Brand addiction and compulsive buying in female consumers' relationships with food brands

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Abstract

Purpose

The aim of this paper is to respond to the call for exploring and empirically testing both antecedents and outcomes of brand addiction and compulsive buying behaviour. The focus of the study is on the food habits of young female consumers.

Design/methodology/approach

To test the hypotheses, a survey design gathering cross-sectional primary data from 325 female Italian consumers and a structural equation modelling have been adopted.

Findings

Findings show that brand addiction is positively influenced by consumer resilience, leading to increased life happiness and self-esteem, while compulsive buying behaviour is negatively influenced by consumer resilience and positively influenced by impulsivity. Compulsive buying is also associated with brand addiction and emotional overeating. Emotional overeating is additionally influenced by impulsivity and the control variables of enjoyment of food and loneliness. Moreover, loneliness has a negative impact on life happiness and self-esteem.

Originality

The study applies the proposed theory by Mrad and Cui (2020) on the relationship between brand addiction and compulsive buying to food consumption. Furthermore, it expands on this research by investigating consumer characteristics as determinants and behavioural outcomes.

Keywords: Brand addiction, compulsive behaviour, resilience, impulsivity, life happiness, emotional overeating.

1. Introduction

Consumer research recognized the relevance of the consumption of goods, services, and brands in the development, conservation, and reconstitution of consumer identities (Baker and Mason, 2012; Arnould and Thompson, 2005; Belk, 1988). Within this context, brand addiction has evolved as the highest level of intense emotions between the consumer and the brand and represents one of the most important ways in which consumers engage with brands (Junaid *et al.,* 2022; Le, 2022; Bai *et al.,* 2021; Francioni *et al.,* 2021; Cui *et al.*, 2018; Fournier, 1998). Conceptually, the literature identified both positive (Cui *et al.,* 2018) and negative consequences (Fournier and Alvarez, 2013) of brand addiction for the individual. While Cui *et al.* (2018) mainly focused their attention on the positive aspects of brand addiction by describing brand addicts as individuals who may experience a sense of gratification, happiness, and pleasure from their brand addictive behaviours, Fournier and Alvarez (2013) described the dark side of brand addiction. Notably, they conceptualized it as an extremely close relation in which consumers can lose their own identities as they deepen their relationships with the specific brand they feel addicted to. In this way, the addictive connection becomes a very obsessive and destructive relationship, thus leading consumers to adopt harmful behaviours, such as compulsive tendencies. In particular, by jointly analysing brand addiction and compulsive buying in the context of fashion brands, the study of Mrad and Cui (2020) corroborated how they represent two distinct phenomena nevertheless they might co-occur. According to their research, compulsive buying has a damaging influence on debt avoidance and self-esteem, while brand addiction has a positive impact on debt avoidance, self-esteem, and life happiness. Additionally, the authors suggested how compulsive buying is positively related to brand addiction.

However, despite some recent studies (e.g., Chitra et al., 2022; Mrad and Cui, 2020) have focused their attention on this relationship between brand addiction and consumers' compulsive behaviours, an extensive amount of empirical research still needs to be conducted (Mrad and Cui, 2020). Moreover, existing literature also emphasized the need to investigate these two constructs in different settings, particularly those that have not already been examined (e.g., luxury and fashion context), in order to generate "established" hypotheses (Mrad and Cui, 2020; Hunt, 1990; Popper, 1984).

Lastly, extant literature also stressed the necessity of further investigating and empirically testing different antecedents and outcomes of brand addiction (Francioni et al., 2021; Cui et al., 2018; Mrad and Cui, 2017).

Overall, starting from these assumptions, the present study aims to enrich the existing research by empirically investigating the theory developed by Mrad and Cui (2020) and extending the scope in two ways: (i) the model replication in the context of food consumption; and (ii) its extension by adding specific consumer characteristics (i.e., consumer resilience and impulsivity), and an outcome variable, namely emotional overeating.

In particular, the study was conducted in the context of food consumption in Italy, with a specific focus on female consumers. This choice has been made for three main reasons: (i) the food brand category is considered one of the most addictive sectors in Italy (Francioni *et al.*, 2021); (ii) the COVID-19 pandemic has led to changes in eating behaviours and consumer attitudes towards food (Cecchetto *et al.*, 2021; Scarmozzino and Visioli, 2020); (iii) extant research has indicated that emotional attitudes and behaviours related to the food consumption are more prevalent in females than in males due to a stronger association between food and intense emotions (Thompson and Romeo, 2015). Additionally, studies have shown that females are more prone to engaging in impulsive eating (Izydorczyk *et al.*, 2019) as a means of emotion regulation (Fauconnier *et al.*, 2020; Aoun *et al.*, 2019).

By doing so, the study attempts to provide a response to three calls: (i) to replicate studies in different contexts; (ii) to investigate brand addiction antecedents and consequences; and (iii) to explore the generalizability of the findings of present research by expanding the knowledge about brand addiction in the food context.

The remainder of the paper is structured as follows: Section 2 provides the theoretical foundations of brand addiction and compulsive behaviour, along with the analysed antecedents and outcomes. Section 3 presents the adopted methodology, while Section 4 shows the main results. Finally, Section 5 discusses the theoretical and managerial implications, limitations, and avenues for future research.

2. Theoretical Framework

2.1. Brand Addiction and Compulsive Behaviour

Brand addiction is recognized as a distinct phenomenon (Mrad *et al.*, 2020; Mrad, 2018) with respect to other constructs such as brand attachment, brand love, or brand loyalty (Francioni *et al.,* 2021). Cui *et al.* (2018, p. 124) defined brand addiction as "a consumer's psychological state that involves mental and behavioural preoccupation with a particular brand, driven by uncontrollable urges to possess the brand's products, and involving positive affectivity and gratification."

Based on the research by Cui *et al.* (2018) and Mrad and Cui (2020), it can be assumed that brand-addicted consumers are in a state of indulgence. Indeed, their passion for a particular brand leads them to purchase food items from that brand, even if it slightly conflicts with their preferred diet. Specifically, they feel a strong bond and psychological connection with the addictive brand, which is seen as their comfort zone. This connection results in an irresistible desire to obtain the addictive food brand as a cognitive reward and for affect regulation. Additionally, interacting with the addictive food brand brings pleasure and relieves anxiety or frustration, making it their preferred brand.

Compulsive behaviour seems to share several commonalities with brand addiction, specifically in terms of preoccupation with shopping, repetitive urges to buy, and the immediate relief and pleasure experienced (Miljkovich, 2021; Mrad and Cui, 2020). Moreover, compulsive buying is expected to fulfil some positive functions, such as regulating emotions and self-expression. Nevertheless, these positive effects paradoxically diminish due to excessive buying, leading to negative consequences and a stronger urge to buy (Mrad and Cui, 2020; Wang and Tsai, 2017). Despite both compulsive buying and brand addiction are addictive behaviours, important differences between the two constructs remain. Indeed, the main focus of compulsive buyers is on spending money excessively in the process of shopping (Edwards, 1993), while brand addicts' main focus is on a specific brand (Mrad and Cui, 2017). Furthermore, compulsive buyers in general do not admit to their destructive behaviour and tend to conceal their purchases (Faber *et al.*, 1995), while brand addicts do not deny their addiction, but they actively share their passion with others and are proud in engaging with the brand products (Cui *et al.,* 2018). While compulsive buying might provide a short-term relief and be counterproductive to debt avoidance, brand addiction provides long-term gratification and leads to increased self-esteem and life happiness (Mrad and Cui, 2020; Cui *et al.,* 2018).

In addition to analysing their respective similarities and differences, previous research has also examined the relationship between brand addiction and compulsive behaviour (Francioni *et al.,* 2021; Mrad and Cui, 2020; Fournier, 1998). Specifically, this study follows the argumentation of Mrad and Cui (2020) and Fournier and Alvarez (2013), stating that compulsive shoppers may become aware of a brand's benefits to fulfil self-related goals and thereby supporting consumer-brand relationships. Consequently, compulsive buying may lead to a positive shopping experience with a certain brand, resulting in trust and an addictive attachment to the brand. Therefore, the first hypothesis has been postulated:

H1. Compulsive buying has a positive impact on brand addiction.

2.2. Self-Esteem, Life Happiness, and Emotional Overeating

Self-esteem is defined as an individual's sense of worthiness as a person (Baumeister, 1993; Rosenberg, 1979). Studies on compulsive buying demonstrated that excessive consumption of products is negatively related to self-esteem (Christenson *et al.,* 1994). Although compulsive buying behaviour might be indulged in to enhance self-confidence and control, in the long run, the cycle of addiction leads to a destruction of self-esteem (DeSarbo and Edwards, 1996). In contrast to the findings on compulsive buying, Mrad and Cui (2017; 2020) suggested that brand addiction is positively related to self-esteem. Based on the self-congruence theory, consumers form a bond with a brand that is congruent with their actual or ideal self-image, in order to stay consistent or enhance their self-esteem (Sirgy and Su, 2000). Thus,

H2. Compulsive buying has a negative impact on self-esteem.

H3. Brand addiction has a positive impact on self-esteem.

Life happiness is defined as the frequent experience of positive emotions and rare occurrence of negative ones, as well as having high life satisfaction. Therefore, it is considered one of the fundamental concepts in positive psychology. According to this definition, the frequency of positive and negative emotions contributes to the affective aspect of happiness, while satisfaction with life is part of the cognitive aspect (Diener, 1984).

Happiness can be described as one of the primary goals guiding human actions and behaviours (Lyubomirsky *et al.*, 2005). While research agreed that compulsive buying leads to low states of life happiness (Christenson *et al.,* 1994), literature on consumer-brand relationships pointed out that the relationships of consumers with their brands are parallel to the relationships of human beings (Fournier, 1998). Thus, positive relationships with both other people and brands can lead to more life happiness. Studies by Mrad and Cui's (2017; 2020) indicated that brand addicts demonstrate happiness through the consumption or the possession of the brand.

Moreover, a direct relationship between self-esteem and life happiness is proposed, as research showed that self-esteem is closely associated with well-being and several other positive outcomes (for an overview see Du *et al.,* 2017). Thus, the following hypotheses have been postulated:

H4. Compulsive buying has a negative impact on life happiness.

H5. Brand addiction has a positive impact on life happiness.

H6. Self-Esteem has a positive impact on life happiness.

In addition to the affective and cognitive outcomes of compulsive buying and brand addiction (i.e., self-esteem and life happiness), in this study a behavioural outcome variable has been added. In the context of food behaviour, emotional overeating is a highly relevant variable (Teichert *et al.*, 2021), as indicated by the Yale Food Addiction Scale (Gearhardt *et al.,* 2009). While Christenson *et al.* (1994) reported that compulsive buyers have a higher lifetime prevalence for eating disorders, Faber *et al.* (1995) proposed a comorbidity between the two compulsive behaviours. Research suggested that both compulsive buying and emotional overeating occur in response to negative emotions, resulting in a decrease in the intensity of these negative emotions during the behaviour (Cecchetto *et al.,* 2021). Conversely, brand addiction is not triggered by negative emotions, but rather by positive experiences with the brand. Thus, brand addiction leads to an enhanced mood and can even prevent emotional overeating. Therefore, the following hypotheses have been formulated:

H7. Compulsive buying has a positive impact on emotional overeating.

H8. Brand addiction has a negative impact on emotional overeating.

2.3. Consumer Resilience

The concept of resilience is attracting increasing interest in consumer research and is highly relevant in literature on addiction and compulsive behaviour. According to Ball and Lamberton (2015), consumer resilience is a key factor in successful consumption experiences. Resilience is a multifaceted concept used to explain both system and individual behaviour across disciplines (Budak *et al.,* 2020). While definitions and research concepts of resilience vary significantly, studies on human resilience have been perceived as imperative for the new millennium (Bhattacharyya and Belk, 2019; Bonanno, 2004). Resilience, as described by Liu *et al.* (2020), is the ability to adapt and thrive in the face of challenges and changes. It is often viewed as a skill in social systems and psychology that empowers individuals to achieve a high level of functionality considered desirable, enabling them to "bounce forward" (Budak *et al.,* 2021).

However, just a few studies on consumer resilience conceptualized it at an individual level by exploring how consumers recover or adjust their consumption habits after experiencing some forms of adverse situations (e.g., homelessness or poverty) (Bhattacharyya and Belk, 2019; Kaufman Scarborough, 2019). Additionally, in these studies, the concept of adaptive responses is not developed. For instance, Reivich and Shatté (2002) described resilience as a mind-set that enables individuals to seek out new experiences, recognise life as a work in progress, and

respond in healthy and productive ways. This capacity is a given ability in consumers, allowing them to find ways to fulfil their needs and wants (Rew and Cha, 2021). Ball and Lamberton (2015) showed in their seminal research that more resilient consumers were significantly more likely to continue working with a service provider, identify a solution, or even return to the same service provider after a negative incident. They were also less likely to feel anger or hide their feelings, and more likely to recommend the service provider to others.

Through the process of adapting to and overcoming outcomes of countless choices, consumers maximise and optimise their experiences of consumption and their relationships with brands. In this process, consumer resilience allows consumers to overcome negative experiences from their past choices and actions, leading to a shift in their mind-set from negative to positive (Glandon, 2015). It is also serves as protection against the continuation of potentially self-destructive behaviour (Maddi, 2013). Therefore, resilience can help consumers establish their relationship with a brand (Eisingerich, *et al.*, 2011). While brand addiction may be a beneficial consequence of consumer resilience by fostering a healthy relationship with a brand, compulsive buying can be seen as a maladaptive coping mechanism that can, however, be diminished through consumer resilience. Thus, the following hypotheses are proposed:

H9. Consumer resilience has a negative impact on compulsive buying.

H10. Consumer resilience has a positive impact on brand addiction.

Additionally, consumer resilience may be a key aspect of individual wellbeing and can lead to an enhanced quality of life (Rew and Minor, 2018; Ball and Lamberton, 2015; Maddi, 2013). Consumers enhance their wellbeing by adapting to and overcoming the consequences of their choices and actions, optimizing their consumption experience (Donavan *et al.*, 2016). Within this process, emotion regulation, optimism, impulse control, and causal analysis serve as pillars of resilience, enabling consumers to overcome negative experiences and shift their attitudes from negative to positive toward life (Rew and Minor, 2018; Glandon, 2015; Reivich and Shatté, 2002). Thus, the following hypothesis has been assumed:

H11. Consumer resilience has a positive impact on life happiness.

2.4. Impulsivity

Juneja *et al.* (2019, p. 744) defined impulsivity as "a construct characterized by (1) an impairment of behavioural or response inhibition and (2) an inability to delay gratification". The relationship between impulsivity and addiction, as well as compulsivity, is well established in a general clinical context (Juneja *et al.*, 2019). Research associated impulsivity with various psychopathologies including substance use disorder, addiction, compulsivity, and eating disorders (Lavender and Mitchell, 2015; Weafer *et al.,* 2014; Dalley *et al.*, 2011). However, impulsivity is not limited to clinical phenotypes, as it also influences daily decision-making (Franken *et al.,* 2008). For instance, impulsivity may impact health behaviour decisions such as selecting poor eating behaviours (Khalid *et al.,* 2019; van Beurden *et al.,* 2016; Duarte *et al.,* 2013). Additionally, impulsivity has been associated with negative relationships with food, leading individuals to regulate their emotions through food intake (Cecchetto *et al.,* 2021). Given that brand addiction and compulsive buying also serve an affect regulation function, a connection to impulsivity is suggested. However, the relationship between brand addiction and impulsivity remains ambiguous. While, from a theoretical perspective, Cui *et al.* (2018) suggested that impulsivity might drive brand addiction, their qualitative interviews revealed that some brand addicts tend to exercise self-control. Therefore, their purchase of the addictive brand is not driven by pure impulsiveness. Consequently, further investigation is needed to understand the relationship between brand addiction and impulsivity. Thus, the following hypotheses are suggested:

H12: Impulsivity has a positive impact on compulsive buying.

H13: Impulsivity has a positive impact on brand addiction.

H14: Impulsivity has a positive impact on emotional overeating.

2.5. Control Variables: Loneliness and Enjoyment of Food

Two control variables, loneliness and enjoyment of food, have been added to the theoretical framework to control for their influence on the outcome variables. Although no influence on the main topic of brand addiction and compulsive behaviour is expected, previous research has shown the relevance of these variables for wellbeing and food behaviour (e.g., Cecchetto *et al.*, 2021; Hunot *et al.*, 2016). While loneliness has been reported to affect all three dependent variables (e.g., Cecchetto *et al.*, 2021), enjoyment of food is expected to be particularly relevant in the context of food behaviour (e.g., Hunot *et al.,* 2016). For instance, Cecchetto *et al.* (2021)

showed the negative effects of isolation and loneliness on emotional wellbeing, and, consequently, on eating behaviour. Emotional eating increases with higher levels of negative emotions such as loneliness. Figure 1 provides an overview of the research model and the research hypotheses.

------ Figure 1 about here -------

3. Methodology

The study adopted cross-sectional primary data and employed an online, non-random sampling approach with female Italian consumers. Respondents were recruited as part of a student project, based on an interdepartmental research focused on the phenomenon of food safety. Alongside this topic, additional subjects have been deeply explored with different groups of students, particularly those relating to compulsive behaviours and addictive tendencies in food consumption.

The translation-back-translation method has been employed to conduct the survey in the Italian language. In this study, consistent with the research of Mrad and Cui (2020) and Francioni *et al.* (2021), participants were requested to specify their preferred food brand name and refer to that brand when responding to the survey questions. After eliminating incomplete responses and discarding respondents with a uniform response style, a total of 325 valid responses were retained. The sample consisted of female respondents aged between 18 and 29 years. With a total of 325 respondents, the sample is above the rule of 200 and the sample to item ratio is 6.25, which is more than the acceptable ratio of 5:1 (Gorsuch, 1983). Thus, an adequate sample size is achieved. Kaiser-Meyer-Olkin (KMO) as well as Bartlett's Test of Sphericity to measure sampling adequacy are calculated. KMO is .862 (> than .5) and Bartlett's Test of Sphericity is significant at .000 (below $p < .05$). Therefore, both values are over the threshold and the data is suitable for factor analysis.

For the operationalization of the constructs, existing and empirically validated scales have been employed. Survey respondents were asked to indicate their level of agreement for each of the items using a seven-point Likert scale, anchored by totally disagree (1) to totally agree (7). The scales of Mrad and Cui (2020) have been adopted for brand addiction, compulsive buying behaviour, life happiness, and self-esteem in order to be able to compare results. Consumer resilience is based on the study of Campbell-Sills and Stein (2007). Impulsivity has been measured through the Baratt Impulsiveness Scale, which has been translated into Italian and validated by Fossati *et al.* (2001). Loneliness has been measured through the scale of Russell *et*

al. (1978)*,* while the study of Hunot *et al.'s* (2016) has been used to measure enjoyment of food and emotional overeating. Appendix A contains the complete list of items, Cronbach's alpha for each scale, and the source adopted for each construct.

4. Results

4.1. Validity and Reliability Tests

Several analyses have been conducted to test our model. Exploratory factor analysis, confirmatory factor analysis, and structural equation modelling have been used to address the hypotheses. Employing principal factor analysis showed that all items loaded on the proposed constructs. Overall, the nine factors explained 56.6% cumulative variance. None of the 52 items had significant cross-loadings (>.50). All scales are reliable with Cronbach's alpha values higher than .7 (see Appendix).

The constructs' convergent and discriminant validity has been assessed through a confirmatory factor analysis. Average variance extracted (AVE) and composite reliability (CR) form convergent validity. To obtain convergent and discriminant validity, the AVE should be >.40 (Floyd and Widaman, 1995) and the CR >.60 (Bagozzi and Yi, 1988). AVE values are between .49 (compulsive buying) and .71 (enjoyment of food), and CR values range between .74 (compulsive buying) and .94 (loneliness). Thus, all AVE and CR values are acceptable. Discriminant validity has been established by comparing the square root of AVE values with the inter-construct correlation estimates. The square root of the AVE should be higher than the correlations. Details for means and standard deviations of the constructs, as well as AVE, CR, square root of AVE (in the diagonal), and correlation values, are displayed in Table 1.

------ Table 1 about here -----

4.2. Hypotheses Testing

Structural equation modelling (SEM) has been employed using SPSS AMOS 27 to test the hypotheses. The model shows an acceptable model fit with $\chi2=2115.39$; df=1246; p=.00; $\chi2$/df=1.70; IFI=.91, TLI=.90, and CFI=.91; RMSEA=.05.

Brand addiction is influenced by consumer resilience (*ß*=.31; *p*<.001) and compulsive behaviour (*ß*=.30; *p*<.001), confirming H1 and H10, but not by impulsivity (*ß*=-.06; *p*=.368), therefore H13 is not confirmed. Consumer resilience (*ß*=-.11; *p*=.090) and impulsivity (*ß*=.23;

p<.001) influence compulsive behaviour, so H9 and H12 are confirmed. Possible effects of loneliness and enjoyment of food on brand addiction and compulsive buying have been tested, but no significant results have been found.

Life happiness is influenced by brand addiction (*ß*=.11; *p*=.043; supporting H5) and self-esteem (*ß*=.66; *p*<.001; supporting H6). Brand addiction (*ß*=.25; *p*<.001) influences self-esteem, confirming H3. Impulsivity (*ß*=.13; *p*=.053, supporting H14) is an influential factor of emotional overeating. The influence of compulsive buying behaviour on emotional overeating is significant at a significance level of 10% (*ß*=.12; *p*=.078). Thus, H7 should be further investigated. Brand addiction has no effect on emotional overeating (*ß*=.01; *p*=.888), rejecting H8. Additionally, compulsive buying behaviour does not influence self-esteem (*ß*=-.04; *p*=.585) and life happiness (*ß*=-.02; *p*=.729), therefore H2 and H4 are not confirmed. Moreover, consumer resilience has no direct effect on life happiness (*ß*=-.05; *p*=.295), so H11 is also not confirmed. Nevertheless, an indirect effect of consumer resilience on life happiness via brand addiction has been tested by indicating a significant mediation (*b*=.08, BCa CI [.02; .10]; *p*=.009).

The control variable loneliness exerts a significant influence on the variables of life satisfaction (*ß* = -0.15; *p* = 0.004), self-esteem (*ß* = -0.34; *p* < 0.001), and emotional overeating (*ß* = 0.19; *p* < 0.001). Additionally, the control variable enjoyment of food demonstrates a significant influence on the variable of emotional overeating (*ß* = 0.22; *p* < 0.001).

Figure 2 provides an overview of the significant results of the model testing. The insignificant effects are not displayed for improved readability, but can be found in Table 2.

-----Figure 2 about here ----

---Table 2 about here ---

5. Discussions and implications

Overall, the results show a positive relationship between compulsive buying and brand addiction, thus corroborating previous research (e.g., Mrad and Cui, 2020; Fournier and Alvarez, 2013). Moreover, findings confirm the positive relationship between brand addiction, self-esteem, and life happiness. Nevertheless, a negative effect of compulsive buying on self-esteem and life happiness has not been confirmed. This finding could be due to the fact that individuals who engage in compulsive buying find temporary happiness or satisfaction from their shopping experiences, which may counteract any negative effects on self-esteem and life

happiness in the short term. Additionally, the sample used in this study may have consisted of females who were not severely impacted by their compulsive buying behaviour, thus minimizing the negative effects.

In addition to the original model, the results corroborate that while the influence of compulsive buying on emotional overeating is significant at a 10% level, brand addiction has no impact on it. These results can suggest that while compulsive buying may lead to behaviours focused on short-term gratifications, such as emotional overeating, brand addiction does not lead to dysfunctional consequences but instead contributes to long-term positive outcomes for consumers like happiness and self-esteem.

Findings provide additional insight into the relationship between consumer resilience, impulsivity, and brand addiction as well as compulsive buying. While consumer resilience is positively related to brand addiction, it is actually negatively related with compulsive buying. This result again demonstrates evidence for the potential positive impact of brand addiction on consumers, as compared to compulsive buying. Since consumer daily life involves continuous decision making, understanding individual behaviour and its impact on their life quality is fundamental in consumer research (Rew and Minor, 2018). Therefore, it becomes crucial to comprehend how consumers behave in order to improve their overall well-being. The mediation effect found in this study suggests that consumers with higher levels of resilience are more prone to develop brand addiction as a way to boost their overall life happiness.

Furthermore, the research reveals how impulsivity is not a driver of brand addiction, thereby corroborating the findings of Cui *et al.* (2018). More in detail, the authors discovered that purchases of the addictive brand are not necessarily motivated by impulsiveness. On the other hand, compulsive buying and emotional overeating are significantly influenced by impulsivity. The field of health management is increasingly exploring impulsivity as an important factor that may influence initiation or maintenance of health behaviours (Juneja *et al.,* 2019). Considering the present results on eating behaviour, impulsivity leads to dysfunctional consequences. Interventions should prioritize rewarding aspects to motivate and retain individuals.

The present model includes loneliness and enjoyment of food as control variables. In particular, results show how they do not have any impact on brand addiction and compulsive buying. However, they do play a role in emotional overeating, as well as affecting self-esteem and life happiness, particularly in times of the pandemic where loneliness has become more prevalent due to lockdown and isolation (Cecchetto *et al*., 2021). While these findings are not the main

focus of the research, they demonstrate the potential emotional consequences of loneliness on individual happiness and wellbeing.

5.1 Theoretical Implications

Theoretically, this study addresses six research calls: (i) conducting an extensive analysis on the relationship between compulsive behaviour and brand addiction (Mrad and Cui, 2020); (ii) examining these two constructs in new settings to develop "established" hypotheses (Mrad and Cui, 2020), especially by focusing on the Italian context of food consumption and female consumers; (iii) delving deeper into the antecedents and outcomes of brand addiction (Francioni *et al.,* 2021; Cui *et al*., 2018; Mrad and Cui, 2017); (iv) expanding the theory of Mrad and Cui (2020) through the incorporation of specific consumer characteristics, such as consumer resilience and impulsivity, as well as an outcome variable, namely emotional overeating; and (v) broadening the understanding of brand addiction in the food context.

5.2 Managerial Implications

As pointed out by Mrad and Cui (2020), it may raise concerns to promote brand addiction among consumers, as addictions are generally perceived as harmful. However, the present research indicates that brand addiction can lead to positive long-term consequences, implying that consumers may benefit from marketing strategies that enhance their connection with a brand. Furthermore, the findings of this study support marketing managers in segmenting their target markets based on the strength of consumer-brand relationships and consumer traits. This addition to categorisation can prove valuable in psychographic and behavioural segmentation. Moreover, as marketers have the responsibility to develop marketing programs and practices minimising consumer dysfunctional consumption behaviours (Mrad and Cui, 2020; Öberseder *et al.*, 2014), the exploration of consumer resilience can help develop advanced theories of addictive consumption. The present research shows that consumer resilience leads to positive consequences. Thus, brand managers may support consumer resilience by reducing the uncertainty of the market environment. Strengthening consumers' bond to a brand might reduce negative emotions consumers may feel. For instance, aspects such as transparency were found to be an important precondition for a strong consumer-brand relationship (Kang and Hustvedt, 2014), while continuous trust-building communication (e.g., related to CSR) can lead consumers to be more resistant to negative information about the brand (Kang *et al*., 2021). Additionally, strengthening consumer resilience might be a profitable long-term strategy for

brand managers. Notably, it can help consumers determine their relationship with a brand and overcome negative information about it (Rew and Cha, 2021). When consumers are exposed to negative information about a brand, they can resist and overcome such negativity by adapting to the change and maintaining their brand loyalty through a higher level of resilience.

5.3 Conclusions, Limitations, and Suggestions for Future Research

In conclusion, this study supports the suggestion that brand addiction is a very passionate, non-pathological consumer-brand relationship that may result in positive consequences, such as self-esteem and life happiness. It may also coexist with compulsive buying, which is a pathological addictive behaviour found in some consumers. Moreover, the present research reveals differences in the impacts of compulsive buying and brand addiction on consumers. While brand addiction contributes to consumer wellbeing, compulsive buying seems to lead to more detrimental behaviours. Additionally, consumer resilience fosters brand addition while discouraging compulsive buying. On the other hand, impulsivity only enhances compulsive buying without any influence on brand addiction. Research on brand addiction is an emerging field, suggesting the need for addressing several issues.

Although the current study confirms the coexistence of brand addiction and compulsive buying, it does not confirm the negative impact of compulsive buying on life happiness and self-esteem. Unlike the study by Mrad and Cui (2020) that tested the theory in a US fashion context, our study was conducted in an Italian food context. The influence of food on emotions and the relationship between emotions and food acceptance are receiving increasing attention (Chang *et al*., 2021). Differences in culture and research focus may account for the perceived disparities. While the relationship with food may be more personal and subtle, fashion involves a more noticeable and self-representational aspect. Future research should explore the framework in relation to different product categories and industry sectors.

As a limitation of this study, it should be pointed out that the sample used was randomly selected. While this allowed us to identify relationships within the proposed model, it is important to recognize that these findings may not be applicable to other target groups or cultural backgrounds. Emotions towards brands, as implied in addiction, are influenced by social and cultural constructs (Hegner *et al*., 2017). Therefore, further evidence of the relationships in the proposed model is needed.

Moreover, further studies are encouraged to examine additional personality traits as this study only focuses its attention on specific ones. In particular, investigating individual characteristics

related to emotion regulation may be a promising area of research. Additionally, attachment styles may be an underlying factor for consumer-brand relationships. By segmenting consumers based on their attachment styles, valuable insights into the drivers of consumer relationships with brands can be obtained. While Francioni *et al*. (2021) and Bai *et al.* (2021) have begun researching brand characteristics such as hedonism, self-expressiveness, innovativeness, and authenticity, gaining a better understanding of the behaviours of brands that lead consumers to become brand addicts would be beneficial.

Psychology studies show that an individual's social environment (e.g., brand communities) can influence self-destructive consumption behaviours, such as compulsive buying one (e.g., Gage and Sunmall, 2019). This raises the question of how the social environment can prevent self-destructive behaviour and instead increase consumers' brand addiction.

However, there are still several issues in this research field that need to be addressed. More in detail, extant research has demonstrated a relationship between brand addiction and other consumer brand relationship constructs, such as brand love and brand passion (obsessive and harmonious) (Junaid *et al*., 2022; Bai *et al*., 2021; Le, 2022). Therefore, it would be interesting to distinguish or highlight the overlap of these constructs. While the term 'addiction' is commonly used in everyday language ("oh, Lindt chocolate is so addictive"), its actual meaning from a diagnostic perspective differs from its ordinary usage. Indeed, although the term 'brand addiction' has been established in branding research, it may not meet the criteria of a true addiction as defined by ICD-10. According to the World Health Organization (2004, p. 13), substance use dependence requires experiencing or exhibiting at least three of the following criteria during the previous year: "(1) A strong desire or sense of compulsion to take the substance; (2) Difficulties in controlling substance-taking behaviour in terms of its onset, termination, or levels of use; (3) A physiological withdrawal state when substance use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms; (4) Evidence of tolerance, such that increased doses of the psychoactive substance are required in order to achieve effects originally produced by lower doses; (5) Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects; (6) Persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to heavy substance use, or substance-related impairment of cognitive functioning." While substance use dependence clearly implies negative effects on health and well-being,

brand addiction appears to be a non-pathological, even functional process. Therefore, we encourage further discussion regarding the terminology used to describe consumer-brand relationships. While what is referred to "brand addiction" can certainly qualify as a highly passionate consumer-brand relationship, similar to a strong brand desire, it may not meet the classification of addiction in terms of medical diagnosis.

Lastly, since this research is based on correlational data and the proposed relationships are derived from theoretical suggestions, there is currently no research evidence to support the claim that brand addiction mediates compulsive buying behaviour, thus leading to positive outcomes like consumer happiness. Furthermore, it is possible that the relationship may be reversed, with brand addiction actually causing compulsive buying behaviour. Hence, it is crucial to conduct additional research to establish a causal connection between these variables.

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Figure 1. Proposed research model
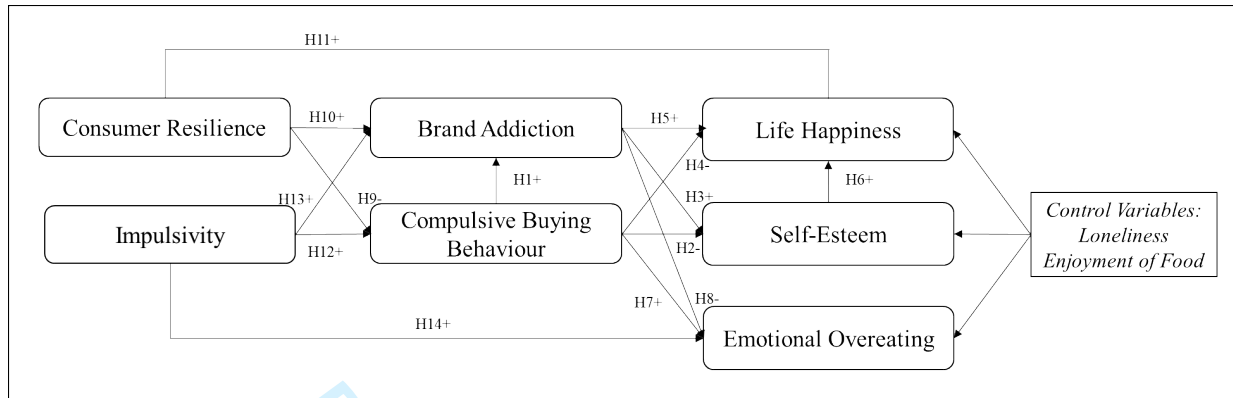
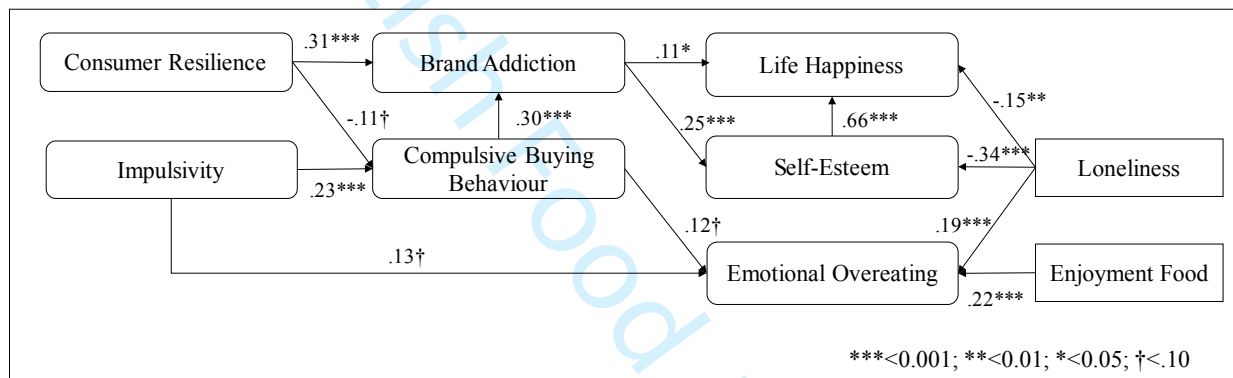

Figure 2. Summary of significant effects

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4   **Table 1** Reliability and validity tests
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Construct	Mean (SD)	CR (>.60)	AVE (>.40)	Correlations								
				1	2	3	4	5	6	7	8	
1. Brand addiction	3.07 (1.18)	.83	.50	.71								
2. Compulsive buying	3.49 (1.50)	.74	.49	.24	.69							
3. Life happiness	4.20 (1.17)	.87	.58	.26	.05	.76						
4. Self-esteem	5.06 (1.04)	.87	.62	.25	.06	.71	.79					
5. Consumer resilience	4.55 (1.08)	.88	.52	.26	-.09	.35	.55	.72				
6. Impulsivity	3.16 (1.11)	.85	.53	.05	.22	-.06	.08	.07	.73			
7. Loneliness	2.16 (1.08)	.94	.55	-.05	.02	-.37	-.34	-.23	.09	.74		
8. Enjoyment food	5.60 (1.26)	.88	.71	.15	.07	.14	.20	.12	.09	-.13	.84	
9. Emotional overeating	2.89 (1.49)	.82	.54	.05	.11	-.09	-.07	.00	.18	.18	.21	.74

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Table 2 Results

Relation	Coefficient	p-value
H1: Compulsive Buying → Brand Addiction	**.30**	**<.001**
H2: Compulsive Buying → Self-Esteem	-.04	.585
H3: Brand Addiction → Self-Esteem	**.25**	**<.001**
H4: Compulsive Buying → Life Happiness	-.02	.729
H5: Brand Addiction → Life Happiness	**.11**	**.043**
H6: Self-Esteem → Life Happiness	**.66**	**<.001**
H7: Compulsive Buying → Emotional Overeating	.12	.078
H8: Brand Addiction → Emotional Overeating	.01	.888
H9: Consumer Resilience → Compulsive Buying	*-.11*	*.100*
H10: Consumer Resilience → Brand Addiction	**.31**	**<.001**
H11: Consumer Resilience → Life Happiness	-.05	.295
H12: Impulsivity → Compulsive Buying	**.23**	**.001**
H13: Impulsivity → Brand Addiction	-.06	.368
H14: Impulsivity → Emotional Overeating	*.13*	*.053*
Control Variables		
Loneliness → Life Happiness	**-.15**	**.004**
Loneliness → Self-Esteem	**-.34**	**<.001**
Loneliness → Emotional Overeating	**.19**	**.002**
Enjoyment of Food → Emotional Overeating	**.22**	**<.001**

bold: significant at .05 level; *italics*: significant at .10 level

APPENDIX A. Construct Operationalization

Constructs	Cronbach α	Main sources
Brand Addiction		
I often find myself thinking about my favourite brand.		
I tend to give up some life activities and duties such as the occupational. academic and familial in order to fulfil some activities related to my favourite brand.		
I tend to allocate certain portion of my monthly income to buy the products of my favourite brand.	.855	Mrad & Cui (2020) based on
I experience a state of impatience immediately before I can get hold of the products of my favourite brand.		Mrad & Cui (2017)
I follow my favourite brand's news all the time.		
I usually plan when the next purchase of my favourite brand will be.		
I would invest my money in some way to my favourite brand in order to support it.		
Compulsive Buying		
If I have any money left at the end of the pay period. I just have to spend it.		Mrad & Cui (2020)
I felt anxious or nervous on days I didn't go shopping.	.730	based on Faber &
I bought things even though I couldn't afford them.		O'Guinn (1992)
Life Happiness		
In most ways my life is close to my ideal.		Mrad & Cui (2020)
The conditions of my life are excellent.		based on
I am satisfied with my life.	.865	Diener *et al.* (1985)
So far. I have gotten the important things I want in life.		
If I could live my life over. I would change almost nothing.		
Self-Esteem		
I feel that I am a person of worth. at least on an equal plane with others.		Mrad & Cui (2020)
I take a positive attitude towards myself.	.867	based on
I have a number of good qualities.		Rosenberg (1965)
On the whole. I am satisfied with myself.		
Consumer Resilience		
Can deal with whatever comes		
Tries to see humorous side of problems		
Coping with stress can strengthen me	.881	Campbell-Sills &
Tend to bounce back after illness or hardship		Stein (2007)
Not easily discouraged by failure		
Thinks of self as strong person		
Can handle unpleasant feelings		
Impulsivity		
I do things without thinking.		
I don't pay attention.		
I say things without thinking.	.838	Fossati *et al.* (2001)
I act on impulse.		
I get easily bored when solving thought problems.		
I act on the spur of the moment.		

Loneliness		
I feel as if nobody really understands me.		
I find myself waiting for people to call or write.		
There is no one I can turn to.		
I am no longer close to anyone.		
My interests and ideas are not shared by those around me.		
I feel left out.	.932	Russell *et al.* (1978)
I feel completely alone.		
I am unable to reach out and communicate with those around me.		
My social relationships are superficial.		
No one really knows me well.		
I feel isolated from others.		
I feel shut out and excluded by others.		
People are around me but not with me.		
Enjoyment of Food		
I love food.		
I look forward to mealtimes.	.840	Hunot *et al.* (2016)
I enjoy eating.		
Emotional Overeating		
I eat more when I'm worried.		
I eat more when I'm upset.	.819	Hunot *et al.* (2016)
I eat more when I'm anxious.		
I eat more when I'm angry.		

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Brand addiction and compulsive buying in female consumer relationships with food brands
Authors' Responses to Reviewers

Dear Reviewer and Editor, thank you very much for acknowledging our effort and your supportive and valuable comments.

In the following, we will address the final comments, while in the revised manuscript, you will see the changes highlighted in yellow.

Response to Reviewer #1

Reviewer #1 states:

In section 4.2. Hypothesis Testing, the authors forget to expressly mention what the results were on the control variables. It is necessary to specify those results.

The authors respond:

Thank you very much for your comment. As per your request, we have restructured the result section 4.2 by first stating the results of the hypotheses testing and then explicitly stating the results of the control variables. The section reads as follows:

"Brand addiction is influenced by consumer resilience (ß=.31; p<.001) and compulsive behaviour (ß=.30; p<.001), confirming H1 and H10, but not by impulsivity (ß=-.06; p=.368), therefore H13 is not confirmed. Consumer resilience (ß=-.11; p=.090) and impulsivity (ß=.23; p<.001) influence compulsive behaviour, so H9 and H12 are confirmed. Possible effects of loneliness and enjoyment of food on brand addiction and compulsive buying have been tested, but no significant results have been found.

Life happiness is influenced by brand addiction (ß=.11; p=.043; supporting H5) and self-esteem (ß=.66; p<.001; supporting H6). Brand addiction (ß=.25; p<.001) influences self-esteem, confirming H3. Impulsivity (ß=.13; p=.053, supporting H14) is an influential factor of emotional overeating. The influence of compulsive buying behaviour on emotional overeating is significant at a significance level of 10% (ß=.12; p=.078). Thus, H7 should be further investigated. Brand addiction has no effect on emotional overeating (ß=.01; p=.888), rejecting H8. Additionally, compulsive buying behaviour does not influence self-esteem (ß=-.04; p=.585) and life happiness (ß=-.02; p=.729), therefore H2 and H4 are not confirmed. Moreover, consumer resilience has no direct effect on life happiness (ß=-.05; p=.295), so H11 is also not confirmed. Nevertheless, an indirect effect of consumer resilience on life happiness via brand addiction has been tested by indicating a significant mediation (b=.08, BCa CI [.02; .10]; p=.009).

The control variable loneliness exerts a significant influence on the variables of life satisfaction (ß = -0.15; p = 0.004), self-esteem (ß = -0.34; p < 0.001), and emotional overeating (ß = 0.19; p < 0.001). Additionally, the control variable enjoyment of food demonstrates a significant influence on the variable of emotional overeating (ß = 0.22; p < 0.001)."

Reviewer #1 states:

In section 5.1 of Theoretical Implications, the authors point out as the last theoretical implication this: (vi) the generalizability of the current research findings. Is that really a theoretical contribution? The authors mean that the results of the research can be extrapolated to the population under study? If so, this statement needs to be explained in the characteristics of the sample and in the results of the study. If not, that statement should be corrected or deleted.

The authors respond:
Thank you for pointing this out. We deleted the last implication as we have already mentioned the broadening of the context to another population in the previous implication.

Reviewer #1 states:

I recommend that authors review new references to correct the journal format appropriately. They have forgotten some brackets.

The authors respond:
Thank you very much for pointing this out. We checked the references again and corrected the error.

Thank you very much for your efforts related to our submission.

The Authors