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**Differences between compulsive and non-compulsive buyers'  
love towards brands**

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## ABSTRACT

This study investigates how compulsive and non-compulsive buyers differ on feelings of love towards brands. The examination of brand love as a multi-component higher-order construct provides in-depth insights into the differences between compulsive and non-compulsive buyers on the brand love components.

The findings demonstrate that feelings of brand love are more prominent for compulsive buyers than for non-compulsive buyers. Further, the results reveal that the brand love components have a situationally varying impact on the overall degree of brand love for the two different consumer groups. We find that self-brand integration, passion-driven behaviors and positive emotional connection are more prominent for compulsive buyers than for non-compulsive buyers. However, we find no differences regarding long-term relationship, anticipated separation distress and attitude valence. These insights call for different segmentation strategies and require practitioners to use different pathways in order to increase compulsive and non-compulsive buyers' love towards brands.

*Keywords: brand love, compulsive buying, branding, strategies*

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## 1. Introduction

Over the past few decades, academics have shown increasing interest in a specific group of consumers, namely that of compulsive buyers. Compulsive buyers constitute a growing and increasingly important segment of the market (Neuner, Raab & Reisch, 2005; Ridgway, Kukar-Kinney & Monroe, 2008). More than one in twenty adults (5.8%) in the U.S. may be considered a compulsive buyer (Koran, Faber, Aboujaoude, Large & Serpe, 2006), with similar numbers in other Western developed economies (e.g. Dittmar, 2005). Compulsive buying behavior refers to “chronic, repetitive purchasing that becomes a primary response to negative events or feelings” (O’Guinn & Faber, 1989, p. 155). A substantial amount of academics studied the differences between compulsive and non-compulsive buyers on personality characteristics and shopping behavior (Ertelt, Marino, Mitchell, & Lancaster, 2009; Rindfleisch, Burroughs, & Denton, 1997; Roberts, Manolis, & Tanner, 2006; Sneath, Russell, & Kennett-Hensel, 2009). In contrast to non-compulsive buyers, compulsive buyers are repeatedly ineffective in controlling their purchasing behavior, which often results in harmful psychological and societal consequences (Claes et al., 2010; O’Guinn & Faber, 1989), such as stress and financial problems (Dittmar & Drury, 2000; McElroy, Keck, Pope, Smith & Strakowski, 1994).

More recently, an exploratory study by Horváth and Van Birgelen (2015) seems to suggest that compulsive buyers differ from non-compulsive buyers in how they develop relationships towards brands. In particular, compulsive buyers might develop trust and attachment to brands to a much lesser degree than non-compulsive buyers (Horváth & Van Birgelen, 2015). This could imply that, although it is commonly assumed that strong brands are valuable firm resources (Aaker 1996; Kapferer, 1992; Shocker, Srivastava, & Ruekert, 1994), potentially leading to brand equity (Keller, 1993) and sustainable competitive advantage (Capron & Hulland, 1999), a strong brand might not be equally effective for compulsive and non-compulsive buyers. While a lot has been known about the personality characteristics and shopping behavior of compulsive buyers, and there has already been some research on how compulsive buyers develop relationships towards brands, the existing literature is based on small scale survey studies, and remarkably, do not focus on an increasingly important concept: brand love.

Research on consumers’ love for brands goes back many years. Among academics, Fournier (1998, p. 367) describes love as the “degree of affect associated with the brand attitude” and includes it as the core of all strong consumer-brand relationships. Moreover, Carroll and Ahuvia

(2006) studied brand love in relation to post-consumption behaviors among satisfied consumers. Brand love can be defined as “the degree of passionate emotional attachment a satisfied consumer has for a particular trade name” (Carroll & Ahuvia, 2006, p. 81). Additionally, brand love is found to be associated with positive word of mouth and brand loyalty (Carroll & Ahuvia 2006; Fournier 1998; Thomson, MacInnis & Park 2005), among other outcomes (Batra, Ahuvia & Bagozzi, 2012). With this knowledge, it is not surprising that more and more practitioners acknowledge that consumers’ love for brands has become inevitable in reaching desirable marketing outcomes. As an example, Roberts (2005) points out that in addition to respect, managers should put emphasis on consumers’ love for brands in order to strengthen the emotional bond with the customer.

So, although brand love and compulsive buying behavior emerged as important concepts in the past few decades, it has remained unknown how compulsive buyers differ from non-compulsive buyers in the degree of love they feel towards brands, and especially, how they differ on the components that reflect brand love. Yet, brands are considered to be valuable assets for firms (Aaker, 1992). Therefore, filling this gap in the marketing literature can give decisive insights to academics and brand managers.

This study can assist brand managers in making informed decisions on marketing efforts to optimize compulsive and non-compulsive buyers’ love towards brands. Managerially and theoretically, the relevance lies in providing insights into the differences between compulsive and non-compulsive buyers on the individual components of brand love separately, in order to learn via which pathways feelings of love towards brands can be increased. As Batra et al. (2012, p. 13) note, “studying a multi-dimensional construct allows for assessing the situationally varying assessment of which dimension or sub-dimension might have the strongest impact (weight) on the overall strength of felt brand love.” So, the findings of this study shed light on how compulsive buyers differ from non-compulsive buyers on the components of brand love which, in turn, will shed light on their overall feelings of brand love. Yet, it must be pointed out that practitioners must use these insights wisely and take social responsibility in their branding strategies. Specifically, practitioners should take potential risks for compulsive buyers with respect to psychological and financial consequences into account.

Drawing upon these arguments, this study answers the following research question: *To what extent do compulsive buyers and non-compulsive buyers differ in the degree of love they feel towards brands, and to what degree do they differ on the components of brand love?*

The remainder of this article is organized as follows. In section 2, an overview of the literature on brand love and compulsive buying behavior will be given. Section 3 discusses the data collection and methodology. Section 4 presents the analyses and results of this study, and section 5 provides the discussion, managerial implications, limitations and directions for future research.

## **2. Theoretical background**

### *2.1 Brand love*

Although consumers' love for brands has gained increasing interest among academics and practitioners, the nature of the construct was discovered only when Batra et al. (2012) acknowledged the need for an exploratory study on brand love. They correctly argue that the brand love construct needs to be built on an understanding of how consumers actually experience this phenomenon by using a grounded theory approach, which contrasts prior conceptualizations on brand love that are derived directly from theories of interpersonal love and attachment. Also, prior studies omitted the exploratory work needed to uncover the implicit definition of brand love, which led to two problems: assuming that brand love and interpersonal love are identical and perceiving brand love as an emotion rather than a relationship (Batra et al., 2012). For this reason, Batra et al. (2012, p. 2) rightly point out that "brand love, as consumers experience it, is best represented as a higher-order construct including multiple cognitions, emotions and behaviors, which consumers organize into a mental prototype. Brand love builds on and extends prior marketing research focusing on attachment and actual, or aspired-to, self-identity." Other academics offer additional support by emphasizing that complex constructs such as love (Fehr, 2006; Shaver, Schwartz, Kirson, & O'Connor, 1987) are best described as prototypes (Rosch, 1975). A prototype includes a list of features that people associate with a particular construct (Fehr, 2006).

The brand love prototype contains ten major underlying components that formed the basis for the multicomponent brand love construct that was developed by means of Structural Equation Modeling (Batra et al., 2012). Bagozzi, Batra and Ahuvia (2017), in turn, derived items from this multicomponent construct to develop a parsimonious brand love scale. In this study, we focus on the multicomponent brand love construct as conceptualized by Batra et al. (2012), and we propose that brand love is a reflection of the first- and second-order components of the brand love construct (Bagozzi et al., 2017). The six components, shown in the

conceptual model in Appendix A are as follows: 1) Self-Brand Integration, 2) Passion-Driven Behaviors, 3) Positive Emotional Connection, 4) Long-Term Relationship, 5) Anticipated Separation Distress and 6) Attitude Valence.

## *2.2 Differences between compulsive and non-compulsive buyers on brand love*

Compulsive and non-compulsive buyers seem to approach and evaluate brands differently and differ in how they develop relationships to brands. Based on this, it might be expected that compulsive and non-compulsive buyers differ in the degree of love they feel towards brands. The arguments hereafter discussed are structured along the six components of the brand love prototype by Batra et al. (2012) and give reason to believe that compulsive buyers and non-compulsive buyers differ on the brand love components. Appendix B provides a detailed description of the underlying meaning of the (six) first- and the (ten) second-order brand love components.

### *Self-Brand Integration*

Self-brand integration reflects the ability of a brand to provoke frequent thoughts about the brand, the potential to make consumers' life more meaningful, and the degree to which the brand expresses consumers' actual and desired identities (Batra et al., 2012). There is indication that compulsive buyers might struggle to name a favorite brand, engage in brand switching and often try to achieve variety in their purchases (Horváth & Van Birgelen, 2015). These findings suggest that compulsive buyers might be less involved with brands than non-compulsive buyers, which in turn, gives reason to believe that compulsive buyers are less likely than non-compulsive buyers to have frequent thoughts about brands. This gives indication that self-brand integration is less prominent for compulsive buyers than for non-compulsive buyers.

Yet, numerous studies related to self-brand integration show contradicting results. It has repeatedly been found that compulsive buyers use brands to express themselves and enhance aspects of their identity by using the meanings associated with brands (Kukar-Kinney, Ridgway & Monroe, 2012; Strizhakova, Coulter & Price, 2008) and try to reach an "ideal self" when buying something (Kukar-Kinney et al., 2012). Since these findings have been based on large-scale survey-based studies, it can be expected that self-brand integration, as conceptualized by Batra et al. (2012), is more prominent for compulsive buyers than for non-compulsive buyers.

Thus, we propose:

*H1: Self-brand integration is more prominent for compulsive buyers than for non-compulsive buyers*

#### *Passion-Driven Behaviors*

Passion-driven behaviors reflects consumers' passionate desire to use the brand, willingness to invest in resources (e.g. spend time and money on the brand) and the extent to which consumers have been involved in the past or have long histories with the brand (Batra et al., 2012). As stated earlier, there is indication that compulsive buyers engage more in brand switching than non-compulsive buyers (Horváth & Van Birgelen, 2015). This gives reason to believe that compulsive buyers are less likely to involve themselves with one particular brand for a long time, and thus might not build on a long history with one particular brand.

However, when taking consumers' passionate desire, willingness and intentions into account – which is what passion-driven behaviors actually refers to – it is highly likely that passion-driven behaviors is more prominent for compulsive buyers than for non-compulsive buyers. Namely, compulsive buying is found to be inherent to “an uncontrollable drive or desire to obtain, use, or experience a feeling, substance, or activity that leads an individual to repetitively engage in a behavior” (Faber & O’Guinn, 1989, p. 148). Also, it has been found that fantasizing is a prominent characteristic of compulsive buyers (Kyrios, Frost & Steketee, 2004; O’Guinn & Faber, 1989). These findings could imply that compulsive buyers might have a stronger desire than non-compulsive buyers to use brands, invest in resources and involve themselves with brands, but do not always act upon these desires. Thus, we hypothesize:

*H2: Passion-driven behaviors is more prominent for compulsive buyers than for non-compulsive buyers*

#### *Positive Emotional Connection*

Positive emotional connection reflects the ability of the brand to evoke feelings of bonding with a brand or being emotionally attached to it, having a sense of natural fit, and feelings of positive affect (Batra et al., 2012). Compulsive buyers seem to experience a lower degree of brand attachment than non-compulsive buyers (Horváth & Van Birgelen, 2015). Additionally, O’Guinn and Faber (1989) failed to find any relation between compulsive buying behavior

and emotional attachment to objects. Moreover, the study by Horváth and Van Birgelen (2015) revealed that fewer compulsive buyers than non-compulsive buyers indicated that they felt emotionally connected to their favorite brand, due to a fit between the brand and their personal image. The relevance of this result is supported by the finding that an emotional connection is a crucial component for a true connection or bond between the brand and the self (Chaplin & John, 2005; Escalas, 2004). Based on this, it can be expected that compulsive buyers experience a lower degree of positive emotional connection than non-compulsive buyers.

However, when taking the degree of positive affect (i.e. fun, relaxed, pleasurable feelings) into account, there is reason to believe that compulsive buyers might experience a higher degree of positive emotional connection than non-compulsive buyers. In fact, compulsive buyers use shopping to (temporarily) experience positive emotions and thus escape from negative feelings (Rindfleisch et al., 1997; Roberts et al., 2006). Similarly, the study of Horváth and Van Birgelen (2015, p. 4) shows that compulsive buyers describe shopping trips as it makes them feel “intoxicated”, “high” or “out of control.” These prominent characteristics of compulsive buyers imply that positive emotional connection might be more prominent for compulsive buyers than for non-compulsive buyers. Hence, we hypothesize that:

*H3: Positive emotional connection is more prominent for compulsive buyers than for non-compulsive buyers*

#### *Long-Term Relationship*

Long-term relationship reflects consumers’ commitment to use the brand for a long time (Batra et al., 2012). As mentioned before, the indication that compulsive buyers engage more in brand switching than non-compulsive buyers (Horváth & Van Birgelen, 2015) suggests that compulsive buyers are less likely to build on long histories with brands. Because past behavior is often a good predictor of future behavior (Bentler & Speckart, 1981), there is reason to believe that compulsive buyers feel a weaker sense of long-term commitment towards the brand they buy than non-compulsive buyers. So, we propose the following:

*H4: Long-term relationship is less prominent for compulsive buyers than for non-compulsive buyers.*

### *Anticipated Separation Distress*

Anticipated separation distress reflects feelings of anxiety when a brand would go out of existence (Batra et al., 2012). Horváth and Van Birgelen (2015) note that the experience of negative feelings due to the absence of the attachment object is one of the indicators of attachment. In line with this, they find that fewer compulsive buyers than non-compulsive buyers would experience any negative feelings when a brand would be withdrawn from the market. Compulsive buyers would “just find a replacement” (Horváth & Van Birgelen, 2015, p. 12). At the same time, they find indication that compulsive buyers experience a lower degree of brand attachment than non-compulsive buyers (Horváth & Van Birgelen, 2015). This would suggest that compulsive buyers are not likely to feel anxious when a brand would go out of existence. Hence, we hypothesize that:

*H5: Anticipated separation distress is less prominent for compulsive buyers than for non-compulsive buyers*

### *Attitude Valence*

Attitude valence is the degree to which consumers hold positive feelings towards a brand and experience feelings of liking and excitement towards it (Batra et al., 2012). As mentioned before, compulsive buyers find the possession of the brand they buy far less important than the actual shopping process (Dittmar, 2005; Kyrios et al., 2004; Sneath et al., 2009; Valence, d’Astous & Fortier, 1988). These findings imply that compulsive buyers might not reflect on the actual brand as extensively as non-compulsive buyers and thus, develop weaker positive attitudes towards brands than non-compulsive buyers. Consequently, we hypothesize that:

*H6: Attitude valence is less prominent for compulsive buyers than for non-compulsive buyers*

To conclude, brand love might be reflected by different brand love components when comparing compulsive buyers to non-compulsive buyers. It is hereby important to note that some of the findings discussed have been studied in the context of consumers’ favorite brands. The main reason for the choice to use favorite brands in the research design was that favorite brands trigger more pronounced and stronger attitudes than ‘neutral’ brands (Horváth & Van Birgelen, 2015; Lee & Workman, 2015; Rauschnabel & Ahuvia, 2014). Yet, different brands are likely to play different roles for consumers, which has consequences for the generalizability of the findings. Namely, it can be assumed that consumers are more likely to love their favorite brand and are less likely to do so with respect to any other brand. So, to ensure that the findings

on love towards the brands used in this study are generalizable to other brands, we request respondents to reflect on the brand they bought most recently and thereafter, control for the extent to which this brand is their favorite brand. This allows us to take differences into account with respect to the role that particular brands play for consumers, and perhaps even more importantly, it provides more variance in the answers which enables a richer analysis.

### *Overall degree of brand love*

In addition to investigating the differential effects of the brand love components, we will examine differences between compulsive and non-compulsive buyers on the overall brand love score. Several additional arguments suggest that compulsive buyers differ from non-compulsive buyers in the overall degree of love they feel towards brands.

On the one hand, there is reason to believe that compulsive buyers value the emotional and social benefits of products (rather than functional benefits) (Horváth & Van Birgelen, 2015), and therefore experience brand love to a lesser degree than non-compulsive buyers. It can be argued that emotional and social benefits are easy to enjoy, while feelings of love take effort to develop. Based on this, it can be expected that compulsive buyers are less likely to develop brand love in a consumer-brand relationship.

On the other hand, there is indication that compulsive buyers place a higher value on hedonic benefits than non-compulsive buyers, and as a result, experience feelings of brand love to a greater degree than non-compulsive buyers. To begin with, compulsive buyers seem to gain intrinsic value from the act of purchasing (O'Guinn & Faber, 1989), which would suggest that they are more likely than non-compulsive buyers to enjoy hedonic benefits. Horváth and Adıgüzel (2018) offer support by stating that compulsive buying is related to hedonic shopping motivations, such as gratification seeking and idea shopping. Additionally, there is indication that compulsive buyers attach greater importance to symbolic benefits of brands than non-compulsive buyers (Horváth & Van Birgelen, 2015). These characteristics of compulsive buyers are important to take into consideration when looking at the finding of Carroll and Ahuvia (2006) that products perceived as more hedonic (as compared with utilitarian) tend to be more loved. Additionally, they found that consumers' love is greater for brands that provide relatively many symbolic benefits (Carroll & Ahuvia, 2006). Important to note is that Carroll and Ahuvia (2006, p. 82) defined a hedonic product as a "consumer's *perception* of the relative role of hedonic (as compared with utilitarian) benefits offered by products", which stresses the importance of these findings in the context of compulsive buyers even more.

In short, contrasting statements exist on why compulsive buyers differ from non-compulsive buyers on the degree of brand love. Based on the findings that compulsive buyers place a higher value on hedonic benefits than non-compulsive buyers, and products perceived as hedonic tend to be more loved, we propose that the overall feelings of love towards brands are more prominent for compulsive buyers than for non-compulsive buyers. Thus, we hypothesize that:

*H7: Brand love is more prominent for compulsive buyers than for non-compulsive buyers*

### **3. Data collection and Methodology**

To examine the hypotheses empirically, a survey was launched (see Appendix C for the survey in English and Dutch). The data for this study was collected via online surveys in the Netherlands. The sample consists of 794 participations of which 8 were excluded due to participants who did not indicate any brand, participants who indicated multiple brands and participants who forgot the brand they most recently bought. My share of the collected data was 276 respondents. Among the respondents, 19.8% is men, 79.9% is women and .3% indicated “other”. With respect to age, 48.7% is under 24 years old, 22.5% is between the age of 25 and 34, 16% is between the age of 35 and 54 and 12.7% is 55 or older. Among the respondents who were willing to indicate their annual household income (N = 612), 27.6% has an annual household income lower than €10,000, 45.3% has an annual household income between €10,000 and €50,000 and 22.2% has an annual household income above €50,000. A detailed description of the demographics split by compulsive and non-compulsive buyers is presented in the analysis and results section.

In order to achieve the largest possible sample, we have used a combination of convenience sampling and snowball sampling. Respondents were recruited by asking acquaintances to forward the online survey to their contacts. As mentioned before, compulsive buyers are less prevalent in the population than non-compulsive buyers. To enhance the chance of finding compulsive buyers, acquaintances were asked whether they knew someone who liked shopping a little bit too much. When asking acquaintances, we tried to avoid judgmental phrasing. If they knew someone that fitted this description, we sent the survey. Additionally, the survey was spread via online forums on which compulsive buyers might be active (e.g. forums and groups on social media for shopping addiction). Also, we visited shopping centers to distribute the survey to hereby enhance the chance of finding respondents who score relatively high on

compulsive buying behavior. Moreover, an addiction counselor shared the link to the online survey with her clients via the website, the newsletter and the blog about shopping addiction. Although there is considerable disagreement among psychologists about whether or not compulsive buying is an addiction, numerous studies have demonstrated interesting findings about compulsive buying as a form of addiction (Faber & O'Guinn, 1988; Faber, O'Guinn and Krych, 1987). Also, King (1981) defines compulsive consumption as a pathological mania – an addiction. Based on this, it can be expected that people who seek help for their addiction, and therefore approach the website, newsletter or blog about addiction, are more likely to be “compulsive” than normal consumers.

Furthermore, a form of influencer marketing was used to collect respondents. Influencer marketing can be defined as “the identification and use of specific key individuals who hold influence over potential buyers of a brand or product to aid in the marketing activities of the brand” (Evans, Phua, Lim & Jun, 2017, p. 3). Phua, Jin and Kim (2017) showed that social media-based influencer marketing is increasingly being used by brands to engage with consumers. In this study, an online influencer who promotes clothing of several brands on Instagram shared posts including the online survey link and asked her Instagram-followers to fill out the survey. Given the number of likes the posts generally receive, it can be assumed that the followers are interested in clothing, which enhances the chance to find compulsive buyers. After all, compulsive buyers tend to be highly interested in fashion (Park & Burns, 2005).

Respondents received a self-administered online survey in a mobile or desktop version, which was distributed by means of a link to the survey in Qualtrics. The survey was pre-tested by 18 people to check for ambiguities. The structure of the survey is as follows: the survey starts with an introduction which indicated the time it takes to fill out the survey. After this, the commonly used Compulsive Buying Index by Ridgway et al. (2008) was used to identify compulsive buyers. Next, we requested respondents to indicate their last bought brand in the product category clothing. The subsequent questions referred to this brand. Respondents were asked to fill in the 13-item brand love scale, based on the slightly adapted scale of Bagozzi et al. (2017),  $\alpha=.875$ . After this, we measured the degree to which their last bought brand is, in most cases, their first brand choice, and to what degree they can rely on this brand. Next, respondents were asked to indicate their emotions when buying this brand, using three items: guilt, happiness and excitement. Thereafter, participants were asked to what degree they like the experience of shopping clothes. After this, we measured the degree to which respondents feel affection towards their last bought brand, an item borrowed from Bergkvist and

Bech-Larsen (2010). After this, respondents were asked to what extent this brand is their favorite brand, whether they have a lot of favorite clothing brands and how frequent they buy the brand they have indicated earlier.

Respondents were requested to answer all statements on a 7-point rating scale (1 = strongly disagree, 7 = strongly agree), except for the item measuring affection by Bergkvist and Bech-Larsen (2010) which had a 4-point scale (1 = not at all, 4 = extremely). The final part of the survey requested demographic variables, such as gender, age, highest education and household income. After filling out the survey, respondents had the choice to participate in a lottery to win a gift card worth 50 EUR. Important to note is that the survey results have been used for research purposes only. Moreover, confidentiality and anonymity were guaranteed by using an anonymous survey link, which was unable to track identifying information of respondents. Important to note is that the participants were informed about the research goals, participants had the possibility to ask questions about the results of the study and they had the right to withdraw from the research at any time.

The brand love scale was borrowed from Bagozzi et al. (2017). They developed three versions of the brand love scale; these versions include scales with 26, 13 and 6 items. In this study, the 13-item brand love scale was used. Although Bagozzi et al. (2017) argues that the 26-item measure is more appropriate than the 13-item scale due to the amount of variance explained, we decided to use the 26-item brand love scale in order to take the length and duration of the survey into account. Especially in this study it was important to take these aspects into consideration, since the survey was combined with two other master students' surveys. The length and duration of the survey might have had implications for the participation rate of respondents. The benefit of combining the survey was that it resulted in a larger sample size, and in turn, ensured higher confidence in our estimates. Furthermore, we decided not to use the 6-item brand love scale, since the 6-item brand love scale does only include the first-order components of brand love while this study focuses on both the first- and second-order components of brand love.

Table 1 provides an overview of the six brand love components reflected by 13-items. A seventh component in the conceptualization of Batra et al. (2012) was Attitude strength 2. Bagozzi et al. (2017) correctly decided to drop this component from the scale, as it failed to correlate highly with the rest of the scale.

**Table 1. Overview of components and items**

Components	Item
1) Self-Brand Integration	1-4
2) Passion-Driven Behaviors	5-7
3) Positive Emotional Connection	8-10
4) Long-Term Relationship	11
5) Anticipated Separation Distress	12
6) Attitude Valence	13

Note. Adapted from “Brand Love”, Batra, R., Ahuvia, A. C., & Bagozzi, R. P. (2012). *Journal of Marketing*, 76(2), p. 8.

The compulsive buying scale and the brand love scale were originally English. These scales were translated into Dutch and backtranslated into English by two bilingual persons to ensure that meaning of the items remained the same (Brislin, 1986).

We asked respondents to reflect on the brand they bought most recently in the product category clothing. In our view, the product category clothing is most interesting to examine, since the product category clothing is a typical category in which goods are bought compulsively (Dittmar & Drury, 2000). Additionally, there is indication that compulsive buyers most frequently purchase products in the product category clothing (Faber & O’Guinn, 1989). It is therefore likely that this is the product category in which respondents purchased a product most recently. Hence, respondents are more likely to be able to recall their feelings, attitudes and thoughts towards this brand, which reduces bias in respondents’ answers. Also, this probably induces more pronounced feelings, which in turn, might result in larger contrasts between compulsive and non-compulsive buyers’ feelings towards brands.

As mentioned before, besides the compulsive buying scale and brand love scale, respondents were asked some additional questions. To begin with, we used a summatory, single-factor measure of brand love in addition to the multicomponent brand love measure, as it is interesting to examine to what extent these scores differ in measuring differences between compulsive and non-compulsive buyers. In previous research, Batra et al. (2012) used a single-factor brand love measure, using 2 items (e.g. Overall, how much do you love [Brand]?). Yet, as Batra et al. (2012) mentioned, when consumers described their feelings of brand love, they invariably referred to brand love by describing affective elements, rather than referring to a love emotion. So, it seems possible that respondents do not report on loving a brand when asking them directly about brand love. To overcome this, this study uses a distinct measure (i.e. do you feel deep affection, like ‘love’, for *brand x*?) (Bergkvist & Bech-Larsen, 2010). This measure is likely to correspond better with the actual meaning of brand love, as conceptualized

by Batra et al. (2012). Also, this measure is probably more specific in formulation, and therefore clearer for participants to respond to.

The main reason why we asked respondents to indicate the degree to which, in most cases, their last bought brand is their first brand choice, and to what degree they can rely on this brand, is that it provides additional insights into the motivations to buy a specific brand. Moreover, three questions about the emotions that respondents feel when buying their last bought brand were included in the survey, because as mentioned before, actual emotions other than the “love” emotion might be essential for people to determine whether they love a certain brand. Finally, questions about how many favorite clothing brands respondents have in general, and the degree to which they like the experience of shopping clothes enable a richer analysis. These questions allow us to examine clothing brands more generally rather than looking solely at the brand respondents bought most recently.

#### **4. Analysis and Results**

Prior to analyzing the differences between compulsive and non-compulsive buyers on the brand love components, a principal axis factor analysis with oblique rotation was conducted on the 6-item compulsive buying scale of Ridgway et al. (2008). An initial analysis was run to obtain communalities for each item of the scale. All communalities after extraction were at least higher than .528, except for item 1 (.143). In order to decide upon whether item 1 should be removed from the scale, we conducted a reliability analysis. The reliability analysis showed that removing item 1 substantially increased the Cronbach's alpha (i.e.  $\alpha$  from .842 to .859), and therefore, was dropped from the scale. Again, a principal axis factor analysis with oblique rotation was conducted on the remaining 5 items. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis,  $KMO = .800$ , and Bartlett's Test of Sphericity was significant ( $p < .000$ ). Multicollinearity was not a problem, since the determinant of the correlation matrix was .092 (Hair, Black, Babin & Anderson, 2014). All communalities after extraction were at least .499. Consistent with Ridgway et al. (2008), the factor analysis yielded one factor with an eigenvalue over Kaiser's criterion of 1, explaining 63.99% of the variance. The 5-item compulsive buyers scale exhibited high reliability,  $\alpha = .859$ .

After this, we created dummy variables, using the extreme group approach, in which we compared approximately 33% of respondents with lowest compulsive buying scores (i.e. non-compulsive buyers) to 33% of respondents with highest compulsive buying scores

(i.e. compulsive buyers). This approach is commonly used in psychology research to see whether the results on brand love are forcefully different (Preacher, Rucker, MacCallum & Nicewander, 2005).

Based on Ridgway et al. (2008), the compulsive buying scores on the 5 items were averaged to measure the degree of compulsivity of each participant. Thereafter, the sample was split into three groups of approximately equal sizes. The score for the non-compulsive buyers group ranges from 1 to 2.60 ( $M = 1.99$ ,  $SD = .49$ ,  $n = 225$ ) and the score for the high compulsive buyers group ranges from 4.60 to 7 ( $M = 5.25$ ,  $SD = .55$ ,  $n = 216$ ). Respondents who had a moderate score on the compulsive buying scale were dropped from the analyses ( $n = 345$ ). An overview of the demographics, split by compulsive and non-compulsive buyers, can be found in Table 2. Taking a recommended minimum cell size of 7 into account (VanVoorhis & Morgan, 2007), we decided to exclude the answer category “other” from the variable *gender*, since it had only 2 observations in total. Regarding the variable *age*, we decided to recode the variable into four meaningful categories of approximately equal sizes.<sup>1</sup>

**Table 2. Demographics**

	<b>Non-CBers</b>	<b>CBers</b>
<b>Gender</b>	71.9% Female	92.1% Female
	28.1% Male	7.9% Male
<b>Age</b>	33.3% Under 18-24	57.9% Under 18-24
	12.9% 25-34	21.5% 25-34
	25.3% 35-54	16.8% 35-54
	28.4% 55-65 or above	16.3% 55-65 or above
<b>Nationality</b>	97.7% Dutch	95.6% Dutch
	2.3% Other	4.4% Other
<b>Income</b>	25% Below €10.000	12% Below €10.000
	11.6% €10.000 - €20.000	6.7% €10.000 - €20.000
	13.4% €20.000 - €30.000	8% €20.000 - €30.000
	10.6% €30.000 - €40.000	11.6% €30.000 - €40.000
	6.0% €40.000 - €50.000	8.4% €40.000 - €50.000
	12.5% Over €50.000	24.4% Over €50.000
	20.8% I prefer not to say	20.8% I prefer not to say
<b>Sample size</b>	N = 225	N = 216

<sup>1</sup>Also, recoding the variable into four categories enabled us to use *age* as a control variable when comparing severe compulsive buyers to non-compulsive buyers in a subsequent analysis; the category “65 or above” yielded 0 observations in the non-compulsive buyers group.

Additionally, we examined whether the results remained the same if we applied a stricter criterion to identify compulsive buyers. We compared 120 individuals classified as non-compulsive buyers to the 147 individuals classified as severe compulsive buyers. The score for the non-compulsive buyers group ranges from 1 to 2 ( $M = 1.60$ ,  $SD = .33$ ,  $n = 120$ ) and the score for the severe compulsive buyers group ranges from 5 to 7 ( $M = 5.52$ ,  $SD = .46$ ,  $n = 147$ ). Respondents who had a moderate score on the compulsive buying scale were dropped from the analyses ( $n = 519$ ).

After this, skewness and kurtosis statistics were used to test the normality of the data. For all components, the skewness and kurtosis were between -3 and 3, both for the compulsive buyers group and the non-compulsive buyers group, except for component 12 (i.e. item 12). Item 12 was transformed using the inverse method, yielding a normal distribution for the whole sample, and was reversed thereafter in order to be able to interpret the order of the scores correctly.<sup>2</sup> Thereafter, a principal axis factor analysis with oblique rotation was conducted to find the structure underlying the 13 items of the brand love scale. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis,  $KMO = .91$ , and Bartlett's Test of Sphericity was significant ( $p < .000$ ). Multicollinearity was not a problem, since the determinant of the correlation matrix was  $.005$  (Hair et al., 2014). An initial analysis was run to obtain eigenvalues for each factor in the data. The communalities after extraction were  $.357$  or higher. Three factors had eigenvalues over Kaiser's criterion of 1, and in combination explained 62.43% of the variance. However, several substantial cross-loadings prevented meaningful interpretation. The model was examined on the data of compulsive buyers and non-compulsive buyers separately, which led to the same conclusion. Based on this, we argue that the brand love structure as proposed by Bagozzi et al. (2017) does not hold.

Thereafter, we conducted another factor analysis with a fixed number of six factors. The Kaiser-Meyer-Olkin measure was  $.91$ , and Bartlett's Test of Sphericity was significant ( $p < .000$ ). The communalities after extraction were  $.397$  or higher. The six factors in combination explained 76.98% of the variance (Hair et al., 2014), yet the remaining three factors had considerably low eigenvalues; factor 6 had an eigenvalue of  $.548$ . So, the analysis reveals that the 13 brand love items are closely related and are not mutually exclusive. This, in turn, implies that the factor analysis does not yield distinct subscales as proposed by Bagozzi et al. (2017). Despite the fact that the data does not fit the brand love construct, we decided

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<sup>2</sup> In order to be able to compare the items and components in subsequent analyses, we standardized all items.

to use the model as hypothesized in order to be able to give in-depth insight into the components of brand love.

In line with the findings of the factor analysis, the reliability analysis shows that the internal consistency of the subscales was rather low. Cronbach's alpha for the three subscales were .729 for self-brand integration, .660 for passion-driven behaviors, and .683 for positive emotional connection. Yet, the overall brand love scale exhibited high reliability,  $\alpha=.875$ . The values of the corrected item-total correlations are all above .3, and the reliability of the scales could not be improved by deleting items. After the factor analyses, standardized factor scores were computed for component 1, 2 and 3 and the overall brand love measure using the regression method.

Independent-samples t-test and ANCOVA were used to test hypothesis 1-7. In ANCOVA, we controlled for *gender*, *age* and the degree to which the indicated brand was a consumers' favorite brand (hereafter referred to as *favorite brand*).

In order to conduct ANCOVA, five assumptions were checked. The first assumption is the normality of sampling distribution of means (Hair et al., 2014). To repeat, based on skewness and kurtosis statistics, we conclude that the data was normally distributed. Also, we find no outliers or extreme cases that could bias the parameter estimate or errors associated with that estimate. Given the large sample size ( $N = 786$ ), we can assume that the sampling distribution is normal.

The second assumption refers to homogeneity of variance, which was assessed by means of the Levene's test of Equality of Error Variances (Hair et al., 2014). The Levene's tests of Equality of Error Variances show that for components 3, 4 and 6 the variances were equal, while for components 1, 2, and 5 and the overall brand love measure, the variances were unequal. Consequently, for these latter components and the overall brand love measure, estimates of the standard error of the parameter may be biased (Hayes & Cai, 2007). Yet, the violation of the Levene's tests should be interpreted cautiously. First of all, due to our large sample size ( $N = 786$ ), Levene's test can be significant even when group variances are not very different (Hair et al., 2014). Furthermore, in a situation when there are equal group sizes, a violation of the assumption does not matter that much as when there are unequal group sizes (Hair et al., 2014). In this study, we have fairly equal group sizes: 216 compulsive buyers and 225 non-compulsive buyers. However, Field (2013) correctly argues that it is homogeneity of residuals that actually matters, since ANOVA is a linear model. Based on the findings, robust standard errors should therefore be used to compute test statistics for components 1, 2, 5 and

the overall brand love measure (Field & Wilcox, 2017). As shown in Appendix D, the parameter estimates with robust standard errors yielded substantially different results compared to when the parameter estimates were not corrected for differences in variance. For reasons of consistency, the parameter estimates with robust standard errors were used for all components and the overall brand love measure to assess the differences between compulsive and non-compulsive buyers. The parameters with robust standard errors were computed using the default option HC3. Long and Ervin (2000) found that HC3 is superior over the alternative estimators.

The third assumption is the significance of the correlation between the covariate and the dependent variable (Hair et al., 2014). The correlations between the covariate *favorite brand* and the dependent variables (brand love components and overall brand love measure) were significant (Pearson correlations:  $p = .000$ ).

The fourth assumption refers to the independence of the covariate and the independent variable (Hair et al., 2014). We find independence of the covariate *favorite brand* and the independent variable (dummy variable: non-compulsive buyers=0, compulsive buyers=1) ( $F = 2.534$ ,  $p = .112$ ).

The fifth assumption is the homogeneity of regression slopes (Hair et al., 2014). We find homogeneity of regression slopes for all components and the overall brand love measure, except for passion-driven behaviors. The interaction effect of the independent variable and the covariate was significant ( $F = 4.235$ ,  $p = .040$ ), which implies that the relationship between the passion-driven behaviors and the covariate differs in the compulsive group and non-compulsive buyers group. This suggests heterogeneity of regression slopes. The regression slope was substantially higher for compulsive buyers ( $B = .235$ ) than for non-compulsive buyers ( $B = .149$ ). So, regarding passion-driven behaviors, we are not allowed to include the covariate in ANCOVA. Therefore, we decided to conduct ANOVA for passion-driven behaviors in which the covariate *favorite brand* was recoded into 3 categories (1 t/m 3 = category 1, 4 = category 2, 5 t/m 7 = category 3), and used this variable as a fixed factor in the analysis.

The results reveal that compulsive buyers and non-compulsive buyers differ significantly on brand love. Yet, brand love seems to be reflected by different brand love components when comparing compulsive buyers to non-compulsive buyers.

**Table 3. Differences on brand love components: compulsive versus non-compulsive buyers**

	Mean scores (std) <sup>1</sup>		Independent t-samples t-test <sup>2</sup>	Estimated marginal means		t-test ANCOVA (parameter estimates with robust standard errors) <sup>4</sup>
	Non-CBers	CBers		Non-CBers vs. CBers	Non- CBers	
<b>1. Self-brand integration</b>	-.260 (.823)	<b>.290</b> <b>(.862)</b>	t(439)= -6.853, p=.000	-.199	<b>.216</b>	B= -.903, t= -2.060, p=.020
<b>2. Passion-driven behaviors<sup>4</sup></b>	-.346 (.706)	<b>.381</b> <b>(.861)</b>	t(415.827)= -9.677, p=.000	-.324	<b>.304</b>	B= -1.476, t= -4.287, p=.000
<b>3. Positive emotional connection</b>	-.288 (.904)	<b>.291</b> <b>(.915)</b>	t(439)= -6.679, p=.000	-.199	<b>.116</b>	B= -.816, t= -3.202, p=.001
<b>4. Long-term relationship</b>	-.102 (1.04)	<b>.183</b> <b>(.998)</b>	t(439)= -2.942, p=.002	-.044	<b>.050</b>	B= -.209, t= -.557, p=.289
<b>5. Anticipated separation distress</b>	-.247 (0.783)	<b>.217</b> <b>(1.122)</b>	t(382.678)= -5.020, p=.000	-.168	<b>.137</b>	B = -.810, t= -1.565, p=.059
<b>6. Attitude valence</b>	-.110 (1.065)	<b>.197</b> <b>(.957)</b>	t(439)= -3.183, p=.001	-.035	<b>.176</b>	B= -.230, t= -.584, p=.280

<sup>1</sup>: Standardized values due to calculation of factor scores.

<sup>2</sup>: Test with unequal variances was applied when Levene's test failed to accept hypothesis for equal variances.

<sup>3</sup>: *Gender, age and favorite brand* included for ANCOVA.

<sup>4</sup>: For ANCOVA, *favorite brand* recoded into categorical variable and included as fixed factor due to violation homogeneity of regression slopes

The results of the independent-samples t-test in Table 3 indicate that compulsive buyers score significantly higher on self-brand integration ( $M_C = .290$ ,  $M_{nc} = -.260$ ,  $t\text{-value} = -6.853^{***3}$ ), passion-driven behaviors ( $M_C^4 = .381$ ,  $M_{nc} = -.346$ ,  $t\text{-value} = -9.677^{***}$ ) and positive emotional connection ( $M_C = .291$ ,  $M_{nc} = -.288$ ,  $t\text{-value} = -6.679^{***}$ ) than non-compulsive buyers. The results of ANCOVA in Table 3 indicate consistent findings with respect to self-brand integration and positive emotional connection. Namely, we find that

<sup>3</sup>  $M_C$  and  $M_{NC}$  refer to the unstandardized mean score of C=compulsive buyers and NC=non-compulsive buyers;  $EMM_C$  and  $EMM_{NC}$  refer to the estimated marginal mean score with gender, age and favorite brand included in ANCOVA.

<sup>4</sup> \*\*\* significant at  $\alpha=.001$ , \*\*, significant at  $\alpha=.01$  and \*: significant at  $\alpha=.05$ .

compulsive buyers score significantly higher on self-brand integration ( $EMM_C = .216$ ,  $EMM_{NC} = -.199$ ,  $t\text{-value} = -2.060^*$ ,  $B = -.903$ ) than non-compulsive buyers when controlling for gender, age and favorite brand, supporting H1. Similarly, we find that compulsive buyers score significantly higher on passion-driven behaviors ( $EMM_C = .304$ ,  $EMM_{NC} = -.324$ ,  $t\text{-value} = -4.287^{***}$ ,  $B = -1.476$ ) and positive emotional connection ( $EMM_C = .116$ ,  $EMM_{NC} = -.199$ ,  $t\text{-value} = -3.202^{**}$ ,  $B = .816$ ) when controlling for gender, age and favorite brand, supporting H2 and H3.

The findings with respect to long-term relationship, anticipated separation distress and attitude valence are rather surprising. Although the results of the independent-samples t-test demonstrate that compulsive buyers score significantly higher on long-term relationship ( $M_C = .183$ ,  $M_{NC} = -.102$ ,  $t\text{-value} = -2.942^{**}$ ), anticipated separation distress ( $M_C = .217$ ,  $M_{NC} = -.247$ ,  $t\text{-value} = -5.020^{***}$ ), and attitude valence ( $M_C = .197$ ,  $M_{NC} = -.110$ ,  $t\text{-value} = -3.183^{**}$ ) than non-compulsive buyers, the results of ANCOVA lead to different conclusions. Remarkably, we find no significant difference on long-term relationship ( $EMM_C = .050$ ,  $EMM_{NC} = -.044$ ,  $t\text{-value} = -.557^{ns}$ ,  $B = -.209$ ) once controlled for gender, age and favorite brand. Based on this, we reject H4. Similarly, the significant effect disappears regarding anticipated separation distress. ( $EMM_C = .137$ ,  $EMM_{NC} = -.168$ ,  $t\text{-value} = -1.565^{ns}$ ;  $B = -.810$ ) and attitude valence ( $EMM_C = .176$ ,  $EMM_{NC} = -.035$ ,  $t = -.584^{ns}$ ;  $B = -.230$ ) when controlling for gender, age and favorite brand. Based on these findings, we conclude that H5 and H6 cannot be supported. Nevertheless, the directions of the differences remain the same: compulsive buyers score higher than non-compulsive buyers on all components of brand love.<sup>5</sup>

When looking more closely at the second-order components of brand love, we find that compulsive buyers score significantly higher on all items (see results in Appendix D). However, once controlled for gender, age and favorite brand, the effect disappears for Life meaning and intrinsic rewards and Attitude strength 1 (second-order components of self-brand integration) and Positive affect (second-order component of positive emotional connection).

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<sup>5</sup> Univariate regression analyses shows that a positive linear relationship exists between compulsive buying tendencies and 1) self-brand integration (Adjusted  $R^2 = .262$ ;  $t = 6.592^{***}$ ); 2) passion-driven behaviors (Adjusted  $R^2 = .338$ ;  $t = 9.640^{***}$ ); 3) positive emotional connection (Adjusted  $R^2 = .285$ ;  $t = 5.142^{***}$ ); 4) long-term relationship (Adjusted  $R^2 = .219$ ;  $t = 2.093^*$ ); 5) anticipated separation distress (Adjusted  $R^2 = .090$ ;  $t = 4.278^{***}$ ); 6) attitude valence (Adjusted  $R^2 = .167$ ;  $t = 2.866^{**}$ ) and brand love overall (Adjusted  $R^2 = .408$ ;  $t = 8.602^{***}$ ), controlling for *gender (dummy)*, *age (dummies)* and *favorite brand*. Polynomial terms have been included in the model and indicated no quadratic or cubic relationships.

Overall, the results of the independent-samples t-test (see results in Table 4) reveal that compulsive buyers score significantly higher on the multicomponent brand love measure compared to non-compulsive buyers ( $M_C = .397, M_{NC} = -.364, t\text{-value} = -8.960^{***}$ ). The results of ANCOVA in Table 4 demonstrate that even when controlling for gender, age and favorite brand, the difference between compulsive buyers and non-compulsive buyers remains significant ( $EMM_C = .292, EMM_{NC} = -.273, t\text{-value} = -2.902^{**}, B = -1.090$ ), supporting H7. Surprisingly, it appears that compulsive and non-compulsive buyers do not differ significantly on the summatory, single-factor measure of brand love ( $M_C = .165, M_{NC} = -.003, t\text{-value} = -1.625^{ns}; EMM_C = .130, EMM_{NC} = -.010, t\text{-value} = -.819^{ns}, B = -.526$ ). Yet, important to note is that the multicomponent brand love measure still correlates weakly with the summatory, single-factor measure of brand love ( $r = .349, p = .000$ ).

Additionally, an analysis was conducted in which we applied a stricter criterion to identify compulsive buyers (see results in Appendix D). In this analysis, we compared severe compulsive buyers to non-compulsive buyers. We found that the results of the analyses are in line with the results in Table 1. The only difference was that self-brand integration was not significantly different, while we find a significant difference in our original analysis.

**Table 4. Brand love: compulsive versus non-compulsive buyers**

	Mean scores (std) <sup>1</sup>		Independent-samples t-test <sup>2</sup>	Estimated marginal means		t-test ANCOVA (parameter estimates with robust standard errors) <sup>3</sup>
	Non-CBers	CBers		Non-CBers vs. CBers	Non-CBers	
<b>Brand love (multicomponent)</b>	-.364 (.837)	<b>.397</b> <b>(.947)</b>	t(439) = -8.960, p = .000	-.273	<b>.292</b>	B = -1.090, t = -2.902, p = .002
<b>Brand love (single item)</b>	-.003 (1.112)	<b>.165</b> <b>(1.057)</b>	t(439) = -1.625, p = .052	-.010	<b>.130</b>	B = -.526, t = -.819, p = .207

<sup>1</sup>: Standardized values due to calculation of factor scores.

<sup>2</sup>: Test with unequal variances was applied when Levene's test failed to accept hypothesis for equal variances.

<sup>3</sup>: *Gender, age and favorite brand* included for ANCOVA.

When looking more closely at a comparison of the results of the independent-samples t-test with the F-test of ANCOVA, we find that the disappearance of the significant effects for long-term relationship ( $t\text{-value} = -2.942^{**}; F = .218^{ns}$ ) and attitude valence ( $t\text{-value} = -3.183^{**};$

$F=2.341^{ns}$ ) may be due to the fact that compulsivity and gender, and compulsivity and age are highly interrelated. Namely, our findings demonstrate that compulsive buying and gender are highly correlated ( $\chi^2 = 30.326, p < .000$ ); in the compulsive buyers group, females are overrepresented whereas in the non-compulsive buyers group, males are overrepresented. Similarly, we found that compulsive buying and age are correlated ( $\chi^2 = 91.942, p < .000$ ); in the compulsive buyers group, people are substantially younger than the people in the non-compulsive buyers group (see the results in Appendix D). These findings indicate that the differences between compulsive buyers and non-compulsive buyers regarding long-term relationship, anticipated separation distress and attitude valence are being explained by age and gender, and thus cannot be explained by compulsivity.<sup>6</sup> Noteworthy is that these proportions are consistent with previous findings that women score higher on compulsive buying tendencies than men (Dittmar, 2004); 80-95% of compulsive buyers have been found to be women (Black, 2007). These proportions are also in line with the finding that age and compulsive buying correlate negatively (Dittmar, 2005; Koran et al., 2006; O'Guinn & Faber, 1989; Roberts, 1998).

Additionally, the relative importance of the dimensions within the compulsive buyers and non-compulsive buyers group was assessed. As shown in Table 1, we find that within the compulsive buyers group, passion-driven behaviors, positive emotional connection and self-brand integration appear to have the highest scores, while anticipated separation distress, attitude valence and long-term relationship have the lowest scores. Remarkably, we find that for non-compulsive buyers, the results are exactly the opposite; non-compulsive buyers score highest on long-term relationship, attitude valence and anticipated separation distress, while they score lowest on self-brand integration, positive emotional connection and passion-driven behaviors. Furthermore, the results of the paired samples t-test (see results in Appendix D) indicate that within the compulsive buyers group, the divergence of the scores on the components is greater than in the non-compulsive buyers group.

Although it is not the primary focus of this study, it is in light of previous research interesting to examine some additional variables related to compulsive buying behavior.<sup>7</sup> We

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<sup>6</sup> The effects with respect to long-term relationship, anticipated separation distress and attitude valence remain significant when excluding *gender* and *age*, and including only the covariate *favorite brand*, which offers additional support for the fact that the differences on these components are explained by *gender* and *age*.

<sup>7</sup> Since the Levene's tests shows that for some of these variables variances were unequal, we decided to interpret parameter estimates with robust standard errors (similar to our main analysis). For reasons of consistency, we used robust standard errors to assess the differences between compulsive and non-compulsive buyers on all additional variables.

conducted ANCOVA including gender, age and favorite brand. Firstly, the results of ANCOVA reveal that compulsive buyers score significantly higher than non-compulsive buyers on the extent to which they like the experience of shopping clothes ( $EMM_C^8=6.067$ ,  $EMM_{NC}=4.322$ ,  $t\text{-value}=-4.958^{***}$ ,  $B=-1.698$ ) and the extent to which they have a lot of favorite clothing brands ( $EMM_C=4.967$ ,  $EMM_{NC}=3.684$ ,  $t\text{-value}=-4.399^{***}$ ,  $B=-1.831$ ).

Secondly, we assessed differences with respect to compulsive and non-compulsive buyers' emotions when they buy brands. We find that compulsive buyers score significantly higher than non-compulsive buyers on the extent to which they feel happiness ( $EMM_C=4.716$ ,  $EMM_{NC}=3.731$ ,  $t\text{-value}=-2.035^*$ ,  $B=-1.014$ ) and excitement ( $EMM_C=5.026$ ,  $EMM_{NC}=4.048$ ,  $t\text{-value}=-3.366^{***}$ ,  $B=-1.513$ ). Surprisingly, we find that the result regarding excitement holds when we additionally control for the extent to which consumers like the experience of shopping ( $EMM_C=4.792$ ,  $EMM_{NC}=4.363$ ,  $t\text{-value}=-1.992^{**}$ ,  $B=-.979$ ). Further, we find no significant differences between compulsive and non-compulsive buyers regarding feelings of guilt ( $EMM_C=1.997$ ,  $EMM_{NC}=1.466$ ,  $t\text{-value}=-.1406^{ns}$ ,  $B=-.468$ ).

Finally, we find no significant differences between compulsive and non-compulsive buyers on the extent to which they indicate that the brand is their first choice ( $EMM_C=3.693$ ,  $EMM_{NC}=3.780$ ,  $t\text{-value}=-.303^{ns}$ ,  $B=-.128$ ), the degree to which they rely on the brand ( $EMM_C=4.085$ ,  $EMM_{NC}=3.909$ ,  $t\text{-value}=-.1630^{ns}$ ,  $B=-.642$ ) and the frequency of buying the brand ( $\chi^2 = 11.674$ ,  $p=.070$ ).

## 5. Conclusion

Our results reveal that self-brand integration, passion-driven behaviors and positive emotional connection are more prominent for compulsive buyers than for non-compulsive buyers. Further, contrary to our expectations, initial analysis indicated that long-term relationship, anticipated separation distress and attitude valence were more prominent for compulsive buyers than for non-compulsive buyers. Yet, the significance disappeared once controlled for gender, age and the degree to which the brand is one's favorite. Based on this, we conclude that compulsive and non-compulsive buyers do not differ regarding long-term relationship, anticipated separation distress and attitude valence. Further, we found that the overall degree of brand love is more prominent for compulsive buyers than for non-compulsive buyers. Remarkably, although

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<sup>8</sup>  $EMM_C$  and  $EMM_{NC}$  refer to the estimated marginal mean score of C=compulsive buyers and NC=non-compulsive buyers with gender, age and favorite brand as covariates

findings indicate that compulsive buyers score higher on the summatory, single-factor measure of brand love than non-compulsive buyers, it did not yield significant results. Finally, we found that within the compulsive buyers group, the divergence of the scores on the components is greater than in the non-compulsive buyers group.

## **6. Discussion**

It is clear that brands are valuable assets for firms, and that consumers' love towards brands has become inevitable in reaching desirable marketing outcomes, but less is known about how brand love can be developed regarding two different consumer groups: compulsive versus non-compulsive buyers. In this study, we provide evidence that compulsive and non-compulsive buyers differ on the degree of love they feel towards brands. Perhaps even more importantly, it is demonstrated that brand love is reflected by different brand love components when comparing compulsive buyers to non-compulsive buyers.

With regard to self-brand integration, the results indicate that compulsive buyers score higher on the degree to which they use brands to express their actual and desired identities than non-compulsive buyers. These results are in line with previous findings that compulsive buyers use brands enhance to aspects of their identity (Kukar-Kinney et al., 2012; Strizhakova et al., 2008) and try to reach an "ideal self" when buying something (Kukar-Kinney et al., 2012).

Further, we find that when comparing the brand love components, passion-driven behaviors proved to be the most prominent factor for compulsive buyers in order to develop love towards brands. At the same time, passion-driven behaviors seems to be least important for non-compulsive buyers regarding the development of brand love. When looking more in-depth into the meaning of passion-driven behaviors, we find that compulsive buyers experience feelings of desire to use brands to a greater extent than non-compulsive buyers. These results support the finding of Faber and O'Guinn (1989, p. 148) that compulsive buying is inherent to an "uncontrollable drive or desire to obtain, use, or experience a feeling, substance, or activity". Our study extends adds to the literature by demonstrating that compulsive buyers experience passionate feelings of desire with respect to brands, and perhaps even more surprisingly, that these results also apply for brands that are not necessarily their favorite. Furthermore, we found that when we control for the extent to which someone likes the experience of shopping clothes, the results hold. This discovery contrasts findings of previous studies that the shopping process is far more important to compulsive buyers than the possession of the brand (Valence et al., 1988; Dittmar, 2005; Kyrios et al., 2004; Sneath et al., 2009). Apparently, although it may still

be that the shopping process is crucial for compulsive buyers to (temporarily) escape from negative feelings (Rindfleisch et al., 1997; Roberts et al., 2006), it might not necessarily be the experience of shopping that induces feelings of love towards brands; it could be the actual brand that matters.

Consistent with our theorizing, we find that positive emotional connection is more prominent for compulsive buyers than for non-compulsive buyers. However, looking more closely at the component positive emotional connection, we find one unexpected result: we find that compulsive buyers feel more emotionally attached to brands than non-compulsive buyers. This result may be explained by findings of previous research suggesting that a congruence between the actual and ideal self and the brand is an important factor for consumers to develop feelings of attachment to brands (Fournier, 1998; Kleine, Kleine & Allen, 1995; Malär, Krohmer, Hoyer & Nyffenegger, 2011; Park, MacInnis & Priester, 2006; Whang, Allen, Sahoury & Zhang, 2004).<sup>9</sup> To repeat, we found that compulsive buyers score higher on current and desired self-identity than non-compulsive buyers.

Moreover, we find that compulsive and non-compulsive buyers do not differ on positive affect. Initially, this result seems to be in contrast to the finding that compulsive buyers feel more excited than non-compulsive buyers when buying brands. However, there could be an interesting explanation for this contrasting result. To make things clear, positive affect is measured as “I feel that *brand x* is fun” (Bagozzi et al., 2017) and was not significant when comparing compulsive and non-compulsive buyers, while a fairly similar question regarding excitement, measured as “I feel excitement when I buy *brand x*”, turned out to be significant. Based on the wording of the questions, this could give reason to believe that compulsive buyers actually like the experience of shopping clothes rather than the brand they buy. However, the fact that when we control for the extent to which consumers like the experience of shopping, compulsive buyers still score higher than non-compulsive buyers on “I feel excitement when I buy *brand x*” gives indication that for compulsive buyers, it might not necessarily be the experience of shopping that induces feelings of love towards brands; it could be that for them, it is the actual brand that matters to develop love towards brands.

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<sup>9</sup> We selected the compulsive buyers group and conducted regression analysis to assess the relationship between current self-identity and desired self-identity as independent variables and emotional attachment as dependent variable. Although we found that the F-test was significant ( $F(2)=15.510$ ,  $p=.000$ ) and changes in the predictors' values ( $p < .05$ ) were related to changes in the dependent variable, the explained variance was only 12.7% (R Square = .127).

Findings further indicate that compulsive and non-compulsive buyers do not differ on their feelings of commitment to a long-term relationship with brands. We find that for compulsive buyers, the degree of long-term relationship actually appears to be the least prominent component of brand love. Contrary to our expectations, although the result is not significant, we still find that compulsive buyers score slightly higher than non-compulsive buyers on feelings of commitment towards a long-term relationship. These results may be explained by our finding that emotional attachment is more prominent for compulsive buyers than for non-compulsive buyer. Namely, Johnson and Rusbult (1989) and Miller (1997) found that in general, people who feel strongly attached to an object are committed to preserving their relationship with it. However, an unanswered question remains: what is the explanation for the finding that the effect is not significant? This may be due to a factor that suppresses the magnitude of the difference between compulsive and non-compulsive buyers. Previous research shows that compulsive buying behavior is related to narcissism (Rose, 2007; Kim, Namkoong, Ku & Kim, 2008). People with characteristics of narcissism seem to have the perception that alternatives outside their own relationships are more engaging (Foster, Shrira & Campbell, 2006), which implies that compulsive buyers might therefore be less committed to maintain their relationship.

Further, findings indicate that compulsive and non-compulsive buyers do not differ on feelings of anticipated separation distress. Although there is not a significant effect, the results show that compulsive buyers score slightly higher than non-compulsive buyers on anticipated separation distress. This surprising result may be explained by Bowlby's (1979) finding that people who feel strongly attached to an object often also experience separation distress. The fact that the difference is not significant, may be explained by theories on self-worth match and possession-self link (Ferraro, Escalas & Bettman, 2010). The study of Ferraro et al. (2010) builds on the brand attachment literature and proposes that when a possession reflects values that are central to consumers' self-concept, thereby bolstering self-worth, consumers link the possession to the self. Additionally, they found that a strong link between the possession and the self leads to greater separation distress (Ferraro et al., 2010). The finding that compulsive buyers often suffer from low self-esteem (Ertelt et al., 2009; Kyrios et al., 2004) and lack clear identity (O'Guinn & Faber, 1989) may indicate that compulsive buyers have difficulty finding values that reflect important self-worth domains. This would imply that compulsive buyers are less able than non-compulsive buyers to link the possession to the self, and consequently, do

not experience significantly higher levels of anticipated separation distress compared to non-compulsive buyers.

Furthermore, in contrast to our theorizing, we find that compulsive and non-compulsive buyers do not differ on the degree to which they hold positive feelings towards brands. This finding is especially surprising given that consumers who feel emotionally attached to brands probably have favorable attitudes towards it (Thomson et al., 2005). Again, this result might be explained by the findings that compulsive buyers often have low self-esteem (Ertelt et al., 2009; Kyrios et al., 2004) and do not have a clear identity (O'Guinn & Faber, 1989). If compulsive buyers have difficulty finding values that are important to them, they might develop weaker (positive) attitudes towards brands than non-compulsive buyers.

As hypothesized, the overall degree of brand love is more prominent for compulsive buyers than for non-compulsive buyers. Important to note, however, is that compulsive and non-compulsive buyers do not differ on the summatory, single-factor measure of brand love. This implies that the single-factor measure of brand love does not adequately reflect the multicomponent brand love measure. Further, although Richins (1997) argues that the love emotion is a feeling akin to affection, and love is often described as the “degree of affect associated with the brand attitude” (Fournier, 1998, p. 367), brand love cannot be measured by asking respondents directly about their feelings of affection towards brands. This is even more surprising given the finding of Batra et al. (2012) that consumers describe their feelings of brand love by referring to affective elements, rather than referring to “love”. So, in order for researchers and managers to learn how consumers develop feelings of love towards brands, we recommend to use a multi-component higher-order construct as opposed to a summatory overall brand love measure. Yet, if researchers prefer to use a single-factor measure of brand love, we recommend the measure used by Batra et al. (2012, p. 9) (i.e. “Describe the extent to which you feel love toward [Brand]”) rather than our summatory brand love measure, since we find only weak correlations between our summatory and multicomponent brand love measure. Perhaps even more importantly, these measures led to different results when comparing the two consumer groups.

### *Managerial implications*

The results of this study reveal several interesting insights on how managers can optimize compulsive and non-compulsive buyers' feelings of love towards brand. These insights reveal that six brand love components have a situationally varying impact on overall feelings of brand

love for compulsive and non-compulsive buyers. Therefore, segmentation strategies on these two consumer groups are essential. Specifically, managers should use different pathways in order to increase compulsive and non-compulsive buyers' love towards brands. Likewise, these insights help managers to spot factors that could suppress consumers' overall feelings of brand love.

For compulsive buyers to develop feelings of brand love, passion-driven behaviors, self-brand integration and positive emotional connection seems to be most important. Although non-compulsive buyers are less likely than compulsive buyers to develop love towards brands, non-compulsive buyers' overall degree of brand love can best be enhanced by increasing their commitment to a consumer-brand relationship as well as their attitude towards brands and feelings of anticipated separation distress. That is not to say that compulsive buyers' love towards brands cannot be increased by the latter three brand love components.

Although these findings might trigger firms to focus their marketing strategies on compulsive buyers in order to increase profits, insights with respect to compulsive buying should be used wisely and firms should act responsibly towards society. To begin with, the characteristics of our postmodern consumer society may pose some serious risks for consumers. The shift from shopping in order to satisfy psychical needs towards purchasing goods to express one's identity (Dittmar & Beattie, 1998) and regulate emotions (Elliot, 1994) might contribute to psychological and financial problems of consumers. Especially compulsive buyers with a lack of self-control are vulnerable for the type of socially approved consumer behavior that signifies our society today. Therefore, firms should act responsibly and make sure that their marketing activities do not contribute to the psychological and financial problems of compulsive buyers, such as concerns about credit abuse and financial debt (Schlosser, Black, Repertinger & Freet, 1994).

Furthermore, firms should understand that focusing their efforts on compulsive buyers might not always be advantageous for them in terms of profitability. Although our findings indicate that compulsive buyers feel more committed towards a long-term relationship with brands than non-compulsive buyers, it does not mean that they actually will act on it and will be loyal to brands. There is indication that a customer base with a lot of compulsive buyers is unstable (Horváth & Adıgüzel, 2018), which in turn, can have a negative effect on the firm's profitability on the long term.

### *Limitations and directions for future research*

Future research should reexamine the underlying structure of the brand love construct for compulsive and non-compulsive buyers separately, and in turn, investigate the causal relationships between the brand love components. To begin with, we found that the data on compulsive and non-compulsive buyers do not fit the brand love construct as proposed by Bagozzi et al. (2017). Specifically, future research should reexamine the underlying brand love structure using path analysis in order to assess the causal relations between brand love components. Important to note is that the richness of the brand love components may be enhanced by using Bagozzi et al.'s (2017) 26-item brand love scale rather than the 13-item brand love measure. Overall, in-depth insight into the underlying structure of the complex brand love construct and an understanding of the causal relations between the brand love components will help managers to learn via which pathways feelings of love towards brands can be increased for compulsive and non-compulsive buyers.

In the discussion, we related the findings of our study to the literature that gave indication that there might be causal relations between the brand love components. Here, we propose some causal relationships to be investigated.

Future research should investigate whether compulsive buyers' feelings of emotional attachment precede commitment to a long-term relationship, anticipated separation distress and attitude valence. There is indication that our findings on emotional attachment are intertwined in the results on brand love. Firstly, the result that emotional attachment is more prominent for compulsive buyers than for non-compulsive buyers is on itself a surprising result. As mentioned before, previous studies by Horváth and Van Birgelen (2015) and O'Guinn and Faber (1989) show contrasting findings. Secondly, the directions and the significance of the effects on long-term relationship, anticipated separation distress and attitude valence were in contrast to what we expected. Yet, there seems to be a lack of explanation for these effects. We propose that there might be a causal relation between emotional attachment and 1) long-term relationship, 2) anticipated separation distress and 3) attitude valence.<sup>10</sup> As indicated earlier, previous research indicates that consumers who feel emotional attachment are committed to preserving their relationship (Johnson & Rusbult, 1989; Miller, 1997), experience separation distress (Bowlby, 1979) and have favorable attitudes towards it (Thomson et al., 2005).

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<sup>10</sup> Bivariate analyses reveal significant positive correlations between emotional attachment and long-term relationship (Pearson=.208, p=.000); emotional attachment and anticipated separation distress (Pearson=.526, p=.000); emotional attachment and attitude valence (Pearson=.342, p=.000). Yet, we do not have the data to investigate a causal relation.

Although these findings might explain our unexpected results on long-term relationship, anticipated separation distress and attitude valence, it remains unclear why compulsive buyers score higher on brand attachment than non-compulsive buyers. Given our research design, an interesting question for future research would be whether the time between buying the brand and the moment on which consumers reflect on the brand plays a confounding role in the relationship between compulsive buying behavior and emotional attachment. A crucial difference between our research design and the research designs of Horváth and Van Birgelen (2015) and O'Guinn and Faber (1989) is that we asked respondents to reflect on the brand they bought most recently. Although one could say that this is quite similar to the research design of Horváth and Van Birgelen (2015) who investigated consumers' favorite brand, we argue that it is not necessarily true that a consumers' favorite brand is also the brand that they bought most recently. Initially, this explanation seems unlikely, since previous research has shown that in general, attachment between consumers and objects develops over time (Baldwin, Keelan, Fehr, Enns & Koh-Rangarajoo, 1996). Nevertheless, given our research design, there is reason to believe that the finding of Baldwin et al. (1996) does not hold in the context of compulsive buyers. Specifically, this would imply that when compulsive buyers reflect on brands that they have bought relatively recently, they feel more attached than if they would have reflected on this brand a few months or years later. Future research can examine the mediating role of time relatively simple by including a variable that assesses how long ago it has been since participants bought the brand, and thereafter, examine the confounding role of this variable in the relationship between compulsive buying behavior and emotional attachment.

Future research should examine whether it is the actual brand or the shopping process that induces feelings of love towards brands. Previous research shows that for compulsive buyers, the shopping process is far more important than the possession of the actual brand (Valence et al., 1988; Dittmar, 2005; Kyrios et al., 2004; Sneath et al., 2009). Yet, we propose that although the shopping process might be crucial for compulsive buyers to (temporarily) escape from negative feelings (Rindfleisch et al., 1997; Roberts et al., 2006), it might be the actual brand that is accountable for feelings such as love. This research question should be investigated by using a combination of qualitative and quantitative research in which one group of compulsive buyers describe their feelings during a shopping experience and one group of compulsive buyers describe their feelings with respect to the actual brand. Thereafter, both groups fill out the survey that includes the 13-item brand love scale of Bagozzi et al. (2017), either based on feelings that are induced during the shopping experience or feelings that are evoked by the

actual brand. These findings add to the literature by showing the type of feelings that are being evoked by compulsive buyers as a result of the shopping experience versus features of the actual brand.

Another interesting avenue for further investigation would be to examine whether the differences between compulsive and non-compulsive on brand love hold in the context of other products categories. Our findings reveal that compulsive and non-compulsive buyers differ on how they develop love towards brands. However, these findings are based on brands in the product category clothing, a typical category in which goods are bought compulsively (Dittmar & Drury, 2000). Yet, it might be interesting to examine whether these findings hold in the context of product categories in which compulsive buyers do not shop so frequently, such as kitchen equipment (Dittmar & Drury, 2000).

**Research Integrity Form**

<b>Name:</b> Eva Derksen	<b>Student number:</b> s4853172
<b>RU e-mail address:</b> e.c.derksen@student.ru.nl	<b>Master specialisation:</b> Marketing, Business Administration

<b>Thesis title:</b> Differences between compulsive and non-compulsive buyers' love towards brands
<b>Brief description of the study:</b>  This study investigates how compulsive and non-compulsive buyers differ on feelings of love towards brands. The examination of brand love as a multi-component higher-order construct provides in-depth insights into the differences between compulsive and non-compulsive buyers on the brand love components.  The findings demonstrate that feelings of brand love are more prominent for compulsive buyers than for non-compulsive buyers. Further, the results reveal that the brand love components have a situationally varying impact on the overall degree of brand love for the two different consumer groups. We find that self-brand integration, passion-driven behaviors and positive emotional connection are more prominent for compulsive buyers than for non-compulsive buyers. However, we find no differences regarding long-term relationship, anticipated separation distress and attitude valence. These insights call for different segmentation strategies and require practitioners to use different pathways in order to increase compulsive and non-compulsive buyers' love towards brands.

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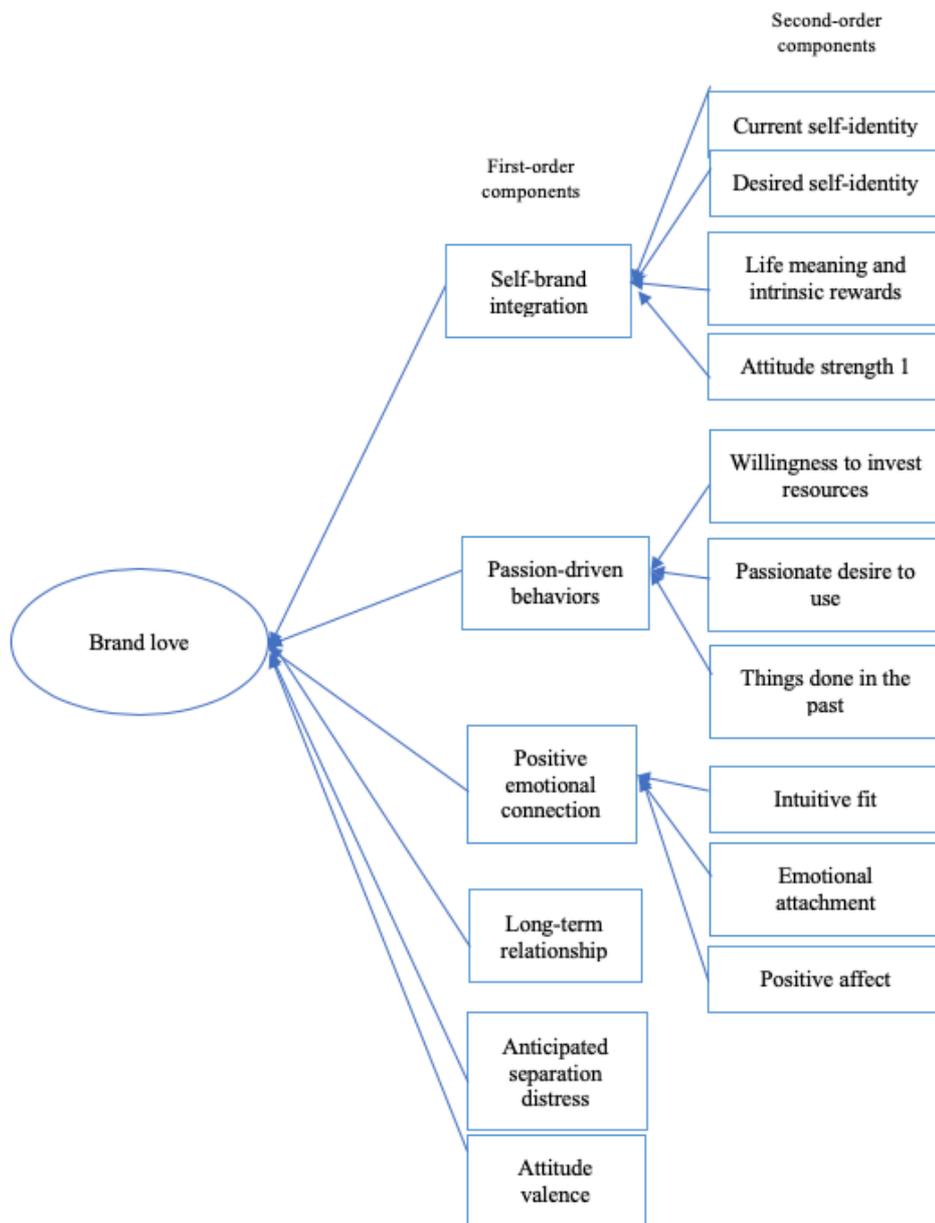
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## Appendices

### Appendix A. Conceptual model Brand love



**Figure 1. Multicomponent measure: Brand love**

*Note.* Adapted from “Brand Love”, Batra, R., Ahuvia, A. C., & Bagozzi, R. P. (2012). *Journal of Marketing*, 76(2), p. 8.

## Appendix B. Detailed description Brand love construct

**Table A1: Brand love higher-order prototype model: components and items**

<b>1) Self-Brand Integration</b>	
Current self-identity	Says something about who you are, others seeing you using it get a sense of who you are, degree of image overlap between brand and self, personal identity matches brand identity, important to be one of the people who use this brand, brand is an important part of self-identity, brand is a rewarding part of self-identity
Desired self-identity	Helps present self to others as the person you want to be, makes you look like what you want to look, makes you feel like how you want to feel.
Life meaning and intrinsic rewards	Makes life meaningful, makes life worth living, gives life purpose, is inherently important, is more than an investment in future benefit, experience feelings of desire.
Attitude strength 1: frequent thoughts	Very often talk to others about it, very often have thoughts about it, frequently find myself thinking about it, frequently find myself thinking about using it, find that it keeps popping into my head, feelings towards it are strong, feel lots of affection towards it.
<b>2) Passion-Driven Behaviors</b>	
Willingness to invest resources	Have spent lot of time making it fit my needs; willing to spend lot of money improving and fine-tuning it after buy it; willing to spend lot of time improving and fine-tuning it after buy it; have invested lot of time, energy, or money in it; was willing to spend lot of time shopping to buy it specifically; have used it often in appropriate occasions.
Passionate desire to use	Feel myself craving to use it, feel myself desiring it, feel a sense of longing to use it, feeling of wanting towards it, feeling of desire towards it, feeling of longing towards it.
Things done in past (involvement)	Have been involved with it in past, have done a lot of things with it in the past, have interacted a lot with it or the company that makes it.
<b>3) Positive Emotional Connection</b>	
Intuitive fit	Feel psychologically comfortable using it, meets needs perfectly, natural fit, what I've been looking for, fits tastes perfectly, felt right when first encountered it, now feels right, strength of feeling of liking.
Emotional attachment	Feels like old friend, emotionally connected, feel a bond.
Positive affect	Content, relaxed, fun, exciting, calming, helps relax, pleasureable.
<b>4) Long-Term Relationship</b>	
	Will be using for a long time, will be part of life for long time to come, feel sense of long-term commitment.
<b>5) Anticipated Separation Distress</b>	
	Anxiety, worry, fear, apprehension.
<b>6) Attitude Valence</b>	
	Satisfaction, compares well with ideal product, like–dislike, positive–negative, meets expectations, feelings of liking towards it, good–bad, favorable–unfavorable.

Note. Adapted from “Brand Love”, Batra, R., Ahuvia, A. C., & Bagozzi, R. P. (2012). *Journal of Marketing*, 76(2), p. 8.

## Appendix C. Survey

*English version*

### Introduction

*This survey was combined with two other master students' surveys. For purposes of brevity, only the survey items used in this research are included.*

Dear respondent,

Thank you for agreeing to participate in this important survey about *brands*. This survey is part of our master theses from Radboud University Nijmegen. Below, you will find a few statements/questions, which we would like you to respond to. The survey is anonymous, and please note, the results are for research purposes only. The survey takes approximately 7 minutes.

By filling out this survey you have a chance of winning a Bol.com gift card worth €50,-. At the end of the survey you can enter your e-mail address to participate in the lottery.

Please, answer the statements/questions honestly to help improve the results of the research.

Eva Derksen

### A. Consumer behavior (Ridgway, Kukar-Kinney & Monroe, 2008)

The following statements/questions are about your consuming behavior. Please, indicate the degree to which you agree with the following statements

		Strongly disagree					Strongly agree	
		1	2	3	4	5	6	7
1.	My closet has unopened shopping bags in it							
2.	Others might consider me a shopaholic.							
3.	Much of my life centers around buying things.							
4.	I buy things I don't need.							

5.	I buy things I did not plan to buy.							
6.	I consider myself an impulse purchaser.							

### B. Brand love (Bagozzi, Batra & Ahuvia, 2017)

Please, indicate, which brand in the product category clothing you bought most recently. If you do not remember exactly, try to indicate a brand which you bought relatively recently.

The **BRAND** I bought most recently in the **PRODUCT CATEGORY CLOTHING**:  
[text entry]

Please, indicate the degree to which you agree with the following statements about *brand x*

		Strongly disagree		Moderate			Strongly agree	
		1	2	3	4	5	6	7
7.	I feel that wearing of <i>brand x</i> says something “true” and “deep” about who I am as a person							
8.	<i>Brand x</i> is able to make me look like I want to look							
9.	<i>Brand x</i> is able to do something that makes my life more meaningful							
10.	I find myself thinking about <i>brand x</i>							
11.	I am willing to spend a lot of money improving and fine-tuning a product from <i>brand x</i> after I buy it							
12.	I feel the desire to wear <i>brand x</i> clothing							
13.	I have interacted with <i>brand x</i> in the past							
14.	I feel there is a natural “fit” between me and <i>brand x</i>							
15.	I feel emotionally connected to <i>brand x</i>							
16.	I feel that <i>brand x</i> is fun							
17.	I believe I will be wearing <i>brand x</i> for a long time							
18.	Suppose <i>brand x</i> were to go out of existence, I would feel anxiety							

On the following scale, please express your overall feelings and evaluations towards *brand x*

	Negative		Moderate			Positive	
	1	2	3	4	5	6	7
19.							

Please, indicate the degree to which you agree with the following statements about *brand x*

		Strongly disagree		Moderate			Strongly agree	
		1	2	3	4	5	6	7
20.	In most cases, <i>brand x</i> is my first choice of clothing brand							
21.	I can always rely on <i>brand x</i>							
22.	I feel guilt when I buy <i>brand x</i>							
23.	I feel happiness when I buy <i>brand x</i>							
24.	I feel excitement when I buy <i>brand x</i>							

Please, indicate the degree to which you agree with the following statement

		Strongly disagree		Moderate			Strongly agree	
		1	2	3	4	5	6	7
25.	I like the experience of shopping clothes							

To what degree does the following statement apply to you?

		Not at all	Slightly	Quite	Extremely
		1	2	3	4
26.	Do you feel deep affection, like 'love', for <i>brand x</i> ?				

Please, indicate the degree to which you agree with the following statements about *brand x*

		Strongly disagree		Moderate			Strongly agree	
		1	2	3	4	5	6	7
27.	<i>Brand x</i> is my favorite clothing brand							

Please, indicate the degree to which you agree with the following statement

		Strongly disagree		Moderate			Strongly agree	
		1	2	3	4	5	6	7
28.	I have a lot of favorite clothing brands							

29. On average, I buy a product from *brand x*...

- Once a day or more often
- Twice to six times a week
- Seven times a month or more often
- Once a month
- Multiple times a year
- Once a year
- Less than once a year

### C. Demographics

Hereafter some final questions will follow about your gender, age, nationality, etc.

30. Please indicate your gender

- Male
- Female
- Other

31. Please select the category that includes your age

- Under 18
- 18 – 24
- 25 – 29
- 30 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- 65 or above

32. What is your nationality?

- Dutch
- Other: nationality in EU-country
- Other (please specify)

33. What is your current employment status?

- Student
- Employed full-time
- Employed part-time
- Self-employed
- Unemployed (currently searching for a job)
- Unemployed (currently not searching for a job)
- Retired

34. What is the highest degree or level of school you have completed? If currently enrolled, please indicate the highest degree received.

- Primary education
- High school degree or equivalent
- MBO
- University of Applied Sciences
- University
- PhD

35. What is your annual household income?

- Below €10.000
- €10.000 - €20.000
- €20.000 - €30.000
- €30.000 - €40.000
- €40.00 - €50.000
- Over €50.000
- I prefer not to say

36. What is your marital status?

- Single
- Cohabitant
- Married or registered partnership

37. If you would like to have a chance of winning the Bol.com gift card worth €50,-, please enter your e-mail address here. For privacy reasons, your e-mail address will be deleted directly after the lottery.

[text entry]

Thank you for participating in this survey! If you have any comments on or questions about the survey, please send an e-mail to: [e.c.derksen@student.ru.nl](mailto:e.c.derksen@student.ru.nl).

*Dutch version*

## **Introduction**

*This survey was combined with two other master students' surveys. For purposes of brevity, only the survey items used in this research are included.*

Beste heer/mevrouw,

Bedankt dat u mee wil doen aan deze vragenlijst met statements/vragen over *merken*. Het onderzoek is onderdeel van drie masterthesissen van de Radboud Universiteit Nijmegen. De antwoorden op de vragenlijst zijn anoniem, en de resultaten worden enkel gebruikt voor onderzoeksdoeleinden. Het invullen van de vragenlijst duurt ongeveer 7 minuten.

Bij het invullen van de vragenlijst maakt u kans op een Bol.com cadeaukaart t.w.v. €50,-. Aan het einde van deze vragenlijst volgt de mogelijkheid om uw e-mailadres in te vullen, zodat u mee kunt doen met de loting.

Beantwoord de antwoorden van de statements/vragen graag zo eerlijk mogelijk om de onderzoeksresultaten te verbeteren.

Eva Derksen

### **A. Koopgedrag (Ridgway, Kukar-Kinney & Monroe, 2008)**

De volgende stellingen/vragen gaan over uw koopgedrag. Geef aan in hoeverre u het eens bent met de volgende stellingen

		Sterk mee oneens					Sterk mee eens	
		1	2	3	4	5	6	7
1.	In mijn kast zitten ongeopende winkeltassen							
2.	Anderen zouden mij kunnen beschouwen als een 'shopaholic'							
3.	Een groot deel van mijn leven draait om het kopen van dingen							
4.	Ik koop dingen die ik niet nodig heb							
5.	Ik koop dingen die ik van tevoren niet gepland had om te kopen							
6.	Ik beschouw mijzelf een impulsieve koper							

## B. Brand Love (Bagozzi, Batra & Ahuvia, 2017)

Geef aan welk merk in de productcategorie kleding u meest recent hebt gekocht. Indien u niet meer precies weet welk merk dit was, noem dan een merk dat u relatief recent hebt gekocht.

Het **MERK** dat ik meest recent in de **PRODUCTCATEGORIE KLEDING** heb gekocht:  
[text entry]

Geef aan in hoeverre u het met de volgende stellingen over *brand x* eens bent

		Sterk mee oneens		Gemiddeld			Sterk mee eens	
		1	2	3	4	5	6	7
7.	Ik heb het gevoel dat het dragen van <i>brand x</i> iets 'naar waarheid' en 'diepzinnigs' zegt over wie ik ben als persoon							
8.	<i>Brand x</i> is in staat om mij eruit te laten zien zoals ik wil dat ik eruit zie							
9.	<i>Brand x</i> is in staat om iets te doen zodat mijn leven meer nut heeft							
10.	Ik betrap mijzelf op het denken aan <i>brand x</i>							
11.	Ik ben bereid om veel geld uit te geven aan het verbeteren en verfijnen van een product van <i>brand x</i> nadat ik dit gekocht heb							
12.	Ik voel het verlangen om kleding van <i>brand x</i> te dragen							
13.	Ik heb interactie met <i>brand x</i> gehad in het verleden							
14.	Ik heb het gevoel dat er een natuurlijke 'fit' is tussen mij en <i>brand x</i>							
15.	Ik voel een emotionele connectie met <i>brand x</i>							
16.	Ik ben van mening dat <i>brand x</i> leuk is							
17.	Ik geloof dat ik <i>brand x</i> voor een lange tijd zal dragen							
18.	Stel dat <i>brand x</i> niet meer zou bestaan, dan zou ik mij angstig voelen							

Geef op de volgende schaal uw algemene gevoelens en evaluaties aangaande *brand x* aan

	Negatief		Gemiddeld			Positief	
	1	2	3	4	5	6	7
19.							

Geef aan in hoeverre u het met de volgende stellingen over *brand x* eens bent

		Sterk mee oneens	1	2	3	4	5	6	7	Sterk mee eens
20.	In de meeste gevallen is <i>brand x</i> mijn eerste merkkeuze									
21.	Ik kan altijd op <i>brand x</i> vertrouwen									
22.	Ik voel mij schuldig wanneer ik <i>brand x</i> koop									
23.	Ik voel mij gelukkig wanneer ik <i>brand x</i> koop									
24.	Ik voel mij blij wanneer ik <i>brand x</i> koop									

Geef aan in hoeverre u het eens bent met de volgende stelling

		Sterk mee oneens	1	2	3	4	5	6	7	Sterk mee eens
25.	Over het algemeen vind ik de ervaring om kleding te kopen leuk									

In hoeverre is de volgende stelling op u van toepassing?

		Helemaal niet van toepassing	Enigszins van toepassing	Nogal van toepassing	Sterk van toepassing
		1	2	3	4
26.	Ik voel diepe affectie, zoals 'liefde', voor <i>brand x</i>				

Geef aan in hoeverre u het met de volgende stellingen over *brand x* eens bent

		Sterk mee oneens			Gemiddeld			Sterk mee eens
		1	2	3	4	5	6	7
27.	<i>Brand x</i> is mijn favoriete kledingmerk							

Geef aan in hoeverre u het eens bent met de volgende stelling

		Sterk mee oneens			Gemiddeld			Sterk mee eens
		1	2	3	4	5	6	7
28.	Ik heb veel favoriete kledingmerken							

29. Gemiddeld koop ik een product van *brand x*...

- Elke dag of vaker
- Twee tot zes keer per week
- Zeven keer per maand of vaker
- Één keer per maand
- Meerdere keren per jaar
- Één keer per jaar
- Minder dan één keer per jaar

### C. Demografische gegevens

Hieronder volgen een laatste aantal vragen over uw geslacht, leeftijd, nationaliteit, etc.

30. Wat is uw geslacht?

- Man
- Vrouw
- Anders

31. Tot welke van de volgende leeftijdscategorieën behoort u?

- Onder 18
- 18 – 24
- 25 – 29
- 30 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- 65 of ouder

32. Wat is uw nationaliteit?

- Nederlands
- Anders: nationaliteit in EU-land
- Anders (gelieve te specificeren)

33. Wat is uw huidige werkstatus?

- Student
- Werkend part-time
- Werkend full-time
- Zelfstandige
- Werkloos (momenteel zoekende naar een baan)
- Werkloos (momenteel niet zoekende naar een baan)
- Gepensioneerd

34. Wat is uw hoogst genoten afgeronde opleiding? Als u nog studeert, geef dan uw hoogst behaalde diploma aan.

- Lager onderwijs
- Middelbareschooldiploma of vergelijkbaar
- MBO
- HBO
- WO
- PhD

35. Wat is het jaarinkomen van uw huishouden?

- Minder dan €10.000
- €10.000 - €20.000
- €20.000 - €30.000
- €30.000 - €40.000
- €40.00 - €50.000
- Meer dan €50.000
- Zeg ik liever niet

36. Wat is uw burgerlijke staat?

- Alleenstaand
- Samenwonend
- Gehuwd of geregistreerd partnerschap

37. Indien u kans wil maken op de Bol.com waardebon t.w.v. €50,-, vul dan hier uw e-mailadres in. In verband met uw privacy zal uw e-mailadres direct na de loting worden verwijderd.

[text entry]

Hartelijk dank voor uw deelname!

Indien u opmerkingen of vragen hebt over de vragenlijst, neem dan graag contact op via: [e.c.derksen@student.ru.nl](mailto:e.c.derksen@student.ru.nl).

## Appendix D. Tables of additional analyses: section analysis and results

**Table D1.** The parameter estimates with robust standard errors yields substantially different results compared to when the parameter estimates were not corrected for differences in variance. While the F-test (Tests of Between-Subjects Effects) shows that the differences between compulsive and non-compulsive buyers on positive emotional connection is not significant, when we correct for differences in variance, the t-test shows that the difference is significant. Likewise, while the F-test shows that compulsive and non-compulsive buyers differ significantly on anticipated separation distress, when we correct for the differences in variance, we find that compulsive and non-compulsive buyers do not differ significantly. So, although the direction of the effects remains the same, based on these findings, we decided to use the parameter estimates with robust standard errors to interpret the direction and significance of the results.

**Table D1. Assumption homogeneity of variance: differences in results on brand love components when correcting for differences in variance**

	<b>F-test ANCOVA<sup>1</sup></b> (Tests of Between-Subjects Effects)	<b>t-test ANCOVA</b> (parameter estimates with robust standard errors)
	<b>Non-CBers vs. CBers</b>	<b>Non-CBers vs. CBers</b>
<b>1. Self-brand integration</b>	F(1)=10.719, p=.001	B= -.903, t= -2.060, p=.020,
<b>2. Passion-driven behaviors<sup>2</sup></b>	F(1)=26.032, p=.000 <sup>3</sup>	B= -1.476, t= -4.287, p=.000
<b>3. Positive emotional connection</b>	F(1)=3.657, <b>p=.057</b>	B= -.816, t= -3.202, <b>p=.001,</b>
<b>4. Long-term relationship</b>	F(1)=.218, p=.641	B= -.209, t= -.557, p=.289
<b>5. Anticipated separation distress</b>	F(1)=6.118, <b>p=.014</b>	B = -.810, t= -1.565, <b>p=.059</b>
<b>6. Attitude valence</b>	F(1)=2.341, p =.127	B= -.230, t= -.584, p=.280

<b>Brand love (multicomponent)</b>	F(1)=20.947, p=.000	B= -1.090, t= -2.902, p=.002
<b>Brand love (single factor)</b>	F(1)= .675, p=.412	B= -.526, t= -.819, p=.207

<sup>1</sup>: *Gender, age and favorite brand* included for ANCOVA.

<sup>2</sup>: For ANCOVA, *favorite brand* recoded into categorical variable and included as fixed factor due to violation homogeneity of regression slopes

Table D2. Differences on brand love items: compulsive versus non-compulsive buyers

	Mean scores (std) <sup>1</sup>		Independent t-samples t-test <sup>2</sup>	Estimated marginal means		t-test ANCOVA (parameter estimates with robust standard errors) <sup>3</sup>
	Non-CBers	CBers		Non-CBers vs. CBers	Non-CBers	
<b>1. Current self-identity</b> (self-brand integration)	-.171 (1.000)	<b>.179</b> <b>(.940)</b>	t(439)= -3.787, <sup>1</sup> p=.000	-.124	<b>.194</b>	B= -.1032, t= -2.275, p=.012
<b>2. Desired self-identity</b> (self-brand integration)	-.188 (1.111)	<b>.278</b> <b>(.908)</b>	t(428.122)= -4.829, p=.000	-.154	<b>.229</b>	B= -.754, t= -2.259, p=.012
<b>3. Life meaning and intrinsic rewards</b> (self-brand integration)	-.225 (.967)	<b>.234</b> <b>(1.05)</b>	t(431.08)= -4.786, p=.000	-.160	<b>.150</b>	B= -.576, t= -1.033, p=.151
<b>4. Attitude strength 1<sup>4</sup></b> (self-brand integration)	-.371 (.738)	<b>.404</b> <b>(1.123)</b>	t(368.28)= -8.498, p=.000	-.328	<b>.212</b>	B= -.885, t= -.686, p=.247
<b>5. Willingness to invest resources</b> (passion-driven behaviors)	-.269 (.858)	<b>.316</b> <b>(1.154)</b>	t(396.48)= -6.013, p=.000	-.242	<b>.380</b>	B= -1.023, t= -1.988, p=.024
<b>6. Passionate desire to use<sup>4</sup></b> (passion-driven behaviors)	-.444 (.859)	<b>.459</b> <b>(.997)</b>	t(424.01)= -10.166, p=.000	-.386	<b>.322</b>	B = -1.810, t= -5.296, p=.000
<b>7. Things done in past (involvement)</b> (passion-driven behaviors)	-.185 (.976)	<b>.238</b> <b>(1.034)</b>	t(434.79)= -4.418, p=.000	-.150	<b>.163</b>	B= -.658, t= -2.467, p=.007
<b>8. Intuitive fit</b> (positive emotional connection)	-.390 (.940)	<b>.296</b> <b>(.950)</b>	t(439)= -6.511, p=.000	-.198	<b>.106</b>	B= -.829, t= -3.161, p=.001

<b>9. Emotional attachment</b> (positive emotional connection)	-.189 (.937)	<b>.179</b> <b>(1.042)</b>	t(429.83)= -3.890, p=.000	-.116	<b>.284</b>	B= -.806, t= -2.093, p=.018
<b>10. Positive affect</b> (positive emotional connection)	-.310 (1.083)	<b>.284</b> <b>(.920)</b>	t(432.63)= -6.216, p=.000	-.323	<b>.079</b>	B= -.326, t= -.827, p=.204
<b>11. Long-term relationship</b>	-.102 (1.04)	<b>.183</b> <b>(.998)</b>	t(439)= -2.942, p=.002	-.044	<b>.050</b>	B= -.209, t= -.557, p=.289
<b>12. Anticipated separation distress</b> (transformed: inverse)	-.247 (0.783)	<b>.217</b> <b>(1.122)</b>	t(382.678)= -5.020, p=.000	-.168	<b>.137</b>	B = -.810, t= -.1.565, p=.059
<b>13. Attitude valence</b>	-.110 (1.065)	<b>.197</b> <b>(.957)</b>	t(439)= -3.183, p=.001	-.035	<b>.176</b>	B= -.230, t= -.584, p=.280

<sup>1</sup>: Standardized values due to calculation of factor scores.

<sup>2</sup>: Test with unequal variances was applied when Levene's test failed to accept hypothesis for equal variances.

<sup>3</sup>: *Gender, age* and *favorite brand* included for ANCOVA.

<sup>4</sup>: For ANCOVA, *favorite brand* recoded into categorical variable and included as fixed factor due to violation homogeneity of regression slopes

**Table D3. Correlation between compulsive buying and age**

	<b>Male</b>	<b>Female</b>
<b>Non-CBers</b>	63 (78.8%)	161 (44.7%)
<b>CBers</b>	17 (21.3%)	199 (55.3%)
	80 (100%)	360 (100%)

Pearson Chi-Square:  $\chi^2(1) = 30.326$ ,  $p < .000$

**Table D4. Correlation between compulsive buying and age**

	<b>Under 18-24</b>	<b>25-34</b>	<b>35-54</b>	<b>55-65 or above</b>
<b>Non-CBers</b>	75 (37.5%)	29 (30.5%)	57 (77.0%)	64 (88.9%)
<b>CBers</b>	125 (62.5%)	55 (69.5%)	17 (23.0%)	8 (11.1%)
	200 (100%)	95 (100%)	74 (100%)	72 (100%)

Pearson Chi-Square:  $\chi^2(3) = 91.942$ ,  $p < .000$

**Table D5.** The results reveal that within the compulsive buyers group, the scores on self-brand integration (COM1) and positive emotional connection (COM3) are significantly higher than the scores on long-term relationship (COM4). Furthermore, within the compulsive buyers group, the scores on self-brand integration (COM1), passion-driven behaviors (COM2) and positive emotional connection (COM3) are significantly higher than the scores attitude valence (COM6).

With respect to the non-compulsive buyers group, the scores on passion-driven behaviors (COM2) are significantly higher than the scores on long-term relationship (COM4), anticipated-separation distress and (COM5) and attitude valence (COM6).

**Table D5. Relative importance of brand love components within each consumer group**

	Non-CBers		CBers	
	Mean Difference (std)	Pairwise T-test <sup>1</sup>	Mean Difference (std)	Pairwise T-test <sup>1</sup>
COM1 <sup>1</sup> vs COM2	.086 (.702)	t(224)= 1.839, p=.067	-.091 (.716)	t(215)= -1.871, p=.063
COM 2 vs COM 3	-.058 (.740)	t(224)= -1.185, p=.237	.090 (.741)	t(215)= 1.787, p=.075
COM 1 vs COM 3	.028 (.864)	t(224)= .479, p=.633	-.001 (.884)	t(215)= -.017, p=.986
COM 1 vs COM 4	-.158 (1.060)	t(224)= -2.235, p= <b>.026</b>	.107 (1.039)	t(215)= 1.511, p=.132
COM 2 vs COM 4	-.244 (1.056)	t(224)= -3.464, p= <b>.001</b>	.198 (1.004)	t(215)= 2.897, p= <b>.004</b>
COM 3 vs COM 4	-.185 (.999)	t(224)= -2.784, p= <b>.006</b>	.108 (1.018)	t(215)= 1.557, p=.121
COM 1 vs COM 5	-.013 (.884)	t(224)= -.214, p=.831	.073 (1.047)	t(215)= 1.023, p=.307
COM 2 vs COM 5	-.099 (.800)	t(224)= -1.849, p=.066	.164 (1.082)	t(215)= 2.230, p= <b>.027</b>
COM 3 vs COM 5	-.040 (.985)	t(224)= -.612, p=.541	.074 (1.170)	t(215)= .929, p=.354
COM 4 vs COM 5	.145 (1.281)	t(224)= 1.700, p=.090	-.034 (1.382)	t(215)= -.361, p=.719

<b>COM 1 vs COM 6</b>	-.150 (1.138)	t(224)= -1.972, <b>p=.050</b>	.093 (1.101)	t(215)= 1.241, p=.216
<b>COM 2 vs COM 6</b>	-.236 (1.093)	t(224)= -3.232, <b>p=.001</b>	.184 (.947)	t(215)= 2.858, <b>p=.005</b>
<b>COM 3 vs COM 6</b>	-.177 (1.048)	t(224)= -2.535, <b>p=.012</b>	.094 (.989)	t(215)= 1.397, p=.164
<b>COM 4 vs COM 6</b>	.008 (1.190)	t(224)=.104, p=.917	-.014 (.966)	t(215)= -.212, p=.833
<b>COM 5 vs COM 6</b>	-.137 (1.170)	t(224)= -1.765, p=.080	.020 (1.314)	t(215)= .224, p=.823

<sup>1</sup>: COM = component

**Table D6.** We compared 147 individuals classified as severe compulsive buyers (score ranges from 5 to 7) to 120 individuals classified as non-compulsive buyers (score ranges from 1 to 2) in order to still be able to conduct ANOVA using the parameter estimates with robust standard errors. The Levene's test of Equality of Error Variances shows that for component 1, 2, 3 and 5 and the overall brand love measure, the variances were unequal. So, similar to the original analyses, for reasons of consistency we interpreted the parameters with robust standard errors for all components and the overall brand love measure to assess the differences between severe compulsive buyers and non-compulsive buyers.

Since the interpretation of the parameter estimates with robust standard errors are based on large samples for their validity (Imbens & Kolesár, 2016), we decided to still take a fairly large sample size with 147 severe compulsive buyers and 120 non-compulsive buyers. The reason for this is that as we saw before, the results on parameter estimates with robust standard errors yields substantially different results compared to when the parameter estimates were not corrected for differences in variance. Therefore, we prefer to take a less stricter criterium so that we are able to correct for variances within the group, rather than misinterpreting the results with a cut-off value that would yield, for instance, 30 severe compulsive buyers and 30 non-compulsive buyers

The results were similar to the original results, except for self-brand integration. Namely, this analysis reveals that the difference between severe compulsive buyers and non-compulsive buyers on self-brand is not significant, while we find a significant result in the original analysis. Further, findings indicate that severe compulsive buyers differ significantly on passion-driven behaviors and positive emotional connection, while we find no significant differences regarding long-term relationship, anticipated separation distress and attitude valence. Finally, we find that severe compulsive buyers score significantly different on the overall multicomponent brand love measure, while we find no significant difference regarding the summatory, single-factor measure of brand love.

**Table D6. Differences on brand love components using a stricter criterion to identify compulsive buyers: severe compulsive buyers versus non-compulsive buyers**

	Estimated marginal means		t-test ANCOVA (parameter estimates with robust standard errors) <sup>4</sup>
	Non-CBers	Severe CBers	Non-CBers vs. severe CBers
<b>1. Self-brand integration</b>	-0.286	<b>.183</b>	B= -.772, t= -1.283, p=.100
<b>2. Passion-driven behaviors<sup>4</sup></b>	-0.503	<b>.394</b>	B= -1.400, t= -3.601, p=.000
<b>3. Positive emotional connection</b>	-0.325	<b>.145</b>	B= -.634, t= -1.858, p=.032
<b>4. Long-term relationship</b>	-0.108	<b>.074</b>	B= -.156, t= -.329, p=.371
<b>5. Anticipated separation distress</b>	-0.251	<b>.246</b>	B = -.1070, t= -1.627, p=.053
<b>6. Attitude valence</b>	-0.021	<b>.276</b>	B= -.396, t= -.866, p=.194
<b>Brand love (multicomponent)</b>	-0.417	<b>.315</b>	B= -1.003, t= -1.957, p=.026
<b>Brand love (single item)</b>	-0.094	<b>.134</b>	B= -.405, t= -.456, p=.324

<sup>1</sup>: Standardized values due to calculation of factor scores.

<sup>2</sup>: Test with unequal variances was applied when Levene's test failed to accept hypothesis for equal variances.

<sup>3</sup>: *Gender, age* and *favorite brand* included for ANCOVA.

<sup>4</sup>: For ANCOVA, *Favorite brand* recoded into categorical variable and included as fixed factor due to violation homogeneity of regression slopes