cortesi, 2019). It was decided to go through with an EFA to ensure optimal results from the modified scales, in order to examine inter-correlation between the variables and to see if the structure reflected

previous empirical analysis of mindfulness and self-esteem measures. Thus, limitations regarding the scale's validity should be kept in mind when considering the findings of the research. Further, the research model of this study was modified after conducting the EFA and turned out to be a rather complex pathway for the hypothesis due to the merged factors. While we initially planned to include self-esteem as an independent variable, the process of testing the measurement model through the EFA led to a merge with the mindfulness facets of observe and non-judging. On that basis, the two variables, observing and non-judging, were as well measured in the research model directly towards online compulsive buying behaviour to still include H7 in the study. Although the EFA shows that self-esteem may be a proxy for mindfulness in different ways, drawing conclusions from the merged self-esteem and mindfulness facets might thus not be accurate. Further research is needed in order to accurately separate self-esteem and mindfulness, as our analysis shows that the concepts may not be as differentiated as initially predicted.

Last, another potential limitation of this study is that not all facets of mindfulness were tested in relation to online compulsive buying tendencies. As a result, two insights for further research could be assessed: first, it could be insightful to test whether healthy engagement with emotions, the non-reacting facet, has a direct association with online compulsive buying. The compulsive buyer tends to engage in impulses associated with positive feelings and the online shopping environment is using target marketing stimuli to push these sensitive consumers to buy (Dittmar et al., 2004). By measuring the non-reacting facet directly to compulsive buying, a better understanding could have been given of whether individuals who have unhealthier engagement with their emotions would be more likely to buy compulsively. Second, further analysis could measure gender differences regarding the non-reacting facet (in addition to including gender in the SEM), as it is proved by previous research to be a significant difference between females and males in the levels of non-reacting (Pang & Ruch, 2019). This could lead to interesting results that might better explain why it was only the non-reacting facet that had a significant negative association with Instagram addiction.

9.1 Alternative approach to methodology

The Methodology chapter 5.0 depicts the methodological approach applied in the study at hand. However, as a result of the unpredicted pandemic, our study suffered an unfortunate disregard of the initially planned research design, which involved both a “state” mindfulness experiment and a

neuroscientific experiment. The following section is a short description of an alternative approach this study could have benefited from.

First, as an alternative approach, one could conduct an experiment to induce “state” mindfulness where only half of the participants are exposed to a short mindfulness induction (approx. 10 minutes) from Langer’s line of research before answering the questionnaire. Here, effects of the mindfulness induction could potentially reveal differences in responses. Second, a neuroscientific experiment using an eye-tracking device when assessing online behaviour could potentially reveal bias and differences in participants who have practiced mindfulness and those who have not, as well as highlighting the areas a respondent gazed at when being on social media and making buying decisions online. For this reason, the current study serves as an appropriate base for further research, which could be done using tools emanating from neuroscience.

10.0 Conclusion

It has been made clear through scientific evidence that humans contribute to climate change through their patterns of consumption (Beattie & McGuire, 2016). Although climate change has demanded an increased focus on sustainability initiatives, the rise of social media and e-commerce only seems to add fuel to the fire. Moreover, the commercialisation of online environments and frequent online advertising has shown to boost consumption even further, causing a negative impact on both consumers' well-being and the environment (Bauer et al., 2012; Kasser & Kanner, 2004). Thus, social media platforms such as Instagram have become a driving force for consumers purchasing behaviour (Facebook IQ, 2019). On the other side, in order to promote sustainable consumption and increase both consumers and environmental well-being, there has been an increased focus on the concept of mindfulness as an antidote to consumerism (Rosenberg, 2004).

Due to this development, this study aimed to provide insights into the influence of dispositional mindfulness and self-esteem on Instagram addiction and online compulsive buying tendencies, in addition to investigating whether excessive use of Instagram may result in an increase of compulsive buying. With the research question: *“How does mindfulness and self-esteem affect the relationship between consumer’s Instagram usage and online shopping tendencies?”*, the goal of the thesis is to highlight these individual factors as both preventative mechanisms and antecedents to the global overconsumption issue.

Our study contributes to transformative consumer research, whereas the aim is to provide research that will positively impact consumers and societal well-being. To the best of our knowledge, this is the first study that investigates whether excessive use of social media may result in unhealthy consumption patterns, in addition to providing insights on the influence of mindfulness and self-esteem on this relationship. Although our study only partly proves a relationship between mindfulness, self-esteem, Instagram addiction and online compulsive buying, it certainly highlights the correlation between Instagram addiction and online shopping tendencies.

Although it is challenging for businesses to change their business model and take a step back from traditional sales and advertising on social media, our research stresses the importance of doing so. Businesses may use their voice and platform as a place to educate consumers on how to consume more sustainably through more mindful marketing, instead of focusing marketing strategies around

frequent, targeted advertising. Moreover, this means taking even a step further from encouraging green consumption and highlighting the importance of dealing with the overconsumption issue as well. Until sustainable consumption is more a societal default, both more mindful marketing and consumer behaviour is a necessity when dealing with the dangers of climate change.

11.0 Reference list

- Akram, U., Hui, P., Khan, M., Tanveer, Y., Mehmood, K., & Ahmad, W. (2017). How website quality affects online impulse buying: Moderating effects of sales promotion and credit card use. *J. Mark. Logist.*(30), pp. 235–256.
- Alhabash, S., & Ma, M. (2017). A Tale of Four Platforms: Motivations and Uses of Facebook, Twitter, Instagram, and Snapchat Among College Students? *Social Media + Society*, vol. 3, no. 1, p. 205630511769154.
- Amel, E. L., Manning, C. M. & Scott, B. A. (2009). Mindfulness and Sustainable Behavior: Pondering Attention and Awareness as Means for Increasing Green Behavior. *Ecopsychology*, pp. 14–25.
- Anderson, T., Suresh, M., & Farb, N. (2019). Meditation Benefits and Drawbacks: Empirical Codebook and Implications for Teaching. *Journal of Cognitive Enhancement*(3), pp. 207-220.
- Andreassen, C. S. (2015). Online Social Network Site Addiction: A Comprehensive Review. *Current Addiction Reports*, 2 (2), pp. 175-184.
- Andreassen, C., & Pallesen, S. (2014). Social network site addiction-an overview. *Curr. Pharm. Des.*, 20 (25), pp. 4053-4061.
- Andreassen C. S., Pallesen S. & Griffiths M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive behaviors*, 287-293.
- Apaolaza, V., Hartmann, P., Medina, E., Barrutia, J. M., & Echebarria, C. (2013). The relationship between socializing on the Spanish online networking site Tuenti and teenagers' subjective wellbeing: The roles of self-esteem and loneliness. *Computers in Human Behavior*, 29, pp. 1282–1289.
- Appel, G., Grewal, L., Hadi, R., & Stephen, A. T. (2020). The future of social media in marketing. *Journal of the Academy of Marketing Science*(48), pp. 79–95.
- Arndt, J., & Schimel, J. (2003). Will the real self-esteem please stand up? Toward an optimal understanding of the nature, functions, and sources of self-esteem. *Psychological Inquiry*, 14, pp. 27–30.
- Auger, P., & Devinney, T. M. (2007). Do What Consumers Say Matter? The Misalignment of Preferences with Unconstrained Ethical Intentions. *Journal of Business Ethics*(76), pp. 361–383.
- Awang, Z. (2012). *A Handbook on Structural Equation Modeling*. Bangi Selangor: MPWS Publisher.
- Aydin, B. & Sari, S. V. (2011). Internet addiction among adolescents: the role of self-esteem. *Procedia Social and Behavioral Sciences*, pp. 3500–3505.
- Baer, R.A., Smith, G.T., & Allen, K.B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11, pp. 191-206.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1), pp. 27–45.
- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., Walsh, E., Duggan, D., & Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and non-meditating samples. *Assessment*, 15, 329–342.

- Bahl et al. (2016). Mindfulness: Its Transformative Potential for Consumer, Societal, and Environmental Well-Being. *Journal of Public Policy & Marketing*, Vol. 35 (2), pp. 198-208.
- Bandura, A. (2002). Growing primacy of human Agency in Adaptation and Change in the electronic era. *European Psychologist*, 7 (1), pp. 2–16.
- Barker, V. (2009). Older adolescents' motivations for social network site use: The influence of gender, group identity, and collective self-esteem. *Cyber Psychology & Behavior*, 12, pp. 209–213.
- Bauer, M. A., Wilkie, J. E. B., Kim, J. K., & Bodenhausen, G. V. (2012). Cuing consumerism: Situational materialism undermines personal and social well-being. *Psychological Science*, 23(5), pp. 517–523.
- Bearden, W., & Rose, R. (1990). Attention to social comparison information: An individual difference factor affecting consumer conformity. *Journal of Consumer Research*, 16 (4), pp. 461-471.
- Beattie, G. & McGuire, L. (2016). Consumption and climate change. Why we say one thing but do another in the face of our greatest threat. *Semiotica*, pp. 253-290.
- Beck, A. T., & Alford, B. A. (2009). Depression: Causes and treatment. *University of Pennsylvania Press*.
- Bighiu, G., Manolică, A., & Roman, C. T. (2015). Compulsive buying behavior on the internet. *Procedia Economics and Finance*(20), pp. 72 – 79.
- Birnie, K., Speca, M., Carlson, L.E., 2010. Exploring self-compassion and empathy in the context of mindfulness-based stress reduction (MBSR). *Stress and Health*, 26, pp. 359–371.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical psychology: Science and practice*, 11(3), pp. 230-241.
- Blachino, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-esteem and life satisfaction: A cross-sectional study. *Computers in Human Behavior*(55), pp. 701-705.
- Błachnio, A., Przepiorka, A., & Rudnicka, P. (2016). Narcissism and self-esteem as predictors of dimensions of Facebook use. *Personality and Individual Differences*, 90, pp. 296–301.
- Bolz, M. & Singer, T. (2013). Compassion. Bridging practice in Science. *Max Planck Society*.
- Börjesson Rivera, M., Håkansson, C., Svenfelt, Å., & Finnveden, G. (2014). Including second order effects in environmental assessments of ICT. *Environmental Modelling & Software*, 56, pp. 105–115.
- Brand, M., Young, K. S., Laier, C., Wölfling, K., & Potenza, M. N. (2016). Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders: An Interaction of Person-Affect-Cognition-Execution (I-PACE) model. *Neuroscience & Biobehavioral Reviews*(71), pp. 252-266.
- Brown, K. W., & Kasser, T. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research*, 74, pp. 349–368.
- Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, pp. 822-848.
- Bryman, A. (2016). Social Research Methods (5th ed.). London: Oxford University Press.
- Bryman, A., & Bell, E. (2015). *Business Research Methods* (Vol. 4th ed.). Oxford University Press.

- Calvete, E., Gámez-Guadix, M., & Cortazar, N. (2017). Mindfulness facets and problematic Internet use: A six-month longitudinal study. *Addictive Behaviors*, 72, pp. 57-63.
- Chambers, R., Gullone, E., & Allen, N. (2009). Mindful emotion regulation: An integrative review. *Clinical Psychology Review*, 29 (6), pp. 560-572.
- Charoensukmongkol, P. (2016). Exploring personal characteristics associated with selfie-liking. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 10(2).
- Chevalier, J., & Mayzlin, D. (2006). The effect of word of mouth on sales: Online book reviews. *Journal of marketing research*, 43 (3), pp. 345-354.
- Chiesa, A., Serretti, A., 2009. Mindfulness-Based Stress Reduction for Stress Management in Healthy People. A Review and Meta-Analysis. *The Journal of Alternative and Complementary Medicine*, 15, pp. 593–600.
- Claes, L., Müller, A., & Luyckx, K. (2016). Compulsive buying and hoarding as identity substitutes: The role of materialistic value endorsement and depression. (68), pp. 65-71.
- Confino, J. (2010). *theguardian.com*. Retrieved March 2021, from Zen and the art of protecting the planet: <https://www.theguardian.com/sustainability/environment-zen-buddhism-sustainability>
- Cortesi, M. (2019). *Luxury brand consumers' shopping experience in omnichannel retailing*. Retrieved March-May 2021, from research-api.cbs.dk: https://research-api.cbs.dk/ws/portalfiles/portal/59760140/602071_Master_Thesis_Margherita_Cortesi.pdf Copenhagen Business School
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, 10 (10), pp. 1-9.
- Cramer, S. & Inkster, B (2017). “Status of Mind: Social media and young people’s mental health and wellbeing”. Retrieved from: <https://www.rsph.org.uk/our-work/campaigns/status-of-mind.html>
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, 108, pp. 593–623.
- Crompton, T., & Kasser, T. (2009). Meeting environmental challenges: The role of human identity. *World Wildlife Fund UK*.
- Crowson, M. (2019). *Exploratory factor analysis in SPSS (October, 2019)*. Retrieved March 2021, from youtube.com: <https://www.youtube.com/watch?v=M6FUT0h-bhY&t=948s>
- Dalvi-Esfahani, M., Niknafs, A., Kuss, D. J., Nilashi, M., & Afrough, S. (2019). Social media addiction: Applying the DEMATEL approach. *Telematics and Informatics*(43).
- Davis, B., Ozanne, J. L. & Hill, R. P. (2016). The Transformative Consumer Research Movement. *Journal of Public Policy & Marketing*. Vol. 35 (2), pp. 159-169.
- Deloitte (2020). The Deloitte Global Millennial Survey 2020. Retrieved from: <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>
- Denti, L., Barbopoulos, I., Nilsson, I., Holmberg, L., Thulin, M., Wendebblad, M., ... Davidsson, E. (2012). Sweden’s largest Facebook study. *Gothenburg Research Institute*, 2012, 3.
- DeSarbo, W., & Edwards, E. (1996). Typologies of compulsive buying behavior: A constrained clusterwise regression approach. *Journal of Consumer Psychology*, 5 (3), pp. 231-261.

- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, pp. 71–75.
- Dietz, T., & Rosa, E. A. (1994). Rethinking the environmental impacts of population, affluence and technology. *Human Ecology Review*, 1, pp. 277–300.
- Dietz, T., Rosa, E. A., & York, R. (2007). Driving the human ecological footprint. *Frontiers in Ecology and the Environment*, 5(1), pp. 13–18.
- Díez, D., Aragay, N., Soms, M., Prat, G., Bonet, P., & Casas, M. (2018). Women with compulsive buying or gambling disorder: Similar profiles for different behavioural addictions. *Comprehensive Psychiatry*(87), pp. 95-99.
- Dillman, D. A. (2007). *Mail and Internet Surveys: The Tailored Design Method*, Vols. 2nd edn, (2007 update). (N. W. Hoboken, Ed.)
- Dinner, I. M., Van Heerde, H. J., & Neslin, S. A. (2014). Driving online and offline sales: The Cross-Channel effects of traditional, online display, and paid search advertising. *Journal of Marketing Research*, 51 (5), pp. 527–545.
- Dittmar, H. (2005). Compulsive buying - A growing concern? An examination of gender, age, and endorsement of materialistic values as predictors. *British Journal of Psychology*, 96 (4), pp. 467-491.
- Dittmar, H., Long, K., & Meek, R. (2004). Buying on the internet: Gender differences in online and conventional buying motivations. *Sex Roles*(50), pp. 423-444.
- Doran, R., & Larsen, S. (2016). The Relative Importance of Social and Personal Norms in Explaining Intentions to Choose Eco-Friendly Travel Options. *International Journal of Tourism Research*, 18 (2), pp. 159–166.
- East, R. (1997). Consumer behaviour: Advances and applications in marketing.
- Faber, R., & O'guinn, T. (1992). A clinical screener for compulsive buying. *Journal of Consumer Research*, 19 (3), pp. 459-469.
- Faber, R. J., Christenson, G. A., De Zwaan, M., & Mitchell, J. (1995). Two Forms of Compulsive Consumption: Comorbidity of Compulsive Buying and Binge Eating. *Journal of Consumer Research*(22 (3)), pp. 296–304.
- Faber, R.J., O'Guinn, T.C. & Krych, R. (1987) Compulsive consumption. *Advances in Consumer Research*, 14, pp. 132-135
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- Facebook IQ (2019). How Instagram boosts brands and drives sales. Retrieved from: <https://www.facebook.com/business/news/insights/how-instagram-boosts-brands-and-drives-sales#>
- Fischer, D., Stanszus, L., Geiger, S., Grossman, P., & Schrader, U. (2017). Mindfulness and sustainable consumption: A systematic literature review of research approaches and findings. *Journal of Cleaner Production*, 162, pp. 544-558.
- Fook, L. A., & McNeill, L. (2020). Click to Buy: The Impact of Retail Credit on Over-Consumption in the Online Environment. *Sustainable Retailing & Brand Management*, 12(18).

- Forest, A. L. & Wood, J. V. (2012). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, 23, pp. 295–302.
- Fornell, C., & Larcker, D. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18 (1), pp. 39-50.
- Frick, V., Matthies, E., John, T., & Santarius, T. (2020). Do online environments promote sufficiency or overconsumption? Online advertisement and social media effects on clothing, digital devices, and air travel consumption. pp. 1-21.
- Gallagher, C., Watt, M., Weaver, A., & Murphy, K. (2017). “I fear, therefore, I shop!” exploring anxiety sensitivity in relation to compulsive buying. *Personality and Individual Differences*(104), pp. 37-42.
- Garland, E. & Howard, M. O. (2018). Mindfulness-based treatment of addiction: current state of the field and envisioning the next wave of research. *Addiction Science & Clinical Practice* 13(1).
- Germer, C. K., Siegel, R. D., & Fulton, P. R. (Eds.). (2005). Mindfulness and psychotherapy. *New York, NY: Guilford Press*.
- Goh, K.-Y., Heng, C.-S., & Lin, Z. (2013). Social media Brand Community and consumer behavior: Quantifying the relative impact of user- and marketer-generated content. *Information Systems Research*, 24 (1), pp. 88–107.
- Gonzales, A. L., & Hancock, J. T. (2011). Mirror, mirror on my Facebook wall: Effects of exposure to Facebook on self-esteem. *Cyber Psychology, Behavior, and Social Networking*, 14, pp. 79–83.
- Goodall, K., Trejnowska, A., & Darling, S. (2012). The relationship between dispositional mindfulness, attachment security and emotion regulation. *Personality and Individual Differences*, 52 (5), pp. 622-626.
- Greenier, K. D., Kernis, M. H., McNamara, C. W., Waschull, S. B., Berry, A. J., & Herlocker, C. E. (1999). Individual differences in reactivity to daily events: Examining the roles of stability and level of self-esteem. *Journal of Personality*, 67, pp. 185–208.
- Greenberg, J.S., Lewis, S.E. & Dodd, D.K.(1999). Overlapping Addictions and Self-Esteem Among College Men and Women. *Addictive Behaviors*, 24, 4, pp. 565–571.
- Griffiths, M. (2005). A ‘components’ model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10 (4), pp. 191-197.
- Griffiths, M. (2013). Social networking addiction: emerging themes and issues. *Journal of Addiction Research & Therapy*, 4 (5), pp. 1-2.
- Gupta, G., & Vohra, A. (2019). Social Media Usage Intensity: Impact Assessment on Buyers’ Behavioural Traits. *FIIB Business Review*, 8 (2), pp. 161-171.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis*. Pearson Education Limited. www.pearsoned.co.uk.
- Hanley, A. W., Abell, N., Osborn, D. S., Roehrig, A. D., & Canto, A. I. (2016). Mind the gaps: Are conclusions about mindfulness entirely conclusive? *Journal of Counseling & Development*, 94(1), pp. 103-113.
- Hanley, A., & Wilhelm, M. S. (1992). Compulsive buying: An exploration into self-esteem and money attitudes. *Journal of Economic Psychology*, 13(1), pp. 5–18.

- Hart, R., Ivtzan, I., & Hart, D. (2013). Mind the gap in mindfulness research: A comparative account of the leading schools of thought. *Review of General Psychology*, 17(4), pp. 453–466.
- Hawi, N. & Rupert, M. S. (2016). The Relations Among Social Media Addiction, Self-Esteem, and Life Satisfaction in University Students. *Social Science Computer Review*, pp. 1-11.
- He, H., Kukar-Kinney, M., & Ridgway, N. (2018). Compulsive buying in China: Measurement, prevalence, and online drivers. *Journal of Business Research*(91), pp. 28-39.
- Hetz, P. R., Dawson, C. L., & Cullen, T. A. (2015). Social Media Use and the Fear of Missing Out (FoMO) While Studying Abroad. *Journal of Research on Technology in Education* (47), ss. 259-272.
- Ho, H., Shin, W., & Lwin, M. (2017). Social networking site use and materialistic values among youth: The safeguarding role of the parent-child relationship and self-regulation. *Communication Research*, ss. 1-26.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: a meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78, pp. 169–183
- Holmes-Smith, C. E. & Coote, L. (2006). Structural equation modelling: from the fundamentals to advanced topics, *School Research, Evaluation and Measurement Services*, Education & Statistics Consultancy, Statsline.
- Hu, Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, pp. 1-55.
- Huang, L. (2016). Flow and social capital theory in online impulse buying. *Journal of Business Research*, 69 (6), pp. 2277-2283.
- Hussain, Z., Simonovic, B., Stupple, E. J. N. & Austin, M. (2019). Using Eye Tracking to Explore Facebook Use and Associations with Facebook Addiction, Mental Well-being, and Personality. *Behavioral Sciences*, pp. 1-12.
- Ie, A., Ngnoumen, C. T. & Langer, E. J. (2014). Mindfulness forward and back. *The Wiley Blackwell handbook of mindfulness*. Wiley Blackwell, pp. 7-20.
- Iyer, G. R., Blut, M., Xiao, S., & Grewal, D. (2019). Impulse buying: a meta-analytic review. *Journal of the Academy of Marketing Science* 48(2).
- Kabat-Zinn, J. (2003) Mindfulness-Based Interventions in Context: Past, Present, and Future. *Clinical Psychology: Science and Practice*, Vol. 10, p. 144–156.
- Kaddo, J. R. (2016). Climate Change: Causes, Effects, and Solutions. *A with Honors Projects*, 164.
- Kang, Y., Gruber, J. & Gray, J. R. (2013). Mindfulness and De-Automatization. *Emotion Review*, Vol. 5, No. 2, pp. 192–201
- Kasser, T., & Kanner, A. D. (Eds.). (2004). Psychology and consumer culture: The struggle for a good life in a materialistic world (1st ed.). *Washington, DC: American Psychological Association*.
- Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, 14, pp. 1–26.
- Kernis, M. H. (2005). Measuring self-esteem in context: The importance of stability of self-esteem in psychological functioning. *Journal of Personality*, 73, pp. 1569–1605.

- Kernis, M. H., Lakey, C. E. & Heppner, W. L. (2008) Secure Versus Fragile High Self-Esteem as a Predictor of Verbal Defensiveness: Converging Findings Across Three Different Markers. *Journal of Personality*, 76 (3), pp. 478-512.
- Kircaburun, K. & Griffiths, M. D. (2018). Instagram addiction and the Big Five of personality: The mediating role of self-liking. *J. Behav. Addict.*, pp. 1–13.
- Kormos, C., & Gifford, R. (2014). The validity of self-report measures of pro environmental behavior: A meta-analytic review. *Journal of Environmental Psychology*, 40, pp. 359–371.
- Kukar-Kinneya, M., Scheinbaum, A. C., & Schaefers, T. (2016). Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements. *Journal of Business Research*, 69 (2), pp. 691-699.
- Kukar-Kinney, M., Ridgway, N., & Monroe, K. (2009). The relationship between consumers' tendencies to buy compulsively and their motivations to shop and buy on the Internet. *Journal of Retailing*, 85 (3), pp. 298-307.
- Kuss, D., & Griffiths, M. (2011). Addiction to social networks on the internet: a literature review of empirical research. *nt. J. Environ. Public Health*, 8 (9), pp. 3528-3552.
- Kuss, D., Van Rooij, A., Shorter, G., Griffiths, M., & van de Mheen, D. (2013). Internet addiction in adolescents: prevalence and risk factors. *Computers in Human Behavior*, 29 (5), pp. 1987-1996.
- Langer, E. J., & Moldoveanu, M. (2000). Mindfulness research and the future. *Journal of social issues*, 56(1), pp. 129-139.
- Leary, M. R., & MacDonald, G. (2003). Individual differences in self-esteem: A review and theoretical integration. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity*. New York, NY: Guilford Press, pp. 401-418.
- Lee, K., Lee, B., & Oh, W. (2015). Thumbs up, sales up? The contingent effect of Facebook likes on sales performance in social commerce. *Journal of Management Information Systems*, 32 (4), pp. 109–143.
- Lejoyeux, M., Richoux-Benhaim, C., Betizeau, A., Lequen, V. & Lohnhardt, H. (2011). Money attitude, self-esteem, and compulsive buying in a population of medical students. *Frontiers in Psychiatry*.
- Leung, L. (2007). Leisure Boredom, Sensation Seeking, Self-esteem, Addiction Symptoms and Patterns of Mobile Phone Use. *Mediated Interpersonal Communication*, pp. 1-36.
- Li, J., Cao, Q., Hu, X., & Guo, Y. (2016). The effect of materialism on online compulsive buying: Mediating role of self-control. *Chinese Journal of Clinical Psychology*, 24 (2), pp. 338-340.
- Lin, C.-Y., Broström, A., Nilsen, P., Griffiths, M. D., & Pakpour, A. H. (2017). Psychometric validation of the Persian Bergen Social Media Addiction Scale using classic test theory and Rasch models. *Journal of Behavioral Addictions*, 6 (4), pp. 620-629.
- Lin, K., & Lu, H. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior*(27), pp. 1152–1161.
- Manchiraju, S., Sadachar, A., & Ridgway, J. L. (2016). The Compulsive Online Shopping Scale (COSS):Development and Validation Using Panel Data. *International Journal of Mental Health and Addiction*, 15 (1), pp. 209-223.

- Maraz, A., Griffiths, M. D., & Demetrovics, Z. (2016). The prevalence of compulsive buying: a meta-analysis. *Addiction*, 111 (3), pp. 408–419.
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg Self-Esteem Scale: Translation and Validation in University Students. *Spanish Journal of Psychology*, 10, 458-467.
- Matthews, E. (2010) Explaining addiction. *Philosophy, Psychiatry, & Psychology*, 17, pp. 23-26
- McElroy, S., Phillips, K., & Keck, P. (1994). Obsessive Compulsive Spectrum Disorder. *Journal of Clinical Psychiatry*(55), pp. 33-53.
- Medvedev, O. N., Titkova, E. A., Siegert, R. J., & Krägeloh, C. (2018). Evaluating Short Versions of the Five Facet Mindfulness Questionnaire Using Rasch Analysis. *Mindfulness*, 9, pp. 1411–1422.
- Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *CyberPsychology, Behavior, and Social Networking*, 13, pp. 357–364.
- Mick, D. G. (2016). Buddhist Psychology: Selected Insights, Benefits, and Research Agenda for Consumer Psychology. *Journal of Consumer Psychology*, pp. 117-132.
- Milne, G. R., Ordenes, F. V., & Kaplan, B. (2019). Mindful consumption: Three consumer segment views. *Australasian Marketing Journal (AMJ)*.
- Milyavskaya, M., Saffran, M., Hope, N., & Koestner, R. (2018). Fear of missing out: prevalence, dynamics, and consequences of experiencing FOMO. *Motivation and Emotion*(42), pp. 725–737.
- Mkele, Y. (2018). Millennials are dead; long live 'woke' Gen Z. Retrieved from: <https://www.timeslive.co.za/sunday-times/lifestyle/2018-05-17-millennials-are-dead-long-live-woke-gen-z/>
- Mrad, M., & Cui, C. C. (2020). Comorbidity of compulsive buying and brand addiction: An examination of two types of addictive consumption. *Journal of Business Research*(113), pp. 399-408.
- Myers, N., & Kent, J. (2003). New consumers: The influence of affluence on the environment. *Proceedings of the National Academy of Sciences, USA*, 100, pp. 4963– 4968.
- Neff, K. D., & Vonk, R. (2009). Self-Compassion Versus Global Self-Esteem: Two Different Ways of Relating to Oneself. *Journal of Personality*, 77 (1), pp. 23-50.
- Nunnally, J. (1967). *Psychometric Theory*. Sydney: Tata McGraw Hill.
- Nuseir, M. T. (2020). Is advertising on social media effective? An empirical study on the growth of advertisements on the Big Four (Facebook, Twitter, Instagram, WhatsApp). *Int. J. Procurement Management*, Vol. 13, No. 1, pp. 134-142.
- Orbena, A., Dienline, T. & Przybylski (2019). Social media's enduring effect on adolescent life satisfaction. *Proceedings of the National Academy of Sciences*.
- Ozanne, J. (2015). Transformative Consumer Research. Retrieved from: https://academic.oup.com/jcr/pages/transformative_consumer_research
- Ozanne, J., Pettigrew, S., Crockett, D., Fuat, F., Downey, H. & Pescud, M. (2011). The Practice of Transformative Consumer Research – Some Issues and Suggestions. *Journal of Research for Consumers*, pp. 1-7.

- Pahlevan, S., & Khanekharab, J. (2017). "Identity confusion and materialism mediate the relationship between excessive social network site usage and online compulsive buying. *Cyberpsychology, Behavior, and Social Networking*, 20 (8), pp. 494-500.
- Pang, D., & Ruch, W. (2019). Scrutinizing the Components of Mindfulness: Insights from Current, Past, and Non-meditators. *Mindfulness*, 10, pp. 491-505.
- Pantano, E. (2011). Cultural factors affecting consumer behaviour: a new perception model. *EuroMed Journal of Business*, 6 (1), pp. 117-136.
- Pepping C. A., O'Donovan A. & Davis, P. (2013). The positive effects of mindfulness on self-esteem. *Journal of Positive Psychology: Dedicated to furthering research and promoting good practice*, pp. 376-386.
- Pirson, M., Langer, E.J., Bodner, T., & Zilcha, S. (2012). The Development and Validation of the Langer Mindfulness Scale - Enabling a Socio-Cognitive Perspective of Mindfulness in Organizational Contexts. *Fordham University Schools of Business Research Paper*.
- Preacher, K. J., & Hayes, A. F. (2008). Contemporary Approaches to Assessing Mediation in Communication Research . *Advanced Data Analysis Methods for Communication Research*, pp. 13-54.
- PwC (2020). The consumer transformed. Global Consumer Insights Survey 2020. Retrieved from: <https://www.pwc.com/gx/en/consumer-markets/consumer-insights-survey/2020/pwc-consumer-insights-survey-2020.pdf>
- Rasmussen, M. K., & Pidgeon, A. M. (2011). The direct and indirect benefits of dispositional mindfulness on self-esteem and social anxiety. *Anxiety, Stress & Coping*, 24, pp. 227–233.
- Rau, H. K. & Williams, P. G. (2016). Dispositional mindfulness: A critical review of construct validation research. *Personality and Individual Differences*, 93, pp. 32-43.
- Rhodewalt, F., & Tragakis, M. W. (2003). Self-esteem and self-regulation: Toward optimal studies of self-esteem. *Psychological Inquiry*, 14, pp. 66–70.
- Ridgway, N. M., Kukar-Kinney, M., & Monroe, K. B. (2008). An Expanded Conceptualization and a New Measure of Compulsive Buying. *Journal of Consumer Research*, 35 (4), pp. 622–639.
- Roberts, J., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *J. Consum. Aff.*, 35, pp. 213–240.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27(2), 151–161.
- Rosen, L., Whaling, K., Carrier, L., Cheever, N., & Rokkum, J. (2013). The Media and Technology Usage and Attitudes Scale: An empirical investigation. *Computers in Human Behavior*(29 (6)), pp. 2501-2511.
- Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books
- Rosenberg, E. L. (2004). Mindfulness and consumerism. *Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World*, pp. 107–125.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.
- Segal Z. V., Williams J. M. G.. & Teasdale J. D. (2002). *Mindfulness-based cognitive therapy for depression: a new approach to relapse prevention*. New York: Guilford.

- Shahjehan, A., Qureshi, J. A., Zeb, K., & Saifullah, K. (2012). The effect of personality on impulsive and compulsive buying behaviors. *African Journal of Business Management*, 6 (6), pp. 2187-2194.
- Sharif, S. P., & Yeoh, K. K. (2018). Excessive social networking sites use and online compulsive buying in young adults: the mediating role of money attitude. *Young Consumers*, 19 (3), pp. 310-327.
- Sharma, S., Mukherjee, S., Kumar, A., & Dillon, W. R. (2005). A simulation study to investigate the use of cutoff values for assessing model fit in covariance structure models. *Journal of Business Research*, 58 (7), pp. 935-943.
- Shalwani, F. (2020). The Rise of Influencer Marketing, and What to Expect in 2020. Retrieved from: <https://www.business2community.com/marketing/the-rise-of-influencer-marketing-and-what-to-expect-in-2020-02318375>
- Shapiro, S.L., Schwartz, G.E. & Bonner, G. (1998). Effects of Mindfulness-Based Stress Reduction on Medical and Premedical Students. *Journal of Behavioral Medicine*, 21, pp. 581–599.
- Shapiro, S. L., Carlson, L. E., Astin, J. A. & Freedman, B. (2006), Mechanisms of mindfulness. *J. Clin. Psychol.*, 62, pp. 373-386.
- Sharif, S., & Khanekharab, J. (2017). Identity confusion and materialism mediate the relationship between excessive social network site usage and online compulsive buying. *Cyberpsychology, Behavior, and Social Networking*, 20 (8), pp. 494-500.
- Sheth, J. N., Sethia, N. K. & Srinivas, S. (2009). Mindful consumption: a customer-centric approach to sustainability. *Journal of the Academic Marketing Science*, pp. 21–39.
- Sholeh, A. & Rusdi, A., 2019. A New Measurement of Instagram Addiction: Psychometric Properties of The Instagram Addiction Scale (TIAS). *Busan, South Korea, s.n.*, pp. 91-97.
- Silbermann, Henkel, & Müller. (2008). The application of ecological momentary assessment to the study of compulsive buying. *Psychotherapie, Psychosomatik, Medizinische Psychologie*, 58 (12), pp. 454-461.
- Smith, N. C., Drumwright, M. E., & Gentile, M. C. (2010). The new marketing myopia. *Journal of Public Policy & Marketing*, 29(1), pp. 4–11.
- Sohn, S.-H., & Choi, Y.-J. (2014). Phases of Shopping Addiction Evidenced by Experiences of Compulsive Buyers. *International Journal of Mental Health and Addiction*, 12, pp. 243-254.
- Solomon, M. (2015). *Consumer Behavior* (Vol. Global Edition 11). (P. E. UK., Ed.)
- Sriwilai, K., & Charoensuk Mongkol, P. (2016). Face it, don't Facebook it: Impacts of Social Media Addiction on Mindfulness, Coping Strategies and the Consequence on Emotional Exhaustion. *Research Article; Stress and Health*, 32 (4), pp. 427-434.
- Stefanyk, C. (2020). Generation Woke: How Marketers Can Create Meaningful Connections With Gen Z. Retrieved from: <https://www.forbes.com/sites/forbescommunicationscouncil/2020/02/20/generation-woke-how-marketers-can-create-meaningful-connections-with-gen-z/?sh=18f8620d2d0f>
- Steffen, W. (2015). Planetary boundaries: Guiding human development on a changing planet., 347, Issue 6223, 736-748.

- Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29, pp. 434–445.
- Stephen, A., & Galak, J. (2012). The effects of traditional and social earned media on sales: A study of a microlending marketplace. *Journal of marketing research*, 49 (5), pp. 624-639.
- Strang, K. (Ed.). (2015). *The Palgrave handbook of research design in business and management*. Springer.
- Sun, B., & Morwitz, V. G. (2010). Stated Intentions and Purchase Behavior: A Unified Model International. *Journal of Research in Marketing*, 27(4), pp. 356–366.
- Sussman, S., & Sussman, A. (2011). Considering the Definition of Addiction. *International journal of environmental research and public health*(8), pp. 4025-4038.
- Sussman, S., Leventhal, A., Bluthenthal, R., Freimuth, M., Forster, M., & Ames, S. (2011). A framework for the specificity of addictions. *International Journal of Environmental Research and Public Health*, 8 (8), pp. 3399-3415.
- The Social Dilemma. (2020). *The Dilemma*. Retrieved February 2021, from thesocialdilemma.com: <https://www.thesocialdilemma.com/the-dilemma/>
- Thompson, B. L., & Waltz, J. A. (2008). Mindfulness, self-esteem, and unconditional self-acceptance. *Journal of Rational-Emotive Cognitive-Behaviour Therapy*, 26, pp. 119–126.
- Tomlinson, E. R., Yousaf, O., Vittersø, A. D. & Jones L. (2018). Dispositional Mindfulness and Psychological Health: A Systematic Review. *Mindfulness*, pp. 23–43.
- Trochim, W. M. K. (2020, June 1). Research Methods Knowledge Base. Retrieved March 2021, from: <https://conjointly.com/kb/>
- Trotzke, P., Brand, M., & Starcke, K. (2017). Cue-Reactivity, Craving, and Decision Making in Buying Disorder: A Review of the Current Knowledge and Future Directions. *Current Addiction Reports*, 4 (3), pp. 246-253.
- Turel, O., & Serenko, A. (2012). The benefits and dangers of enjoyment with social networking websites. *European Journal of Information Systems*(21), pp. 512–528.
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, 9, pp. 584–590.
- Verhagen, T., & van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Inf. Management*, 48, pp. 320-328.
- Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, 3 (4), pp. 206-222.
- Walach, H., Buchheld, N., Buttenmuller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness—the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40, pp. 1543–1555.
- Waterman, A. S. (1992). Identity as an aspect of optimal psychological functioning. In G. R. Adams, T. P. Gullotta, & R. Montemayor (Eds.), *Adolescent identity formation*. Newbury Park, CA: Sage, pp. 50-72.
- West, R., & Brown, J. (2013). *Theory of Addiction*, Second edition.

- Wheeler, M. S., Arnkoff, D. B., & Glass, C. R. (2017). The neuroscience of mindfulness: how mindfulness alters the brain and facilitates emotion regulation. *Mindfulness*, 8(6), pp. 1471-1487.
- Whitney, M. (2021). The Complete Guide to Advertising on Instagram. Retrieved from: <https://www.wordstream.com/blog/ws/2017/11/20/instagram-advertising>
- Williams, A. D., & Grisham, J. R. (2012). Impulsivity, Emotion Regulation, and Mindful Attentional Focus in Compulsive Buying. *Cognitive Therapy and Research*(36), pp. 451–457.
- Willingham, E. J. (2012). The Gale Encyclopedia of Mental Health. *Process Addiction edited by Kristin Key*, 2 (3), pp. 1205-1208.
- Wood, N. D., Gnonhosou, D. C., & Bowling, J. W. (2015). Combining Parallel and Exploratory Factor Analysis in Identifying Relationship Scales in Secondary Data. *Marriage and Family Review*, 51 (5), pp. 385-395.
- Workman, L., & Paper, D. (2010). Compulsive Buying: A Theoretical Framework. *The Journal of Business Inquiry*(9), pp. 89-126.
- Xiao, J. (2019). Study on the decision-making process of consumer shopping in the context of mobile Internet. *Consumer Market*(15), pp. 53-56.
- Xu, H., & Tan. (2012). Why do I keep checking facebook: Effects of message characteristics on the formation of social network services addiction. *International Conference on Information Systems*(33), pp. 1-12.
- Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9 (2), pp. 79-94.
- Young, K. S. (1996). Internet addiction: The emergence of a new clinical disorder. *Paper presented at the 104th annual meeting of the American Psychological Association*. Toronto, Canada.
- Østergaard, P., & Jantzen, C. (2000). Shifting Perspectives in Consumer Research: From Buyer Behaviour to Consumption Studies. *Interpretive Consumer Research: Paradigms, Methodologies and Applications* (In S. C. Beckmann, & R. H. Elliott (Eds.)), pp. 9-23.
- Zhang, Y., Trusov, M., Stephen, A., & Jamal, Z. (2017). Online shopping and social media: Friends or foes? *Journal of Marketing*, 81 (6), pp. 24-41.
- Zheng, Y., Yang, X., Liu, Q., Chu, X., Huang, Q., & Zhou, Z. (2020). Perceived stress and online compulsive buying among women: A moderated mediation model. *Computers in Human Behavior*(103), pp. 13-20.
- Zhuang, K., Bi, M., Li, Y., Xia, Y., Guo, X., Chen, Q., ... & Qiu, J. (2017). A distinction between two instruments measuring dispositional mindfulness and the correlations between those measurements and the neuroanatomical structure. *Scientific reports*, 7(1), pp. 1-9.
- Zur, I., & Klöckner, C. A. (2014). Individual motivations for limiting meat consumption. *British Food Journal*, 116 (4), pp. 629–642.

12.0 Appendix

Appendix 1: Online questionnaire, Qualtrics

Consumer Buying Behaviour and Personality

Q1

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

We are two students from CBS, and this survey is part of the research for our masters' thesis. In our study, we aim to better understand and connect individual personality traits with consumers' buying behaviour in an online environment.

The survey will take you about **5-7 minutes** to complete, and are divided into four parts.

Your participation in the study is voluntary and anonymous, and you will not be identified in the study, any publications from this study or the final report. All responses will be coded and will contribute to aggregate data of the research team, so no individual responses will be made available. The information will be stored in a secure environment and will only be accessible to members of the research team. 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 your responses will only be used for the purpose of this research.

By moving forward and answering the questions, you agree that you have read and understood the nature of the research as described above and are providing your informed consent to participate in the research.

Thank you for your participation.

Q2 Do you have an Instagram account?

Yes (1)

No (2)

Q12 Online consumer behaviour

Q3 What is the main reason you go on Instagram?

- I mainly go on Instagram to view content (1)
- I mainly go on Instagram to post content (2)
- Other (3)

Q4 Please use the 1 (strongly disagree) to 7 (strongly agree) scale provided to indicate how strongly you agree or disagree with the affirmations

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I spend a lot of time thinking about Instagram (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel an urge to use Instagram more and more (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I use Instagram in order to forget about personal problems (3)

I try to cut down on the use of Instagram without success (4)

I become restless or troubled if I have been prohibited from using Instagram (5)

I use Instagram so much that it has had a negative impact on my job/studies (6)

I spend a lot of time planning to use Instagram (7)

Page Break

Q5 Please use the 1 (strongly disagree) to 7 (strongly agree) scale provided to indicate how strongly you agree or disagree with the affirmations

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
When I have money, I cannot help but spend part or all of it on online shopping (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often buy something I see online without planning, just because I have to have it (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online shopping is a way of relaxing and forgetting my problems (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel that something inside me pushes me to go online shopping (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

There are times when I have a strong urge to buy online (clothing, music, jewelry etc.) (5)

At times, I have felt somewhat guilty after buying something online because it seemed unreasonable (6)

There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money (7)

I often have a real desire to go online shopping and buy something (8)

I have often bought a product online that I did not need (9)

I like to spend money on online shopping (10)

Page Break

Q14 Personality

Q6 Please use the 1 (Strongly disagree) to 7 (strongly agree) scale provided to indicate how strongly you agree or disagree with the affirmations

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
On the whole, I am satisfied with myself (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At times I think I am no good at all (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have a number of good qualities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am able to do things as well as most other people (4)

I feel I have not much to be proud of (5)

I certainly feel useless at times (6)

I feel that I am a person of worth (7)

I wish I could have more respect for myself (8)

All in all, I am inclined to think that I am a failure (9)

I take a positive attitude towards myself (10)

Page Break

Q7 Please use the 1 (strongly disagree) to 7 (strongly agree) scale provided to indicate how strongly you agree or disagree with the affirmations

	Str gl dis re (1)	Disagre e (2)	Somewha t disagree (3)	Neither agree nor disagree (4)	Somewha t agree (5)	Agree (6)	Strongl y agree (7)
I pay attention to physical experiences, such as the wind in my hair or sun on my face (1)		<input type="radio"/>	<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 colours, shapes, textures, or patterns of light and shadow. (2)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I notice the smells and aromas of things. (3)		<input type="radio"/>	<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 moment (4)

I rush through activities without being really attentive to them (5)

It seems I am running on automatic without much awareness of what I'm doing. (6)

I make judgments about whether my thoughts are good or bad (7)

I think some of my emotions are bad or inappropriate and I shouldn't feel them (8)

I tell myself I shouldn't be feeling the way I'm feeling (9)

I'm good at finding words to describe my feelings (10)

It's hard for me to find the words to describe what I'm thinking (11)

I can easily put my beliefs, opinions, and expectations into words (12)

Even when I'm feeling terribly upset, I can find a way to put it into words. (13)

When I feel something in my body, it's hard for me to find the right words to describe it. (14)

Usually when I have distressing thoughts or images I am able just to notice them without reacting (15)

When I have distressing thoughts or images, I feel calm soon after. (16)

I watch my feelings without getting carried away by them. (17)

When I have distressing thoughts or images, I don't let myself be carried away by them. (18)

Page Break

Q8 Age

Q9 Gender

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q10 Nationality

Q11 How often do you meditate?

- Daily (1)
- 4-6 times a week (2)
- 2-3 times a week (3)
- 1-3 times a month (4)
- Less often or never (5)

End of Block: Default Question Block

Appendix 2: Exploratory Factor Analysis results (1st trial) - Communalities (the items omitted are marked red) and Total Variance Explained (Source: SPSS)

Communalities		
	Initial	Extraction
IG1 - I spend a lot of time thinking about Instagram	746	712
IG2 - I feel an urge to use Instagram more and more	646	598
IG3 - I use Instagram in order to forget about personal problems	654	635
IG4 - I try to cut down on the use of Instagram without success	691	665
IG5 - I become restless or troubled if I have been prohibited from using Instagram	651	577
IG6 - I use Instagram so much that it has had a negative impact on my job/studies	647	585
IG7 - I spend a lot of time planning to use Instagram	703	637
CBB1 - When I have money, I cannot help but spend part or all of it on online shopping	723	664
CBB2 - I often buy something I see online without planning, just because I have to have it	685	614
CBB3 - Online shopping is a way of relaxing and forgetting my problems	747	701
CBB4 - I sometimes feel that something inside me pushes me to go online shopping	792	743
CBB5 - There are times when I have a strong urge to buy online (clothing, music, jewelry etc.)	756	722

CBB6 - At times, I have felt somewhat guilty after buying something online because it seemed unreasonable	771	704
CBB7 - There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money	698	611
CBB8 - I often have a real desire to go online shopping and buy something	757	713
CBB9 - I have often bought a product online that I did not need	732	630
CBB10 - I like to spend money on online shopping	577	524
SE1 - On the whole, I am satisfied with myself	701	649
SE2 - At times I think I am no good at all	521	489
SE3 - I feel that I have a number of good qualities	749	771
SE4 - I am able to do things as well as most other people	702	686
SE5 - I feel I have not much to be proud of	324	221
SE6 - I certainly feel useless at times	630	713
SE7 - I feel that I am a person of worth	679	682
SE8 - I wish I could have more respect for myself	554	507
SE9 - All in all, I am inclined to think that I am a failure	599	516
SE10 - I take a positive attitude towards myself	759	731
FFMQ1 - I pay attention to physical experiences, such as the wind in my hair or sun on my face	577	570
FFMQ2 - I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow.	673	634
FFMQ3 - I notice the smells and aromas of things.	650	528
FFMQ4 - I find it difficult to stay focused on what's happening in the present moment	662	632
FFMQ5 - I rush through activities without being really attentive to them	696	635
FFMQ6 - It seems I am running on automatic without much awareness of what I'm doing.	727	682
FFMQ7 - I make judgments about whether my thoughts are good or bad	377	333
FFMQ8 - I think some of my emotions are bad or inappropriate and I shouldn't feel them	663	588
FFMQ9 - I tell myself I shouldn't be feeling the way I'm feeling	656	639
FFMQ10 - I'm good at finding words to describe my feelings	683	719
FFMQ11 - It's hard for me to find the words to describe what I'm thinking	762	805
FFMQ12 - I can easily put my beliefs, opinions, and expectations into words	715	700
FFMQ13 - Even when I'm feeling terribly upset, I can find a way to put it into words.	610	564
FFMQ14 - When I feel something in my body, it's hard for me to find the right words to describe it.	710	716

FFMQ15 - Usually when I have distressing thoughts or images I am able just to notice them without reacting	380	259
FFMQ16 - When I have distressing thoughts or images, I feel calm soon after.	433	379
FFMQ17 - I watch my feelings without getting carried away by them.	741	800
FFMQ18 - When I have distressing thoughts or images, I don't let myself be carried away by them.	771	805
Extraction Method: Principal Axis Factoring.		

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	15,363	34,141	34,141	15,018	33,374	33,374	11,953
2	4,153	9,229	43,369	3,815	8,479	41,852	10,497
3	3,320	7,379	50,748	2,912	6,472	48,324	9,618
4	2,350	5,222	55,970	1,967	4,372	52,696	7,941
5	1,918	4,263	60,232	1,594	3,543	56,239	8,968
6	1,442	3,205	63,437	1,060	2,356	58,595	5,605
7	1,345	2,988	66,425	948	2,108	60,702	6,650
8	1,078	2,395	68,820	670	1,489	62,191	1,364
9	968	2,152	70,972				
10	845	1,879	72,850				
11	762	1,692	74,543				
12	688	1,529	76,072				
13	657	1,461	77,533				
14	649	1,443	78,975				
15	620	1,378	80,354				
16	589	1,309	81,663				
17	541	1,203	82,866				
18	504	1,120	83,986				
19	501	1,114	85,100				
20	454	1,010	86,110				

21	446	992	87,101				
22	420	934	88,035				
23	376	835	88,870				
24	371	825	89,695				
25	363	807	90,502				
26	346	769	91,271				
27	338	752	92,023				
28	316	703	92,726				
29	292	650	93,376				
30	284	631	94,007				
31	271	603	94,610				
32	257	571	95,181				
33	225	500	95,681				
34	222	494	96,175				
35	221	491	96,667				
36	202	449	97,116				
37	179	399	97,515				
38	170	378	97,892				
39	169	375	98,267				
40	156	347	98,614				
41	141	313	98,928				
42	139	308	99,236				
43	133	296	99,533				
44	108	241	99,773				
45	102	227	100,000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrixa								
	Factor							
	1	2	3	4	5	6	7	8
IG1 - I spend a lot of time thinking about Instagram			858					

IG2 - I feel an urge to use Instagram more and more			813					
IG3 - I use Instagram in order to forget about personal problems			683					
IG4 - I try to cut down on the use of Instagram without success			833					
IG5 - I become restless or troubled if I have been prohibited from using Instagram			693					
IG6 - I use Instagram so much that it has had a negative impact on my job/studies			671					
IG7 - I spend a lot of time planning to use Instagram			637					
CBB1 - When I have money, I cannot help but spend part or all of it on online shopping	854							
CBB2 - I often buy something I see online without planning, just because I have to have it	798							
CBB3 - Online shopping is a way of relaxing and forgetting my problems	843							
CBB4 - I sometimes feel that something inside me pushes me to go online shopping	784							
CBB5 - There are times when I have a strong urge to buy online (clothing, music, jewelry etc.)	870							
CBB6 - At times, I have felt somewhat guilty after buying something online because it seemed unreasonable	790							
CBB7 - There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money	567							
CBB8 - I often have a real desire to go online shopping and buy something	830							
CBB9 - I have often bought a product online that I did not need	824							
CBB10 - I like to spend money on online shopping	804							
SE1 - On the whole, I am satisfied with myself		596						
SE2 - At times I think I am no good at all							612	
SE3 - I feel that I have a number of good qualities		801						
SE4 - I am able to do things as well as most other people		523						454
SE5 - I feel I have not much to be proud of							531	
SE6 - I certainly feel useless at times							854	
SE7 - I feel that I am a person of worth		658						

SE8 - I wish I could have more respect for myself							418
SE9 - All in all, I am inclined to think that I am a failure							
SE10 - I take a positive attitude towards myself		690					
FFMQ1 - I pay attention to physical experiences, such as the wind in my hair or sun on my face		869					
FFMQ2 - I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow.		871					
FFMQ3 - I notice the smells and aromas of things.		804					
FFMQ4 - I find it difficult to stay focused on what's happening in the present moment					634		
FFMQ5 - I rush through activities without being really attentive to them					511		
FFMQ6 - It seems I am running on automatic without much awareness of what I'm doing.					494		
FFMQ7 - I make judgments about whether my thoughts are good or bad					654		
FFMQ8 - I think some of my emotions are bad or inappropriate and I shouldn't feel them					766		
FFMQ9 - I tell myself I shouldn't be feeling the way I'm feeling					840		
FFMQ10 - I'm good at finding words to describe my feelings				-927			
FFMQ11 - It's hard for me to find the words to describe what I'm thinking				896			
FFMQ12 - I can easily put my beliefs, opinions, and expectations into words				-693			
FFMQ13 - Even when I'm feeling terribly upset, I can find a way to put it into words.				-608			
FFMQ14 - When I feel something in my body, it's hard for me to find the right words to describe it.				817			
FFMQ15 - Usually when I have distressing thoughts or images I am able just to notice them without reacting						518	
FFMQ16 - When I have distressing thoughts or images, I feel calm soon after.						539	
FFMQ17 - I watch my feelings without getting carried away by them.						938	
FFMQ18 - When I have distressing thoughts or images, I don't let myself be carried away by them.						857	

Extraction Method: Principal Axis Factoring.
 Rotation Method: Promax with Kaiser Normalization.
 a. Rotation converged in 16 iterations.

Appendix 3: Exploratory Factor Analysis 7-factor solution (2nd trial): Communalities, Total Variance Explained and Pattern Matrix (Source: SPSS)

Communalities		
	Initial	Extraction
IG1 - I spend a lot of time thinking about Instagram	735	711
IG2 - I feel an urge to use Instagram more and more	642	605
IG3 - I use Instagram in order to forget about personal problems	651	634
IG4 - I try to cut down on the use of Instagram without success	689	665
IG5 - I become restless or troubled if I have been prohibited from using Instagram	648	575
IG6 - I use Instagram so much that it has had a negative impact on my job/studies	643	584
IG7 - I spend a lot of time planning to use Instagram	693	637
CBB1 - When I have money, I cannot help but spend part or all of it on online shopping	719	661
CBB2 - I often buy something I see online without planning, just because I have to have it	679	624
CBB3 - Online shopping is a way of relaxing and forgetting my problems	737	699
CBB4 - I sometimes feel that something inside me pushes me to go online shopping	787	772
CBB5 - There are times when I have a strong urge to buy online (clothing, music, jewelry etc.)	753	719
CBB6 - At times, I have felt somewhat guilty after buying something online because it seemed unreasonable	765	710
CBB7 - There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money	694	614
CBB8 - I often have a real desire to go online shopping and buy something	756	726
CBB9 - I have often bought a product online that I did not need	719	648
CBB10 - I like to spend money on online shopping	570	526
SE1 - On the whole, I am satisfied with myself	673	654
SE2 - At times I think I am no good at all	515	525
SE3 - I feel that I have a number of good qualities	741	772
SE4 - I am able to do things as well as most other people	700	699
SE6 - I certainly feel useless at times	595	634

SE7 - I feel that I am a person of worth	662	663
SE8 - I wish I could have more respect for myself	550	500
SE9 - All in all, I am inclined to think that I am a failure	593	514
SE10 - I take a positive attitude towards myself	757	736
FFMQ1 - I pay attention to physical experiences, such as the wind in my hair or sun on my face	567	592
FFMQ2 - I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow.	667	659
FFMQ3 - I notice the smells and aromas of things.	638	543
FFMQ4 - I find it difficult to stay focused on what's happening in the present moment	659	660
FFMQ5 - I rush through activities without being really attentive to them	693	671
FFMQ6 - It seems I am running on automatic without much awareness of what I'm doing.	719	702
FFMQ8 - I think some of my emotions are bad or inappropriate and I shouldn't feel them	654	519
FFMQ9 - I tell myself I shouldn't be feeling the way I'm feeling	630	559
FFMQ10 - I'm good at finding words to describe my feelings	679	717
FFMQ11 - It's hard for me to find the words to describe what I'm thinking	757	799
FFMQ12 - I can easily put my beliefs, opinions, and expectations into words	711	702
FFMQ13 - Even when I'm feeling terribly upset, I can find a way to put it into words.	604	560
FFMQ14 - When I feel something in my body, it's hard for me to find the right words to describe it.	697	715
FFMQ17 - I watch my feelings without getting carried away by them.	725	820
FFMQ18 - When I have distressing thoughts or images, I don't let myself be carried away by them.	749	794
Extraction Method: Principal Axis Factoring.		

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	15,154	36,962	36,962	14,800	36,099	36,099	11,606
2	4,058	9,898	46,860	3,720	9,073	45,172	9,899
3	2,932	7,151	54,011	2,516	6,137	51,308	9,885
4	2,244	5,474	59,485	1,875	4,574	55,882	7,505
5	1,674	4,084	63,569	1,407	3,432	59,313	7,637

6	1,290	3,147	66,716	956	2,333	61,646	4,053
7	1,151	2,808	69,523	824	2,009	63,655	4,821
8	980	2,390	71,913				
9	878	2,142	74,056				
10	693	1,689	75,745				
11	653	1,594	77,339				
12	616	1,503	78,842				
13	595	1,452	80,294				
14	559	1,364	81,658				
15	532	1,297	82,955				
16	502	1,224	84,179				
17	460	1,123	85,302				
18	424	1,035	86,337				
19	401	978	87,315				
20	393	959	88,274				
21	369	901	89,174				
22	360	877	90,051				
23	353	860	90,912				
24	334	815	91,727				
25	308	751	92,477				
26	298	726	93,203				
27	294	716	93,919				
28	260	634	94,554				
29	233	567	95,121				
30	224	546	95,668				
31	222	541	96,208				
32	206	503	96,711				
33	186	454	97,165				
34	172	419	97,584				
35	171	418	98,001				
36	166	406	98,407				
37	155	377	98,785				

38	141	345	99,129				
39	135	329	99,459				
40	117	285	99,743				
41	105	257	100,000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrixa							
	Factor						
	1	2	3	4	5	6	7
IG1 - I spend a lot of time thinking about Instagram			904				
IG2 - I feel an urge to use Instagram more and more			828				
IG3 - I use Instagram in order to forget about personal problems			683				
IG4 - I try to cut down on the use of Instagram without success			834				
IG5 - I become restless or troubled if I have been prohibited from using Instagram			688				
IG6 - I use Instagram so much that it has had a negative impact on my job/studies			665				
IG7 - I spend a lot of time planning to use Instagram			659				
CBB1 - When I have money, I cannot help but spend part or all of it on online shopping	840						
CBB2 - I often buy something I see online without planning, just because I have to have it	794						
CBB3 - Online shopping is a way of relaxing and forgetting my problems	819						
CBB4 - I sometimes feel that something inside me pushes me to go online shopping	746						
CBB5 - There are times when I have a strong urge to buy online (clothing, music, jewelry etc.)	852						
CBB6 - At times, I have felt somewhat guilty after buying something online because it seemed unreasonable	779						
CBB7 - There are some things I buy online that I don't show to anybody because I fear people will think I foolishly wasted my money	562						
CBB8 - I often have a real desire to go online shopping and buy something	787						
CBB9 - I have often bought a product online that I did not need	802						
CBB10 - I like to spend money on online shopping	783						
SE1 - On the whole, I am satisfied with myself		717					

SE2 - At times I think I am no good at all				642		
SE3 - I feel that I have a number of good qualities		861				
SE4 - I am able to do things as well as most other people		656				
SE6 - I certainly feel useless at times				670		
SE7 - I feel that I am a person of worth		779				
SE8 - I wish I could have more respect for myself				597		
SE9 - All in all, I am inclined to think that I am a failure						
SE10 - I take a positive attitude towards myself		723				
FFMQ1 - I pay attention to physical experiences, such as the wind in my hair or sun on my face		764				
FFMQ2 - I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow.		738				
FFMQ3 - I notice the smells and aromas of things.		692				
FFMQ4 - I find it difficult to stay focused on what's happening in the present moment						614
FFMQ5 - I rush through activities without being really attentive to them						523
FFMQ6 - It seems I am running on automatic without much awareness of what I'm doing.						633
FFMQ8 - I think some of my emotions are bad or inappropriate and I shouldn't feel them				535		
FFMQ9 - I tell myself I shouldn't be feeling the way I'm feeling				764		
FFMQ10 - I'm good at finding words to describe my feelings					-914	
FFMQ11 - It's hard for me to find the words to describe what I'm thinking					870	
FFMQ12 - I can easily put my beliefs, opinions, and expectations into words					-696	
FFMQ13 - Even when I'm feeling terribly upset, I can find a way to put it into words.					-598	
FFMQ14 - When I feel something in my body, it's hard for me to find the right words to describe it.					808	
FFMQ17 - I watch my feelings without getting carried away by them.						892
FFMQ18 - When I have distressing thoughts or images, I don't let myself be carried away by them.						776

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Appendix 4: Factor correlation Matrix (Source: SPSS Amos)

Factor Correlation Matrix							
Factor	1	2	3	4	5	6	7
1	1,000	-520	639	498	325	-224	379
2	-520	1,000	-440	-370	-579	343	-237
3	639	-440	1,000	391	360	-312	416
4	498	-370	391	1,000	436	-377	237
5	325	-579	360	436	1,000	-306	340
6	-224	343	-312	-377	-306	1,000	-226
7	379	-237	416	237	340	-226	1,000

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

Factor 1: Online Compulsive Buying Behaviour (CBB)

Factor 2: Observing / Positive self-esteem (OBS)

Factor 3: Instagram Addiction (IGA)

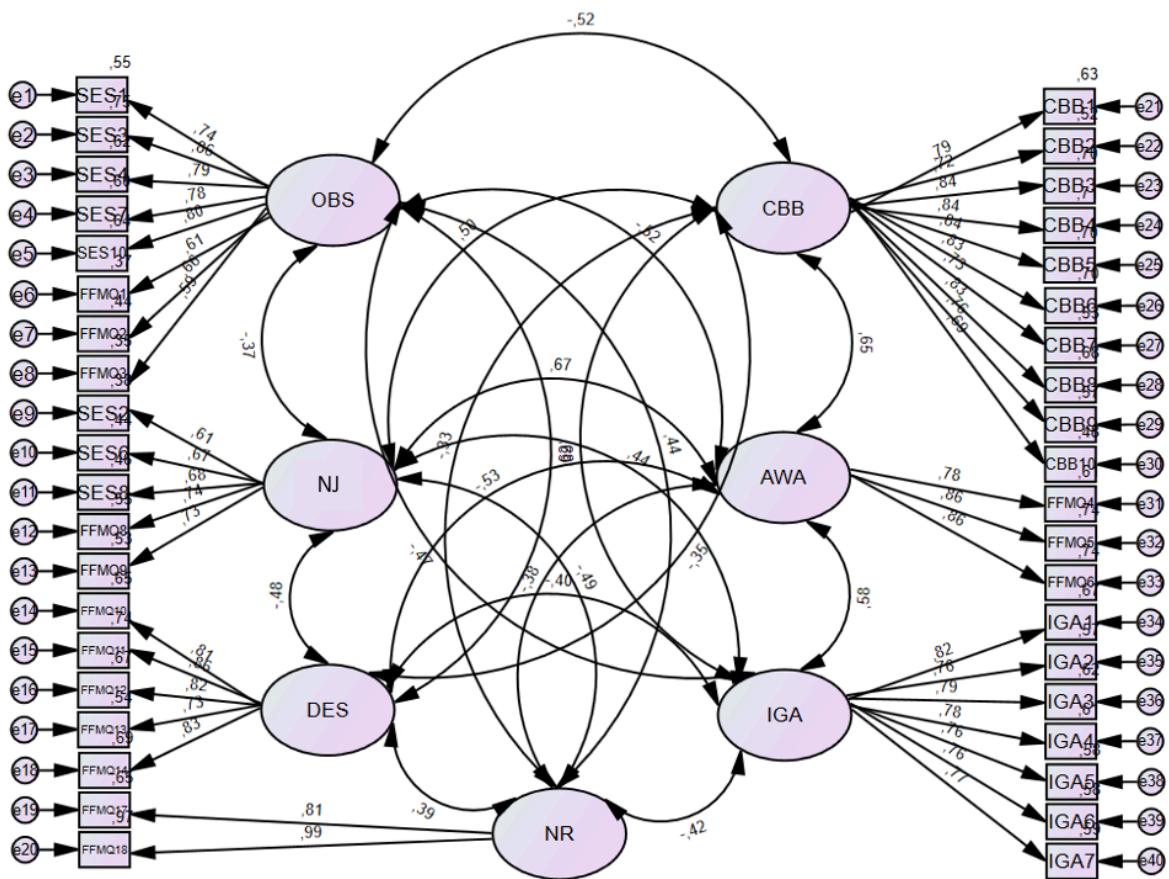
Factor 4: Non-judging / Negative self-esteem (NJ)

Factor 5: Describing (DES)

Factor 6: Non-reacting (NR)

Factor 7: Awareness (AWA)

Appendix 5a: Confirmatory Factor Analysis (Source: SPSS Amos)



CBB: Online Compulsive Buying Behaviour

OBS: Observing / Positive self-esteem

IGA: Instagram Addiction

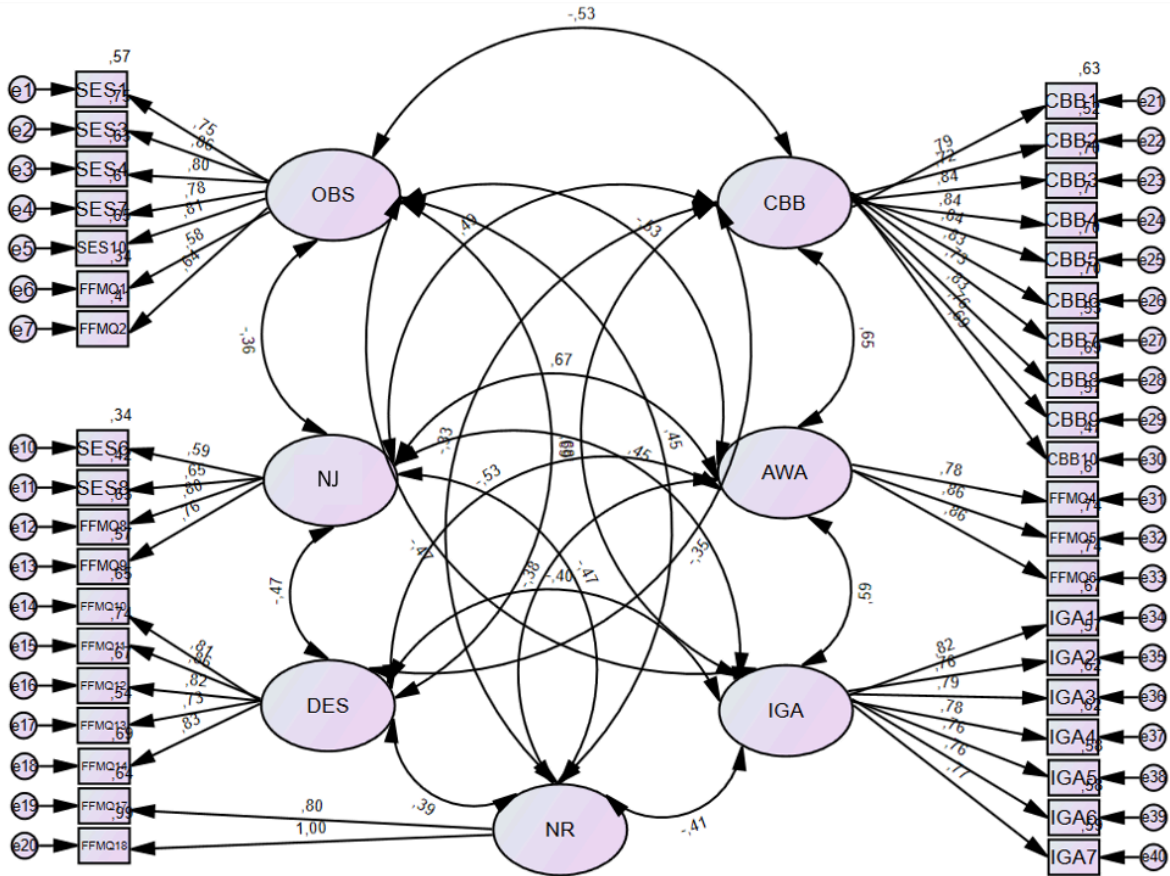
NJ: Non-judging / Negative self-esteem

DES: Describing

NR: Non-reacting

AWA: Awareness

Appendix 5b: Confirmatory Factor Analysis after omitting FFMQ3 and SES2 (Source: SPSS Amos)



CBB: Online Compulsive Buying Behaviour

OBS: Observing / Positive self-esteem

IGA: Instagram Addiction

NJ: Non-judging / Negative self-esteem

DES: Describing

NR: Non-reacting

AWA: Awareness

Appendix 6: Confirmatory factor analysis calculations

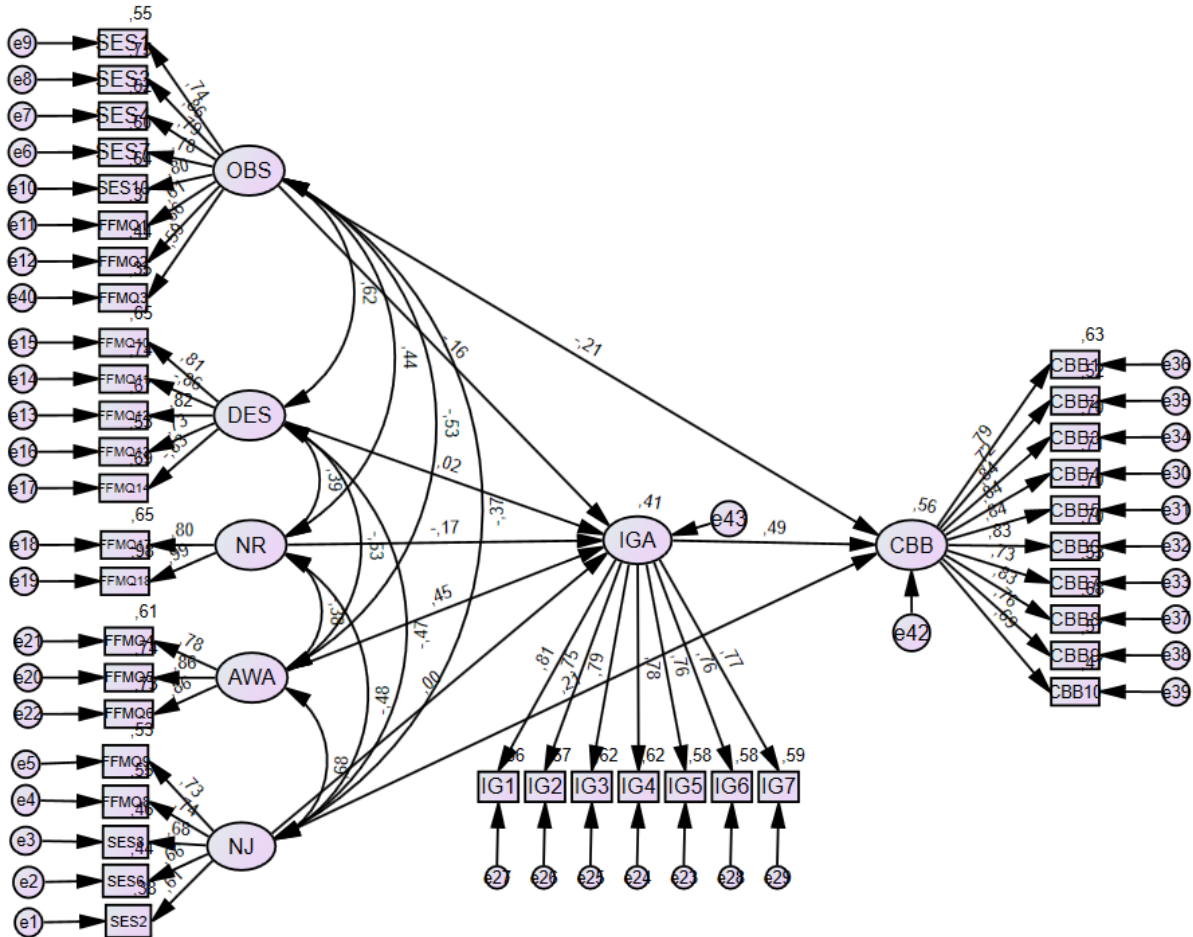
Calculations						
Item	λ	λ^2	ϵ	N	AVE	CR
CBB1	0.79	0.6241	0.3759	10	0.62237	0.9425336158
CBB2	0.72	0.5184	0.4816			

CBB3	0.84	0.7056	0.2944			
CBB4	0.84	0.7056	0.2944			
CBB5	0.84	0.7056	0.2944			
CBB6	0.83	0.6889	0.3111			
CBB7	0.73	0.5329	0.4671			
CBB8	0.83	0.6889	0.3111			
CBB9	0.76	0.5776	0.4224			
CBB10	0.69	0.4761	0.5239			
SUM	7.87	6.2237	3.7763			
SE1	0.74	0.5476	0.4524			
SE3	0.86	0.7396	0.2604			
SE4	0.79	0.6241	0.3759			
SE7	0.78	0.6084	0.3916			
SE10	0.8	0.64	0.36	7	0.5667714 286	0.9005385337
FFMQ1_O BS	0.61	0.3721	0.6279			
FFMQ2_O BS	0.66	0.4356	0.5644			
FFMQ3_O BS						
SUM	5.24	3.9674	3.0326			
IGA1_SAL	0.82	0.6724	0.3276			
IGA2_TOL	0.76	0.5776	0.4224			
IGA3_MO O	0.79	0.6241	0.3759	7	0.6043714 286	0.9864303166
IGA4_REL	0.78	0.6084	0.3916			
IGA5_WIT	0.76	0.5776	0.4224			

IGA6_CON	0.76	0.5776	0.4224			
IGA7_SAL	0.77	0.5929	0.4071			
SUM	5.44	4.2306	2.7694			
SE2						
SE6	0.67	0.4489	0.5511	4	0.49795	0.7983856394
SE8	0.68	0.4624	0.5376			
FFMQ8_NJ	0.74	0.5476	0.4524			
FFMQ9_NJ	0.73	0.5329	0.4671			
SUM	2.82	1.9918	2.0082			
FFMQ10_DES	0.81	0.6561	0.3439	5	0.65798	0.9055850623
FFMQ11_DES	0.86	0.7396	0.2604			
FFMQ12_DES	0.82	0.6724	0.3276			
FFMQ13_DES	0.73	0.5329	0.4671			
FFMQ14_DES	0.83	0.6889	0.3111			
SUM	4.05	3.2899	1.7101			
FFMQ17_NR	0.81	0.6561	0.3439	2	0.8181	0.8990510017
FFMQ18_NR	0.99	0.9801	0.0199			
SUM	1.8	1.6362	0.3638			
FFMQ4_A CT	0.78	0.6084	0.3916	3	0.6958666 667	0.8726125321
FFMQ5_A CT	0.86	0.7396	0.2604			

FFMQ6_A					
CT	0.86	0.7396	0.2604		
SUM	2.5	2.0876	0.9124		

Appendix 7: Research Model, Standardized Estimates Model (Source: SPSS Amos)



CBB: Online Compulsive Buying Behaviour

OBS: Observing / Positive self-esteem

IGA: Instagram Addiction

NJ: Non-judging / Negative self-esteem

DES: Describing

NR: Non-reacting

AWA: Awareness