Brand Engagement in Self-Concept (BESC): A meta-analytic review of Antecedents and Consequences

Autoria

VALTER AFONSO VIEIRA - VALTERAFONSOVIEIRA@GMAIL.COM
Prog de Pós-Grad em Admin - PPA/UEM - Universidade Estadual de Maringá

Victor Galindo de Mello - victmello@gmail.com
Prog de Pós-Grad em Admin - PPA/UEM - Universidade Estadual de Maringá

Marcos Schebeleski - marcosschebeleski@gmail.com
Prog de Pós-Grad em Admin - PPA/UEM - Universidade Estadual de Maringá

Resumo

Drawing on Self-concept theory, the Brand engagement in self-concept (BESC) scale assesses how individuals use brands to reinforce their self-schema. On brand literature, BESC has been influencing different consumer variables, generating mixing outcomes and questionable results. In this paper, the authors analyze how BESC influences consumers? response and how specific moderators impact on these effect sizes. In order to resolve mixed results, the authors present a meta-analysis of 39 studies and 192 effects (N = 63,556 sample accumulated) calibrating the main influence of brand engagement on self-concept on consumer response. Statistics suggest that BESC positively influences attitude, consumption, engagement, behavioral intention, interactive, loyalty, materialism, shopping and status.

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Key-words: BESC, meta-analysis, brand, involvement, attitude.

Brand engagement in self-concept (BESC) is a "generalized view of brands in relation to the self, with consumers varying in their tendency to include important brands as part of their self-concepts" (Sprott, Czellar & Spangenberg, 2009, p.92). BESC refers to how consumers incorporate different brands in order to create their self-concept. The self-concept is an assortment of beliefs about oneself in such way that BESC (or brands) helps in shaping individual beliefs about themselves.

"Self-concept theory posits consumers as having perceptions of their selves, from which predictions about brand preferences can be made, based on the similarity between consumers' self-perceptions and brands' images" (Chernatonyi & Mello, 1995, p.121). Therefore, by engaging with brands and incorporate them in their self-identity (or self-perspective), consumers shape their beliefs and images about themselves. The main effect of BESC on consumer's response is because the brand "associations are used to construct the self or to communicate the self-concept to others" (Escalas & Bettman, 2003, p.339).

Previous research has been using BESC for measuring how individuals embrace important brands as portion of their self-concepts in order to influence shopping behavior (Flynn, Goldsmith & Pollitte, 2016; Dommer, Swaminathan, & Gürhan-Canli, 2015), involvement (Goldsmith, Flynn & Clark, 2012, Goldsmith & Goldsmith, 2012), attachment that refers to emotional and affective interpersonal relationship (Malar, Krohmer, Hoyer & Nyffenegger, 2011), attitude (Liu et al., 2018, Ewing & Allen, 2017, Bitter, Grabner-Kräuter, & Breitenecker, 2014; Razmus & Laguna, 2017), sense of community (Ewing, 2010) and loyalty (Ewing & Allen, 2017, Goldsmith, Flynn & Clark, 2012).

Based on literature review, the accumulated evidence suggested positive, negative and non-significant results on the relationship between BESC and consumer response. For example, Leckie, Nyadzayo and Johnson (2016) and Ewing & Allen (2017) found a negative correlation between BESC and loyalty. Otherwise, Ewing and Allen (2017) found a positive association. Ewing (2010) found a null correlation in this same path. The apparent contradiction in BESC effects on loyalty (or even other constructs) creates doubt about its generalization capacity. These mixed findings suggested a range of effects from small to large and from negative to positive, generating doubts about the results' generalization.

Drawing on these assorted outcomes, two research questions appear, such as *RQ1*: How BESC influence consumers' response and attitude? and *RQ2*: What are the moderators that impact on these effect sizes? In order to resolve these gaps and mixed results, this research presents a meta-analysis of 39 studies and 192 effects (*N* = 63,556 sample accumulated) calibrating the main influence of brand engagement on self-concept on consumer response.

The reminder of the article is organized as follows. In the following section, we present the theoretical basis of BESC. Next, we present the hypotheses that sustain our conceptual framework. Then, we present the meta-analytic data, sample size, statistics and method used for the analysis. We followed by the findings and general conclusions. The paper concludes with theoretical implications and limitations.

Theoretical Background

Among the innumerable characteristics and postures assumed by consumers in their variability of behavior, self-concept is a construct that can be envisaged, according to Markus (1977), as a set of self-schemas representing stable structures of knowledge about the “self ". It organizes information and helps people to understand themselves in their environment, varying from individual to individual and leading to different attitudes and behaviors in relation to objects important to the composition of these schemes (Markus, 1983, Markus, Crane, Bernstein, & Siladi., 1982). "A scheme is an anticipatory structure, providing readiness to seek and assimilate the information received in terms relevant to the scheme" (Puligadda, Ross & Grewal, 2012, p 116). Self-linking, which represents the associations that consumers establish with certain brands, can be seen as a measure with which people associate and incorporate a particular brand into their self-concept (Escalas 2004, Escalas and Bettman 2003).

Thus, Brand Engagement in the Self-Concept (BESC) is a comprehensive predisposition to contain brands as a part of the self-concept (Sprott et al., 2009). Consumers prefer to buy different brands to shape their self-concept instead of connecting to a specific brand. This conceptualization deals with the multiple vs. unique brand in the formation of self-concept. For example, one can buy Volvo Cars safely, but at the same time enjoy sport and status by buying a Maserati. BESC, as a comprehensive predisposition to contain brands, is different from the evaluation of brand self-referral (SBC) (Escalas 2004), which measures the association between the self and a specific brand.

BESC is related to attachment, but the idea of attachment deals with several possessions in the elaboration and presentation of self-concept for others. Attachment to dissimilar possessions may be over time, such as attachment to the past (for example, collections), to the present (for example, new products) or to future possessions (for example, new expected purchase), forming self-concept. Attachment is different from BESC because the former can be an attachment to good, product, image and so on, and the second is related to brands. The theoretical rationale behind attachment theory (Ball and Tasaki 1992) is that distinct possessions (e.g.: brands, products, objects, places) can shape self-concept, which is not the focus of BESC. In fact, BESC deals with a brand (s) in the formation of self-concept and not in the object. "Possessions may be unbranded products or services, and the value consumers attribute to them may not be self-related properties [... and ...] may serve the purposes of self-extension or self-expression, such motivations" (Sprott, et al., 2009, p.93).

Moreover, one may suggest that materialism is the same as BESC, because materialistic orientation helps to shape self-concept through commodities. However, BESC and materialism are distinct constructs because materialism has a broader scope than BESC, which is more focused on brands. For example, materialistic consumers have beliefs in their positions (objects, animals, but not brands) that are unique in shaping their lives. A consumer can love his home, which does not have a brand. So BESC is based on the ownership of brand-related schemes and these schemes shape the self-concept.

Once this process of engagement has been established, the individual can present various types of postures and behaviors in relation to one or more marks. In this context,

several studies have analyzed the effects generated by BESC in the most varied constructs already consolidated in marketing research.

Hypotheses

Age and BESC. Because young consumers are looking to develop their self-concept in early state of life, they should include be more engaged with brands, having greater scores on BESC. Brands help to either develop the young consumers' self-concept or incorporate the others' self-concept into young consumers. The negative relationship between age and BESC should happen because young consumers (*vs*. older) are developing their personality toward social groups (Eisend & Stokburger-Sauer, 2013) and need to show it by using brands. This effect refers to the congruency between group membership and brand usage according to reference group, aspiration group and member group (Escalas & Bettman, 2003). Empirically, Goldsmith, Flynn and Clark (2012) and Flynn, Goldsmith and Korzenny (2011), found that young consumers have higher scores on BESC. Hence: **H_{1a}:** Age is negatively associated to BESC.

However, Chaplin and John (2005, p.127) exposed that "Self-brand connections increase with age, accompanied by increases in the depth of the connections being made. During middle childhood, children make a limited number of self-brand connections, which are based on concrete associations with the brand, such as owning or buying branded items". That is a different theoretical basis for suggesting that the old consumers also incorporate brands in their self-concept, generating a positive relationship. Old consumers can have professional maturity and sufficient financial conditions to buy their preferred brands, incorporating them into the self-concept. In addition, consumers as younger could not have access to specific brands and as they turn old, they can buy them for experiencing a nostalgic feeling into the self-concept. Therefore: **H_{1b}:** Age is positively associated to BESC.

Sense of Community and BESC. Sense of community should improve BESC. Community refers to the consumer's sense of identifying and feeling connected to a reference group by using a particular brand (Ewing, 2010). The positive association between Sense of community and BESC occurs because the consumers wish to be part in a specific community (e.g. surf, motocross, skate, and sports) and use brands for achieving this goal. In addition, the consumer has a feeling that he/she needs to be part in brand community based on intrinsic aspirations that can appear by using brands (Ewing, 2010). Intrinsic aspirations refer to self-acceptance, affiliation, community feeling, and physical fitness. Therefore, as consumer wish to be affiliated to a community, these aspirations are achieve by the subjective image created by brands (Razmus, Jaroszyńska, & Palęga, 2017). In this context, we propose that: **H_2:** Sense of community is positively associated to BESC.

Attachment and BESC. Attachment theory explains how interpersonal relationships between humans are developed (Snyder, Shapiro, & Treleaven, 2012). Attachment occurs when consumers create an emotional connection with a product (Malar et al., 2011). The theoretical logic behind attachment theory (Ball and Tasaki 1992) is that distinct possessions (e.g. brands, products, objects, places) can shape the self-concept, creating an emotional connection with a brand (Malar et al., 2011). Thus, attachment should improve BESC. Because attachment is an emotional and affective interpersonal relationship toward community (Ewing, 2010), brand (Guèvremont, & Grohmann, 2016) and objects (Ewing & Allen, 2017), it should increase the level of association between a person and a brand characterized by BESC engagement (Grisaffe & Nguyen, 2011). Consequently, **H_3:** Attachment is positively associated to BESC.

BESC and Attitude. "Attitudes are general evaluations based on beliefs or automatic affective reactions" (Brakus, Schmitt & Zarantonello, 2009, p.53). Theory of reasoned action suggests that individuals evaluate an object, decision, from negative to positive (attitude), and form beliefs that influence behavioral intentions (Azjen & Madden, 1986). The positive association between BESC and attitude happens because consumers with high levels of brand engagement create connections between their self and the branded-object, and these connections evoke positive brand attitudes. In addition, the positive relationship between BESC and attitude happens consumers aim to possess particular self-schemas from brands that "leads to differential attitudes and behaviors" (Sprott et al., 2009, p.92). Empirical evidence provide a positive association between BESC and overall attitude (Sprott et al., 2009), private brand attitude (Liu, Sprott, Spangenberg, Czellar, & Voss, 2018), attitude toward brand (Ewing & Allen, 2017; Liu & Minton, 2018; Liu et al., 2018) and toward products (Bitter et al., 2014). Thus: **H_4:** BESC is positively associated to attitude.

BESC and Consumption. BESC's association with consumption should be positive because consumption, as an expense for the attainment of a good or satisfaction of a need, has its concept related to the consumption of material objects (Warde, 2005). In that sense, higher levels of brand engagement, the higher the wish to consume material objects that involve some kind of consumer experience, feeling or utilitarian value (Hartmann & Arnould, 2015). Thus, because a particular brand is engaged in the self-concept, the tendency for consume it increases as consequence of the satisfaction of practical and experiential aspects. Therefore: **H_5:** BESC is positively associated to consumption.

BESC and Engagement. Brand engagement in self-concept leads to engagement with a specific brand. Consumer engagement with brand means that they feel emotional and symbolic connections with a brand (Goldsmith & Goldsmith, 2012). This engagement with the brand is part of an intense and active relationship between the brand and the customer, expressed as the customer's enthusiasm to talk about the brand, learn about it and show its use (Goldsmith, Flynn, & Clark, 2012). Thus: **H_6:** BESC is positively associated to engagement.

BESC and Behavioral Intention. Behavioral Intention refers to the purchase intention toward a product or a brand (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez, 2016). We propose that the higher the level of brand engagement in the self-concept, greater the behavioral intention. This positive association occurs because individuals with high score on BESC look for buying products with brands that are correlated with their self-concept in order to strengthen the self-identity (Goldsmith, Flynn & Clark, 2012). The influence is because the congruent brand self-identity motivates the behavior toward the intention of buying brands (Pentina, Gammoh, Zhang, & Mallin, 2013; Pentina, Zhang, & Basmanova, 2013). Moreover, according to Sprott et al (2009, p.96), "incorporating important brands into the self-concept implies that consumers characterized by a stronger BESC should engage in behaviors that actively create and enhance self-extension through brands". Hence: **H_7:** BESC is positively associated to Behavioral Intention.

BESC and Interactivity. Researchers suggest that consumers who integrate brands into their own schema are more likely to seek reinforcement through greater interactivity with brands and brand users (Pentina, Gammoh, et al., 2013; Pentina, Zhang, et al., 2013). The theoretical reason is that when consumers are engaged with brands, they look for discussing it with other brand users, improving their interactivity with brands (Pentina, Zhang, et al., 2013). For example, consumers with high level of engagement with a GTA brand (PS4 game)

have greater chance of imporve their interactivity with other brand users in order to obtain new information and tips about the game. The concept of interactivity is characterized by the fusion of the subject with the object, generating the concept of interaction with friends, companies, and brands (Bitter et al., 2014). Hence: **H_8:** BESC is positively associated to interactivity.

BESC and Loyalty. BESC should influence consumer loyalty because when individuals are more engaged with multiple brands, they tend to keep buying these brands due to brand equity (Kapferer, 2008). The brand equity generates by supporting the desire self-concept, which can be status, prestige or safety (Keller, 1993). When consumers have defined their self-concept, they buy brands that endorse their self-concept to others, influencing the recurrent buying behavior -- i.e. loyalty behavior (Brakus et al., 2009). As consequence, individuals engaged in multiple brands for shaping their self-identity tend to have a loyalty behavior (Goldsmith, Flynn & Clark, 2012; Ewing & Allen, 2017). Therefore: **H_9:** BESC is positively associated to consumer's loyalty.

BESC and Materialism. Materialism refers to central beliefs about the importance of possessions in multiple arenas, attributed to ownership and acquisition of material goods to achieve desired life goals or states (Richins & Dawson, 1992). BESC should be positively related to materialism because to the importance given by consumers to have possess that shape and reinforce self-concept (Alden, Kelley, Youn, & Chen, 2016). The greater the level of brand engagement, the greater the consumption toward materialistic objects for obtaining possessions that support and maintain the self-identity to colleagues (Holt, 1995). Thus, we propose: **H_{10}:** BESC is positively associated to materialism.

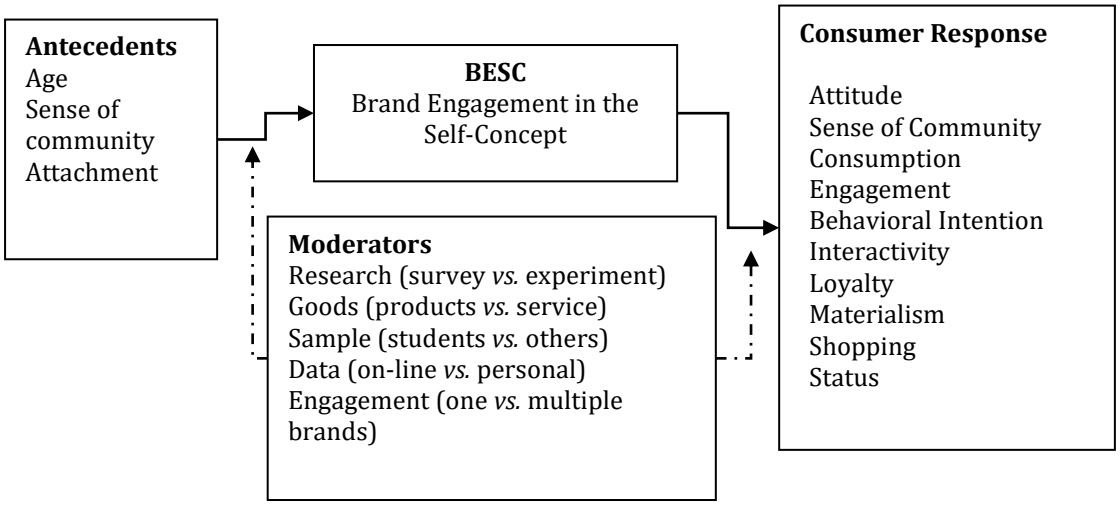
BESC and Shopping. Shopping is understood as a general activity, like entering a marketplace, either online or physically, and having interaction with merchants (Flynn, Goldsmith, & Pollitte, 2016). Shopping may vary in terms of who, what, when, where, how and why to shop (Goldsmith, Flynn, & Clark, 2011). When consumers shop, different motivating factors influence a variety of consumer behaviors. One of them is the brand engagement, which can motivate the consumer to shop (Goldsmith, Flynn, & Clark, 2011). Sprott et al. (2009) found that a high BESC score is associated with better recall, attention and purchase of a preferred brand. Therefore, consumers who find a personal interest in branded products, they desire and probably buy them more often as well (Flynn & Goldsmith, 2016). Previous researches, which evaluated the relationship between BESC and shopping, have found that consumers with higher levels of BESC are more favorable toward shopping (Goldsmith et al., 2011; Goldsmith & Goldsmith, 2012). Hence: **H_{11}:** BESC is positively related to shopping.

BESC and Status. Status signalizes a higher social position compared to others (source). We propose that higher levels of brand engagement in the self-concept, greater the level of status because brands shape the way that consumers achieve a superior social position compared to others (Goldsmith, Flynn & Clark, 2012). When consumers incorporate a brand into their self-identity, they evoke a higher social position because they have differentiates products and brands for showing to society. This greater variety of brands induces a higher social situation when compared to consumers that do not use brands. Thus, **H_{12}:** BESC is positively associated to status.

Figure 1 presents our theoretical model that guides the meta-analysis. To develop the conceptual model, we reviewed previous research on BESC to identify key antecedents and consequences. We build our theoretical model based on sufficient effect size to estimate the

coefficients. Finally, the theoretical model also suggests the moderators that can influence the way that BESC associates with different variables.

Figure 1. Theoretical Framework



Research Design

Data Collection. We search at online databases such as EBSCO, Elsevier, Proquest, and Google Scholar for papers that studies brand engagement in self-concept. We selected key words such as BESC, brand, engagement and self-concept in the abstracts and titles. Next, we search for the papers that used the unidimensional scale proposed by Sprott, et al. (2009). Then, we search for working papers, doctoral dissertations and conference proceedings for new information about BESC. The search period covered all the manuscripts available until February 2018. The oldest study was published in 2009, and the studies cover 10 years of research on BESC.

Sample. We found 428 independent articles. However, we excluded 345 papers because 111 used interpretative research or theoretical papers, 25 were not available and 234 they did not provide effect-size on BESC. The exclusion of these papers followed Eisend's procedures (2015). We organized the 58 articles by the number of effect-sizes measured. We choose only relationship with ten or more effect-sizes. The final number of articles used in this meta-analysis is 39.

Integrating Effect-Size. We converted different effects size into Pearson *r* correlation, which is a standardized metric. For papers that used standardized beta values, we used the formula provided by Peterson and Brown (2005). In addition, for papers that used *t*-values, chi-squared, and F-statistic, we used the equations provided by Hunter and Schmidt (2004). Then, we corrected the effects by reliability. To correct effect sizes, we "divided each correlation by the square root of the product of the reliabilities of the independent and dependent variables" (Blut, Teller & Floh, 2018, p.120). Next, we applied a Fisher's *Z* transformation in Schmidt-Hunter–type meta-analysis (Hunter & Schmidt, 2004).

Estimating the Theoretical Model. For estimating the final framework, we used random-effects models (Hunter and Schmidt 2004). The reason for using random effects model is because it permits that the true effect size varies from research to research (Hedges & Vevea, 1998). We also analyzed the heterogeneity by calculating the *Q*-statistic. A significant value for *Q*-statistic suggests the need for the moderator analysis. Moderator analysis is "justified when between-study variance is significant, indicating that results of

extant studies do not converge on a common population value" (Roschk et al., 2017, p. 232). We estimated the failsafe number by using the method of Gleser and Olkin (1996). This method provides an estimated number of unpublished results that can make the combined effect size statistically insignificant. We estimated all framework, statistics and heterogeneity tests using Meta Essential correlation file.

Moderators. We coded different moderators in order to analyze the effect sizes. We used the following variables, research design (survey *vs*. experiment), goods (products *vs*. service), engagement (one brand *vs*. multiple brands), sample (students *vs*. non-students) and data collecting (face to face *vs*. on-line). "Studies employing students often show a tendency to produce larger effect sizes because of homogeneity of student samples" (Blut, Teller & Floh, 2018; p.119). After estimating the effect size, correcting them by reliability and sample size and transforming in Fisher *Z*, we positioned the moderators as independent variables and BESC's effect size as dependent variable in an ANOVA test. Significant values mean that the effect size varies according to moderators.

Variables Definition. Attachment refers to "an emotional and affective interpersonal relationship where one individual manifests an intense pleasure in the company of the other, especially in the expression of affection of the other" (Bowlby, 1969, p. 242). Attitude refers to "general evaluations based on beliefs or automatic affective reactions" (Brakus et al., 2009, p.53). Sense of Community denotes the consumer's sense of identifying and feeling related to a reference group using a particular brand (Ewing, 2010). Consumption means spending for the acquisition of a utility or satisfaction of a need (Warde, 2005). Engagement refers that consumers feel emotional and symbolic connections with certain brands (Goldsmith, & Goldsmith, 2012). Behavioral intention means the positive purchase intention in relation to a product or brand (Blasco-Arcas et al., 2016). Interactivity is characterized by the fusion of the subject with the object, transcending the concept of interaction, there being no separation between the emitter and the receiver (Bitter, et al., 2014). Loyalty is the proportion, sequence, and likelihood of a consumer buying again from the same supplier (Dick & Basu, 1994). Materialism denotes to central beliefs about the importance of possessions in multiple arenas, attributed to ownership and acquisition of material goods to achieve desired life goals or states (Richins & Dawson, 1992). Shopping refers to a selection activity that may result in acquisition, and in some contexts is considered both leisure and economic activity (Goldsmith et al., 2011). Status means the social position in which the individual compares with the others (Goldsmithet al., 2012). Age is the age of the individuals.

Coding Consistency. We coded our dependent variables in order to generate the sufficient sample for estimating how BESC explains them. We recoded these outcomes because literature suggests different terms and variations for the same variable. For example, Sprott et al. (2009) used overall attitude, Bitter et al. (2014) used attitude, Cambra-Fierro, Melero-Polo and Vázquez-Carrasco (2014) used employees' attitudes and Guèvremont and Grohmann (2016) used brand attitude. For all these researches, we recoded these different variables in a global attitude construct. Two authors recoded these variables and inter-agreement correlation suggested a high reliability. Coding consistency across 408 studies was as expected 92.89%, and any problems in coding were resolved through authors' discussion. We followed the intercoder agreement procedure suggested by Eisend (2015).

Results

Table 1 presents the effect size based on Hunter-Schmidt estimation (*ES*), random effect, standardized error, significance level, confidence intervals, *Q* heterogeneity, Fail Safe Number and other statistics for the effects. Our first assumption deals with the association between gender and BESC. According to the results, the effect of age on BESC is r = .04 (p=

NS). Studies indicate that during different stages of life, consumers seek to use a brand to expose their own concept (Eisend & Stokburger-Sauer, 2013; Chaplin & John, 2005). In that sense, the age does not influence the level of BESC on the consumer, rejecting H_{1a} and H_{1b}.

The next hypothesis suggests a correlation between the sense of community and BESC. Our result suggests that sense of community and BESC are associated (r = .35; p<.05), supporting H_2. This link occurs because consumers use the brand engagement in self-concept to improve the connections with a reference group (Ewing, 2010). Our last antecedent evaluated was the correlation between attachment and BESC. The outcomes present that the main effect of attachment on BESC is significantly positive (r = .42; p<.05), indicating that high levels of attachment to goods and products evokes a stronger emotional connection with a brand, as pointed out by Malar et al. (2011), supporting H_3. We estimate the failsafe number that represents the number of absent research necessary to make the effect size non-significant. The failsafe number is 12.

Table 1. Meta-Analysis of BESC

Relationship	Alpha	ES	Z_1	Sig	CI lower	CI upper	I^2 %	*Q*-test	K	Fail Safe Number
Antecedents										
Age --> BESC		.04	.28	n.s.	-.30	.38	99	4103***	10	9
Sense of Community --> BESC	.88	.35	4.81	***	.20	.49	97	574***	16	20
Attachment --> BESC	.90	.44	2.16	*	.04	.84	99	771***	10	12
Consequences										
BESC --> attitude	.89	.23	2.52	**	.02	.43	93	115***	9	8
BESC --> consumption	.92	.64	3.78	***	.33	.83	99	3508***	18	19
BESC --> engagement	.91	.25	6.15	***	.16	.34	82	52***	10	10
BESC --> behavioral intent.	.90	.46	9.12	***	.36	.54	92	257***	21	48
BESC --> interactive	.88	.38	4.94	***	.22	.52	97	454***	14	20
BESC --> loyalty	.82	.27	3.19	***	.09	.44	96	313***	12	14
BESC --> materialism	.83	.51	11.45	***	.43	.58	93	231***	15	16
BESC --> money	.94	.25	3.45	***	.09	.40	91	146***	13	23
BESC --> quality	.88	.19	4.93	***	.11	.28	84	58***	10	12
BESC --> shopping	.75	.33	4.64	***	.18	.46	99	1966***	17	21
BESC --> status	.83	.51	7.45	***	.38	.62	96	356***	15	66

Notes. ES = effect size coefficient; random effect; Z_1 = z-score; sig = significance; NS = non-significant; CI = confidence interval; Q = heterogeneity; Fail Safe N = fail safe number based on Gleser and Olkin approach; K = observation; *p<.05; **p<.01; ***p<.001; BESC alpha average = .93

Then, we test some correlations between BESC and some consequences. The next hypothesis proposes a main effect of BESC on attitude based on Theory of reasoned action (Azjen & Madden, 1986). As expected, the finding indicates that BESC increases the consumer's perceptions of positive attitude (r = .23; p<.01), supporting H_4. Using the failsafe number test, we need eight studies to make this effect non-significant.

Next, according to the results, the effect of BESC on consumption is r = .35 (p<.001), supporting H_5, Therefore, consumer with higher levels of BESC has a disposition to improve the consumption. Considering the failsafe test, this result can be transformed on a non-significant effect with 19 studies. Our results suggest a positive significant effect of BESC on the engagement (r = .25; p<.001), supporting H_6. Consumers may express theirs engagement by talking about the brand, by seeking to learn more about or simply by displaying its use (Goldsmith et al., 2012). Next, individuals who have high levels of BESC, they have a greater behavioral intention toward a product or brand (r = .46; p<.001), supporting H_7. The failsafe number for this test was 48.

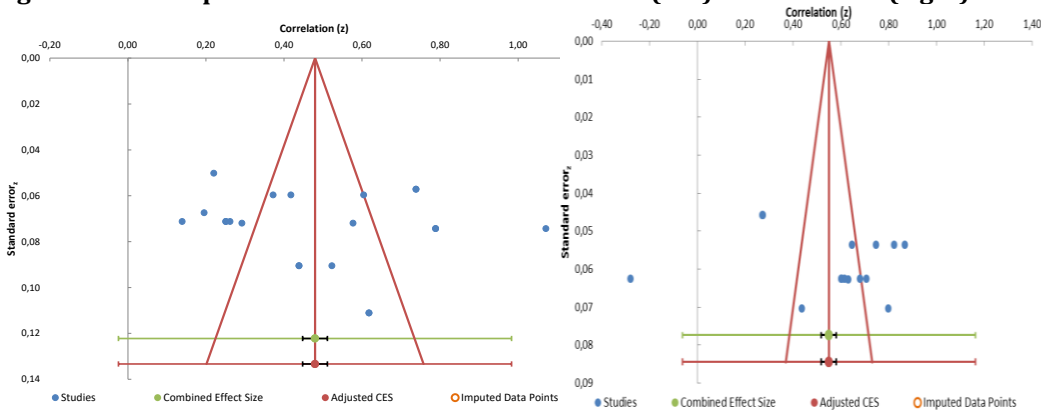
Our results suggests that consumer with high level of BESC, search for brand which has greater interactivity (r = .38; p<.001). This effect supports our H_8. The interaction with

users of other brands helps to reinforce the consumer's brand schemas (Pentina, Gammoh, et al., 2013; Pentina, Zhang, et al., 2013). Moreover, the outcome indicates that BESC increases the level of consumer loyalty (r = .27; p<.001), supporting H_9. Consumers with higher scores on brand engaged in the self-concept are likely to buy a brand again, which is a loyalty response (Brakus, Schmitt & Zarantonello, 2009).

Our findings indicate that consumers with high levels of BESC increase the level of materialistic consume (r = .51; p<.001), supporting our assumption (H_{10}). The materialism is attributed to ownership and acquisition of material goods to achieve desired life goals or states (Richins & Dawson, 1992). As expected, individuals with high level of BESC improves de amount of money expended (r = .25; p<.001) and quality (r = .19; p<.001. Next, we found a positive significant effect size of BESC on Shopping (r = .33; p<.001), and status (r = .51; p<.001), supporting H_{11} and H_{12} respectively.

We create a funnel plot for the BESC effects on behavioral intention (left) and on status (right; see Figure 2). The plot shows the funnel plot. In the absence of bias, the plot will resemble a symmetrical inverted funnel with dots presented around the mean and inside the funnel. "The use of the standard error (rather than sample size or variance) on the Y axis has the advantage of spreading out the points on the bottom half of the scale, where the smaller studies are plotted. This could make it easier to identify asymmetry" (Borenstein, Hedges, Higgins, & Rothstein, 2009 p. 283).

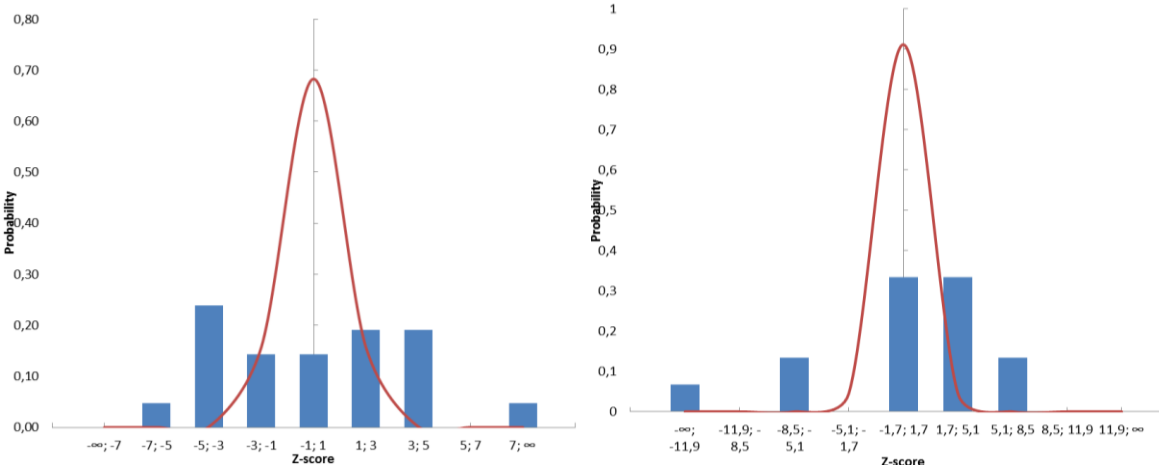
Figure 2: Funnel-plot of BESC on behavioral intention (left) and on status (right).



In the relationship between BESC and behavioral intention and status, there is heterogeneity. Heterogeneity refers to asymmetry if it induces a correlation between sample and effect and "refers to differences between study results beyond those attributable to chance" (Sterne et al., 2011, p. 2). We are looking for homogeneity and studies around the mean, but the results indicated heterogeneity because dots are outside the confidence interval.

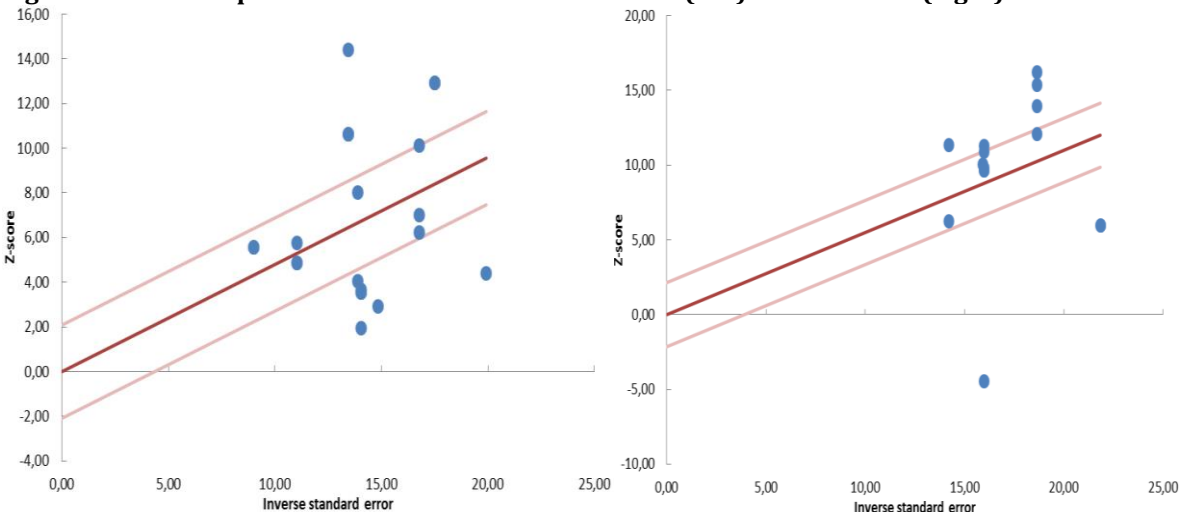
The Standardized Residual Histogram expects "to follow a normal distribution around the combined effect size" (Sutton, Duval, Tweedie, Abrams, & Jones, 2000, p. 41). "An overlay of a normal distribution can then be used to assess heterogeneity and departures from normality" (Bax et al., 2008, p. 252). In our results, there is heterogeneity because the bars do not follow a normal distribution (Figure 3).

Figure 3. Standardized residual of BESC on behavioral intention (left) and on status (right).



The Galbraith plot evaluates the heterogeneity between studies (Figure 4). "Parallel to the regression line, at a 2-standard-deviation distance, 2 lines create an interval in which most dots would be expected to fall if the studies were estimating a single fixed parameter" (Bax et al., 2008, p. 250). The research can suppose that 95% of the studies are within the zone between the two confidence interval lines.

Figure 4. Galbraith plot of BESC on behavioral intention (left) and on status (right).



Moderator Analysis

We coded the following variables as moderators, type of research (survey *vs*. experimental), good (product *vs*. service *vs*. both *vs*. not informed), sample type (students *vs*. consumers *vs*. social network users), engagement (one brand *vs*. several brands *vs*. not informed) and data collection (online *vs*. presential *vs*. telephone *vs*. not informed).

There were significant differences between students and consumers in generating the effect size of BESC on sense of community, ($F(1,14) = 9.647$, $p<.01$; $M_{students} = .219$ *vs*. $M_{consumers} = .497$), willingness of the consumer to pay the price stipulated ($F(1,11) = 6.335$, $p<.05$; $M_{students} = .357$ *vs*. $M_{consumers} = .317$), consumption, ($F(1,16) = 15.851$, $p<.001$; $M_{students} = .930$ *vs*. $M_{consumers} = .390$) and interactivity, ($F(1,12) = 5.581$, $p<.05$; $M_{user} = .219$ vs. $M_{consumers} = .455$). There were significant variances between product and service on the way that sense of community influences BESC ($F(1,13) = 9.737$, $p<.01$; $M_{product} = .284$ vs. $M_{service} = .687$).

The engagement type has impact on the way BESC influences the Consumption, F(1,16) = 52.298, p<.001; $M_{\text{one brand}}$ = .347 vs. $M_{\text{several brands}}$ = .947). The data collection mode has impact on the way BESC influences the Consumption F(1,15) = 15.851, p<.001; M_{online} = .390 vs. $M_{\text{presential}}$ = .930) and influences the Intentions F(1,19) = 7.381, p<.05; M_{online} = .474 vs. $M_{\text{presential}}$ = .203).

General Conclusion

Theoretical Implications. The first main conclusion is that although brand engagement in self-concept evokes consumer's behavioral response, the greatest effect size is on consumption. This result indicates that a high level of engagement in the self-concept induces to consume more, supporting how different brands create the self-concept. Second, BESC is different from involvement. Previous literature has been suggesting some overlapping between these two constructs, but our results present discriminant concepts. This distinction is because BESC not only considers the consumer's relationship with the brand, but also, as BESC influences on different aspects of purchase and behavior presented by consumers. Finally, we verified that some research aspects (moderators) have impacted on meta-analytic effect sizes. The sample types had the greatest amount of impact on effect sizes, influencing the effect of BESC on community, consumption, interactivity and money variables. Others researches aspects founded were the type of evaluated good, the engagement type and the data collection mode.

Limitation. This paper is not without boundaries. One worry relates to the effect size as an indicator. We know that we used different statistics for computing the effect size and they are not necessarily synonymous of effect because there are different perspectives. Another limitation refers to the classification scheme of brand engagement. We used BESC as a measure but we know that there are different theories behind engagement. For example, further research can use self-brand connection (SBC), consumer brand engagement (CBE) or brand experience (BE) as a measure. For the current paper, a classification scheme used by BESC was chosen for convenience.

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