

Impact of dance in advertisements on emotional attachment towards the advertised brand: Self-congruence theory

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ABSTRACT

The present study examines how consumers' perceived congruence between their self-concept and the image of the dance incorporated in online advertisements influences emotional attachment toward the advertised brand. The partial least squares structural equation model was applied to the data analysis. The results show that congruence between self-concept and the dance incorporated in online advertisements has a positive impact on emotional attachment toward the advertised brand. More specifically, the present study demonstrate that ideal self/dance-congruence increase emotional attachment towards advertised brand as hypothesized. However, contrary to expectations, actual self/dance-congruence has negligible contribution to emotional attachment towards advertised brand. The managerial implications of the study are outlined.

Keywords

Actual self/dance-congruence, Ideal self/dance-congruence, Emotional brand attachment

Widespread anecdotal evidence (see Table 1 for recent examples) suggests that marketers extensively incorporate dance into online advertisements. The dance incorporated into the ads typically involve choreographed movements to the music. Table 1. Examples of advertisements incorporating dance.

TABLE 1.

Examples of Advertisements Incorporating Dance

1. Seat Ibiza. Seat Ibiza advertisement with dancing to Mas Que Nada’s samba track, as performed by Sergio Mendes and featuring the Black Eyed Peas.
2. Nike. Nike Women’s advertisement entitled “Keep Up” with Sofia Boutella.
3. Sure for Men. The advertisement features ice skating dancers wearing the ‘Xtra Cool’ brand of deodorant.
4. Drench, a brand of juicy spring water. The advertisement uses dance to convey a message that “brains work better when they are hydrated.”
5. T-Mobile. The telecommunications company uses a flash mob dance to seemingly create a brand image of connectivity, spontaneity and fun.
6. Levi’s Stretchy Jeans. Dancers from the Korean Ballet Dance company demonstrate the flexibility and easy stretch of Levi’s jeans through skillful ballet dance.
7. Nivea Powder Touch. An English National Ballet ballerina presents a dance routine in which the Nivea Powder brand is displayed.
8. Lexus IS car. The Lexus IS “Poise” advertisement presents a ballet dance by Tamara Rojo featuring the Lexus IS car. Tamara Rojo is a well-known ballerina of the English National Ballet.
9. Sony Xperia mobile phone. The advertisement shows a Sony Xperia mobile phone in a dance move to Michael Jackson’s “Slave to the Rhythm” song.
10. Ford car. The advertisement shows a dance routine depicting a car being built from human bodies.
11. Baileys liqueur. A Baileys liqueur advertisement based on the Nutcracker ballet dance.
12. VW Polo. Tango dancers in the advertisement display body shapes and movements that suggest toughness and beauty, apparently to match and reinforce the VW’s image in the slogan “Tough. Beautiful. Polo.”

13. Citroen C4. The advertisement features a car being transformed into a dancing robot.

However, ad videos incorporating dance do not come cheap. The estimated production costs of a 1 to 2-minute professional ad video involving dance range from US\$ 5, 000 to US\$20, 000 for regular quality videos. The cost of premium quality videos ranges from US\$25, 000 to US\$50, 000 (Hinge, 2017). For videos involving celebrity dancers, production companies in the UK (eg, thecoalshed), recommend budgets ranging from £65,000 to £120,000.

Despite the huge costs associated with the practice of incorporating dance into ads, there is still limited research that explains the role of dance in ads. Therefore, the present study aims to contribute to better understanding of the consequences of dance in ads. One of the areas of increasing importance to marketing is the development of consumers' emotional attachment toward brands (Batra, Ahuvia, & Bagozzi, 2012; Carroll and Ahuvia, 2006; Fournier, 1998; Langner, Bruns, Fischer, & Rossiter, 2016; Malär, Krohmer, Hoyer, & Nyffenegger, 2011). Consumers who are emotionally attached to brands tend to be more loyal to the attached brands than those who are less emotionally attached (Batra, et al., 2012; Fournier, 1998; Thomson, MacInnis, & Park, 2005). Furthermore, consumers who are emotionally attached to brands are willing to pay premium prices (Thomson, et al., 2005) and tend to overlook these brands' mistakes (Batra, et al., 2012). Thus, advertising techniques that enhance consumers' emotional attachment toward advertised brands are increased sought after by marketers.

Additionally, several past studies (Huang, Zhang, & Hu, 2017; Malär, et al., 2011; Wallace et al., 2017; Wang, Yeh, Yen, & Sandoya, 2016) demonstrate that self-congruence (i.e., the fit between consumer's perception of self and the perceived brand personality or image (Aaker, 1999; Sirgy, 1982)) contributes significantly to emotional brand attachment.

Furthermore, numerous studies (e.g., Astakhova, Swimberghe, & Wooldridge, 2017; Huber, Eisele, & Meyer, 2018; Japutra, Keni, & Nguyen, 2016; Malär, et al., 2011) show that actual self-congruence (i.e., the fit between consumers' actual self and the perceived brand personality or image) and ideal self-congruence (i.e., the match between consumers' ideal self and the perceived brand personality or image) increase emotional brand attachment. Hence, companies are increasingly focusing on creating emotional connection between their brands and the consumers' actual self (i.e., how the consumers perceive themselves) or the consumers' ideal self (i.e., the consumers' aspirational selves) (see Malär, et al., 2011).

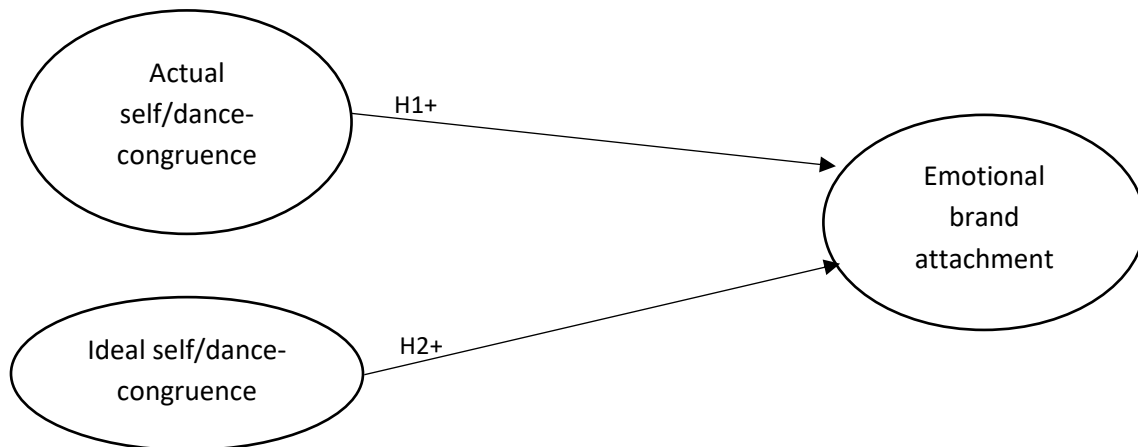
However, as far as the authors of the present study know, no previous study has investigated the impact of the congruence between self-concept and the dance featured in advertisements on the consumer's emotional attachment toward the advertised brand. Consequently, this study explores the impact of including dance in ads on emotional attachment toward advertised brands. Several previous studies on self-congruence and emotional attachment (Huang, et al., 2017; Hung, 2014; Malär, et al., 2011; Wang and Zuo, 2017; Wang, et al., 2016) focus on the direct consequences of the perceived congruence between self-concept and brand image for emotional attachment toward the same brand. On the other hand, the present study uniquely examines the impact of the congruence between self-concept and dance incorporated into advertisements on emotional attachment toward brands in advertisements. In summary, the current research pursues the following two research objectives: (1) to evaluate the impact of congruence between actual self and dance in ad (hereinafter referred to as 'actual self/dance-congruence') on emotional attachment toward the advertised brand, and (2) to assess the impact of congruence between ideal self and dance in ads (hereinafter referred to as 'ideal self/dance-congruence') on emotional attachment toward the advertised brand.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The dependent variable of the hypothesized conceptual framework (see Figure 1) is that of emotional attachment toward the advertised brand, (henceforth, ‘emotional brand attachment’). Several marketing studies (Fedorikhin, Park, & Thomson, 2008; Fournier, 1998; Grisaffe and Nguyen, 2011; Malär, et al., 2011) show that consumers develop an emotional attachment toward brands. Emotional brand attachment is defined as the bond that connects a consumer with specific brands and involves the consumer’s feelings in relation to the brand (Malär, et al., 2011). The feelings of brand attachment include affection, connection and passion (Thomson, et al., 2005). Therefore, ‘emotional brand attachment,’ in the context of the present study, is conceptualized as the bond between a person and the brand featured in the advertisement, characterized by deep feelings of connection, affection and passion (Grisaffe and Nguyen, 2011; Thomson, et al., 2005). The independent variable is the congruence between self-concept and the image the dance featured in the advertisement. Past studies (Aaker, 1997; Grohmann, 2009; Sirgy, 1982) conclude that self-congruence enhances consumers’ emotional, attitudinal and behavioral responses to brands. Malär, et al. (2011), in particular, establish that self-congruence plays a prominent role in creating emotional brand attachment. Furthermore, previous studies (e.g., Zinkhan and Hong, 1991) show that the relevance of the brand to the consumer depends on the connection between the brand’s symbolic meaning to the consumer and the consumer’s self-concept. Therefore, the authors argue that congruence between self-concept and a dance in ad (hereafter, self/dance-congruence) occurs when the symbolic meaning of a dance matches the consumer’s self-concept.

FIGURE 1

Figure 1: Conceptual Model and Hypothesized Relationships



In the present study, self/dance-congruence is conceptualized as a two-part configuration consisting of actual self/dance-congruence and ideal self/dance-congruence (Malär, et al., 2011; Sirgy et al., 1997). Actual self/dance-congruence reflects a match between the consumer's actual self and the image of the dance (i.e., actual self/dance-congruence). Similarly, ideal self/dance-congruence represents a match between the consumer's ideal self and the image of the dance. Whereas actual self/dance-congruence validates the consumer's actual self, ideal self/dance-congruence is a more concrete visual representation of whom the consumer would like to be. Actual self/dance-congruence is relevant for consumers who regard dance as a reflection of their perceived real or authentic self-image (cf. Gilmore and Pine, 2007; Malär, et al., 2011). On the hand, ideal self-congruence applicable to consumers with dancing aspirations (cf. Sirgy, 1982). Since several studies (Astakhova, et al., 2017; Huber, et al., 2018; Japutra, et al., 2016; Malär, et al., 2011) conclude that actual self-congruence and ideal self-congruence increase emotional brand attachment, the authors propose that both components of self/dance-congruence (i.e.,

actual self/dance-congruence and ideal self/dance-congruence) have a positive influence on emotional brand attachment.

Hypotheses

Self-consistency theory (Epstein, 1980) provides the theoretical foundation for explaining the effect of actual self/dance-congruence on emotional attachment toward the advertised brand.

Self-consistency explains the human tendency to behave consistently with one's views, because behavior that is inconsistent with beliefs causes cognitive dissonance (Sirgy, 1985). Therefore, consumers strive for self-consistency by purchasing brands that reflect their actual self (Aaker, 1999; Sirgy, 1982). Similarly, consumers are likely to prefer dance with images that match their actual self.

The theory of visual metaphors (Jeong, 2008) provides additional support for the hypothesized impact of actual/dance-congruence on emotional attachment toward the advertised brand. Visual metaphor is the practice of rhetorically comparing two juxtaposed objects in such a way that the two objects are eventually perceived similarly (Jeong, 2008). In the context of the present study, visual metaphorical effects enable consumers to conceptualize the advertised brand in terms that are comparable to those of the accompanying dance (Mohanty and Ratneshwar, 2015; Phillips and McQuarrie, 2004). Visual metaphors involving dance are likely to have a stronger impact on consumers than are other objects, because dance, unlike other objects, uniquely exerts emotional influence on viewers through kinesthetic empathy (Smyth, 1984). Kinesthetic empathy occurs when the dance audience, even when motionless, feel as if they are participating in the dance movement (Smyth, 1984). Hence, the juxtaposed presentation of the visual metaphor involving a dance and the advertised brand in the advertisement facilitates the development of emotional attachment toward the advertised brand. Thus, visual metaphorical

effects extend the self-consistency motive to the advertised brand through the kinesthetic effects of the dance in the ad. Additionally, past studies (Huang, et al., 2017; Malär, et al., 2011; Wang, et al., 2016) show that the more the consumer's self-concept matches the brand's image or personality, the stronger the emotional attachment toward the brand. Thus, it is hypothesized that:

H₁: Actual self/dance -congruence has a positive effect on emotional attachment toward the advertised brand.

Self-enhancement and self-construction theories are the bases for explaining the impact of ideal self/dance -congruence on emotional attachment toward the advertised brand. Self-enhancement refers to the human tendency to perceive oneself in a positive light (Pyszczynski and Greenberg, 1987). Individuals, driven by the need for self-enhancement, typically strive to perceive themselves as winners, regardless of their actual performance (Jordan and Audia, 2012). Furthermore, aspirations for higher goals shape an individual's ideal self (Markus and Nurius, 1986). In the context of the present study, when self-enhancement is the motive, consumers tend to perceive the skilled performance in the dance (e.g., ballet) and the high quality of the advertised brand as a reflection of their own desired qualities, regardless of their own shortcomings. Such consumers are likely to develop strong, emotional relationships with the dance in the ad and the advertised brand.

Additionally, the need for self-construction (Boon and Lomore, 2001; McCracken, 1989) drives consumers to constantly strive for symbolic consumption of prominent brands and seek close association with iconic celebrities whom the consumers hold in high esteem. When applied to the present study, consumers who strive for symbolic consumption are likely to seek close association with esteemed dance in the ads and develop an emotional attachment toward the

advertised brand through the metaphorical and kinesthetic effects of the dance in the ads.

Therefore,

H₂: Ideal self/dance -congruence has a positive effect on emotional attachment toward the advertised brand.

METHODS

Participants and research stimuli

Respondents were recruited via Amazon Mechanical Turk (MTurk), a crowdsourcing internet platform for human intelligence tasks. MTurk is widely regarded as a reliable source of research data (Evans and Bang, 2018; Goodman, Cryder, & Cheema, 2013; Mason and Suri, 2012; Mosteller and Poddar, 2017; Ott, Vafeiadis, Kumble, & Waddell, 2016). Ten postgraduate students, studying for MA Marketing degree, were hired to select three online videos from a group of 20 videos identified online by the researchers. The videos were rated and selected, based on three criteria: (1) salience of the advertised brand, (2) salience of the dance incorporated into the dance, (3) video running duration of between 1:00 minutes and 1:30 minutes, and (4) the videos represented three different product classes (i.e., convenience, shopping, and specialty products) to enhance the generalizability of the results of the study. Therefore, three online videos (see Appendix A) were selected for the study. Lexus IS represented specialty products. On the other hand, Nivea Powder Touch symbolized the convenience products, while the Sony Xperia mobile phone denoted shopping products. The respondents had to view only one of the videos and answer questions based on the viewed video. The videos were number-labeled for identification in the process of allocating them to the respondents, i.e., (1) Lexus IS car, (2) Nivea Powder Touch, and (3) Sony Xperia mobile phone. The researchers applied systematic random sampling method to allocate the videos to the

respondents. A low-cost method of systematic random allocation of online respondents to a video was applied. Anecdotal evidence indicated acceptable accuracy of the method in the random allocation of online respondents across three stimuli.

First, the respondents were shown a list of numbers grouped into three categories: The first category (i.e., category 1) contained numbers from 1 to 10. In the second category (i.e., category 2) the numbers were from 11 to 20. The third category (i.e., category 3) consisted of numbers from 21 to 31. Next, each respondent was asked to identify the category number that matched with his/her date of birth. For example, if someone was born on the 12th day of the month, then the matching category number was 2 (i.e., 12 falls into the second category of the numbers). Then, the respondent was asked to select the video with the number-label that corresponded with the matching category. For example, for the respondent who was born on 12th day of the month, the matching category was 2, and therefore, the respondent had to choose video number 2 for further analysis (i.e., the Nivea Powder Touch video).

Then, the respondent was asked to view the relevant video for at least three times, and then complete an online questionnaire based on the video. A total of US\$362 was paid for the 342 completed questionnaires. A total of 311 usable responses were selected from the completed questionnaires after eliminating questionnaires with inconsistent responses. As the responses were collected via the Internet, it was not feasible to establish the precise response rate.

Measures

Items for measuring the constructs were selected based on empirically validated scales. The independent variables of actual self/dance-congruence and ideal self/dance-congruence were assessed using Sirgy, et al. (1997) scale. Respondents were first asked to focus on the dance, disregarding the dancer's visible demographic profile, and then think about the 'dance' in the

advertisement in human, descriptive terms, such as gracious/ungracious, aggressive/tender, progressive/backward, attractive/repulsive, etc. (cf. Malär, et al., 2011). Next, the respondents were asked to think about similar characteristics that reflected their own image or personality (actual self). Then, the respondents were instructed to indicate, on a Likert scale, the extent to which their own personality and the image of the dance matched in relation to two items (Malär, et al., 2011): “I see myself in the character of the dance” and “The dance mirrors myself.” Ideal self/dance-congruence was similarly measured using two items: “I see the person I would like to be in the image of the dance” and “The dance mirrors the person I would like to be.” The dependent variable — emotional attachment toward the advertised brand — was measured using six items (i.e., affection, love, connection, passion, delight, and captivation) (Malär, et al., 2011; Thomson, et al., 2005).

Analysis of the measurement and structural model

A partial least squares structural equation model (PLS-SEM), a variance-based structural equation modeling technique (Lohmöller, 1989; Wold, 1985), was used to analyze the proposed model. The PLS-SEM was chosen for the present study over the covariance-based maximum likelihood estimation (MLE) method for two main reasons. First, inclusion of the continuous moderating variables in the model requires the application of a variance-based SEM, as the variance-based SEM estimates the interacting terms based on continuous moderators more accurately than does the covariance SEM (Fassott et al., 2016). Second, the present study focuses on predicting emotional attachment toward the advertised brand through self/dance-congruence, which calls for the application of the PLS-SEM as a more appropriate prediction method than the traditional covariance-based SEM (Rigdon, 2012). However, as the PLS-SEM is often criticized for failing to provide a robust test for structural model fit (Hair, Sarstedt, Ringle, & Mena, 2012),

Amos, covariance-based SEM software, was also applied in order to assess the model fit (Sugathan, Ranjan, & Mulky, 2017).

Consequently, SmartPLS3, software for analyzing variance-based structural models (Ringle, Wende, & Becker, 2015), was employed to analyze the PLS-SEM structures. The authors applied path weighting, a maximum of 300 iterations, and a stop criterion of 10^{-7} (Hair Jr, Hult, Ringle, & Sarstedt, 2016). The measurement model was evaluated in the first stage of the analysis, followed by an analysis of the structural model (Chin, 2010; Henseler and Chin, 2010).

RESULTS

Sample profile and descriptive analysis

Respondents were evenly distributed throughout the three advertisements (Lexus, 95; Nivea, 120; Sony, 96), with the Nivea advertisement commanding slightly more responses than did the other two commercials. The gender composition was almost evenly distributed (i.e., Females, 51.4%; Males, 48.6%). A relatively large proportion of the sample comprised young adults (i.e., 18 to 25 years old, 58.5%), followed by the 26–34 age group (18.9%), and the remaining respondents were nearly evenly distributed between the 35–49 and the 50 or older age groups.

Overall, actual self/dance-congruence was slightly weak ($M_{\text{Actual self/dance-congruence}} = 2.74$, $SD = 1.08$), as the mean is just below the scale midpoint. On the other hand, respondents' ideal self/dance-congruence ($M_{\text{Ideal self/dance-congruence}} = 3.19$, $SD = 1.165$), ($M_{\text{Emotional attachment toward brand in advertisement}} = 3.18$, $SD = .995$) were moderately strong, since all the means were above the midpoint of the five-point scale. Moreover, the responses in relation ideal self/dance-congruence ($SD = 1.165$) were dispersed furthest from the mean, followed by the responses regarding actual

self/dance-congruence ($SD = 1.08$), and the least dispersed responses were in relation to emotional attachment toward the brand in the advertisement ($SD = 1.025$).

Assessment of the measurement model

The measurement model was assessed for reliability and validity (Henseler, Ringle, & Sinkovics, 2009). The initial application of the consistent PLS (PLSc) method to the data (Dijkstra and Henseler, 2015; Schlägel and Sarstedt, 2016) produced a model with R^2 of 0.341. Further inspection of the model showed that the loadings of three items of the construct “emotional brand attachment” (i.e., captivating, passion and love) were below 0.5. Consequently, the authors excluded the three items from further data analysis. The elimination of reflective items with low loadings does not compromise the scale’s validity when at least two items are retained (Hair Jr, et al., 2016). Furthermore, the evaluation of dance in terms of the remaining three items (i.e., connection, affection and delight) fits the description of emotional attachment toward the advertised brand better than in terms of the deleted items, which implies improved face validity of the construct. An added advantage of the elimination of the three items was the 17% increase in R^2 , from 0.341 to 0.412.

The second round of PLSc generated loadings and measures of composite reliability (CR) above the minimum recommended level of .70, indicating acceptable levels of construct reliability (see Table 2). Furthermore, Fornell and Larcker (1981) criterion (Table 3) shows that the square root of the average variance extracted (AVE) for each of the constructs is larger than the coefficient of the correlation between that particular construct and any other construct in the model, suggesting adequate discriminant validity. Similarly, the loading and cross-loading criteria (i.e., outer loadings higher on the respective constructs than are cross-loadings) further indicate discriminant validity (see Rezaei, 2015). Additionally, the Heterotrait–Monotrait Ratio

(HTMT) values (Table 3), which are much less than the threshold of .85, further confirm discriminant validity (Henseler, Ringle, & Sarstedt, 2015).

TABLE 2

Outer loadings (λ), outer T-statistic (λ T-statistic), Cronbach's alpha (α), average variance extracted (AVE) and composite reliability (CR) of the constructs.

Construct/Item	(λ)	λ T- statistic	(α)	(CR) ^b	(AVE) ^a
Actual self/dance-congruence			0.891	0.948	0.817
Dance-I see myself	0.982	68.024			
Dance-Mirrors myself	0.818	141.674			
Ideal self/dance-congruence			0.900	0.952	0.817
Dance-Is my ideal self	0.904	116.310			
Dance-Mirrors my ideal self	0.904	108.028			
Emotional brand attachment			0.787	0.875	0.554
Affection	0.700	31.515			
Connection	0.770	35.420			
Delight	0.761	42.344			

TABLE 3Discriminant validity: Fornell–Larcker criterion and Heterotrait–Monotrait Ratio (HTMT)^a

Constructs	Actual self/dance- congruence	Emotional brand attachment	Ideal self/dance- congruence
Actual self/dance- congruence	0.904		
Emotional brand attachment	0.396 (0.398)	0.744	
Ideal self/dance- congruence	0.602 (0.675)	0.494 (0.494)	0.904

^aThe Heterotrait–Monotrait (HTMT) Ratios are in brackets, and those not in brackets are for the Fornell–Larcker criterion.

^bFor the Fornell–Larcker criterion, the diagonal values are the square roots of the AVEs and off-diagonal values are the correlations between the constructs.

Measurement invariance assessment

Since the data collection was based on the three different videos, the authors first assessed the feasibility of pooling the data from the three videos for structural model analysis. For this purpose, the authors assessed full measurement invariance throughout the three videos, drawing on Henseler, Ringle, & Sarstedt (2016) measurement invariance of composite models (MICOM) procedure. The authors followed the recommended three steps of MICOM (Henseler, et al., 2016; Schlängel and Sarstedt, 2016): (1) configural invariance (i.e., equal specification of composites, resulting in unidimensional composites with similar items, identical data treatment and uniform algorithm settings throughout all groups), (2) compositional invariance (i.e.,

equality indicator weights throughout the groups), and (3) the equality of composite mean values and variances.

The measures already taken in the previous step contributed to successful configural invariance. First, the model adjustments carried out in previous steps ensured equivalent PLS path models throughout the three videos. Additionally, each of the video-specific models also draws on the same algorithm settings, which completes the requirements of configural invariance. The authors then tested the equality of compositional scores throughout the videos through the application of the permutation procedure with 1000 permutations and a 5% significance level for each of the video scenarios (Schlängel and Sarstedt, 2016). Next, the authors compared the original composite score correlations (c) with the permutation results of the empirical distribution of the composite score correlations (C_u) (Hair Jr, Sarstedt, Ringle, & Gudergan, 2017). If c is larger than the 5% quantile of C_u , compositional invariance is established. The corresponding p -values also confirm the significance level of the compositional invariance test. The results (in Appendix B) confirm that compositional invariance is established.

Having confirmed compositional variance, the authors proceeded toward testing for full measurement invariance in the three videos' dance scenarios. The results in Table 6 also show that all of the composite means and variances are equal in the three video scenarios, which confirms full measurement invariance. Consequently, the data was pooled throughout the three videos for the evaluation of the structural model and for the analysis of the hypothesized relationships (Henseler, et al., 2016).

Evaluating the structural model

Having confirmed the measurement model and measurement invariance, the authors applied Amos, covariance-based structural equation model software, in order to test for the model fit.

Notwithstanding the unsatisfactory chi-square criterion ($\chi^2 (34) = 80.55, p < 0.000$), all other important indices [RMSEA = 0.066; GFI = 0.96; AGFI = 0.92; CFI = 0.98; TLI = 0.96; NFI = 0.96] confirmed a strong model fit for the data. The structural module was then tested in two stages by using the orthogonalizing approach. The authors first assessed the main affects, followed by the assessment of the interaction model (Fassott, et al., 2016; Hair Jr, et al., 2016). The output of the PLS-SEM algorithm (see Table 4) is a result of bootstrapping 5000 samples so as to estimate the model path coefficients, the significance of path coefficients, and the explained variance (R^2) for the dependent variable, and for the analyses of the moderating effects (Fassott, et al., 2016). The R^2 values of 0.462 and 0.476 for the main effects and interaction models, respectively, are indicative of the moderate predictive capacity of both models (Hair Jr, et al., 2016).

TABLE 4

Structural model results

Structural relations	Model 1 (Main effects)			Model 2 (With interaction effects)		
	Path Coeff	T-Test	P-value	Path Coeff	T-Test	P-value
AS/D-C → EBA	0.082	1.638	0.101	0.091	1.707	0.342
IS/D-C → EBA	0.329	4.163	0.000	0.334	4.109	0.002
R^2	0.412			0.476		
R^2 adjusted	0.404			0.462		

Bootstrapping results (n = 5000), p < 0.05

Path Coeff = Path coefficient.

Common method biases

The authors implemented some procedures aimed at reducing measurement errors through common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The first procedure was to improve scale items. All items were inspected for potential ambiguities and, where necessary, rewrote some items more clearly. The authors then asked 10 first-year undergraduate students to pilot-test the questionnaire and corrected all of the identified misunderstandings and ambiguities. A counterbalancing question order was also introduced to control for potential priming effects. To this end, the authors placed the questions for measuring the dependent variable between the questions for assessing the dependent and moderating variables. This procedure intended to make it difficult for the respondents to link questions to their respective dependent or independent variables. Additionally, authors of the present study attempted to reduce respondents' evaluation anxiety and apprehension by assuring the respondents of their anonymity. The respondents were assured that any response given was valid, since there were no 'right' or 'wrong' answers.

The authors then ran Harman's One Factor Method, based on Exploratory Factor Analysis (EFA), in order to statistically assess for common method variance (Malhotra, Kim, & Patil, 2006; Podsakoff, et al., 2003). The first component of the unrotated factor solution accounted for 37% of the total variance, indicating that no single factor in the model was dominant. The limitations of Harman's One Factor Method are well documented (e.g., Malhotra, et al., 2006; Podsakoff, et al., 2003). However, since the common method biases for the present study could not be validly measured, the authors concluded, based on procedures and tests conducted, that common method biases, if any, were minimal (Podsakoff, et al., 2003).

Hypothesized relationships

The results of the hypothesized relationships (see Table 5) show that, contrary to hypothesized effects, actual self/dance-congruence has no significant effect on emotional attachment toward the advertised brand ($\beta = 0.082$; $p = 0.101$). However, ideal self/dance-congruence has significant influence on emotional attachment toward the advertised brand ($\beta = 0.329$; $p = 0.00$).

Table 5:

Hypothesized structural relationships

Path	Path coefficient (<i>b</i>)	T-statistic	P-value	Decision
H1: Actual self/dance-congruence → emotional brand attachment	0.082	1.638	0.101	NS
H2: Ideal self/dance-congruence → emotional brand attachment	0.329	4.163	0.000	Significant

*NS = Not significant

DISCUSSION AND CONCLUSIONS

The study sets out to investigate the impact of consumers' perceived congruence between their self-concept and the image of the dance incorporated into advertisements on emotional attachment toward the advertised brand. The findings show that congruence between the individual's overall self-concept (combined effects of actual self-concept and ideal self-concept) and the dance featured in the advertisement has a significant impact on emotional attachment toward the advertised brand. The explained variance of the hypothesized model ($R^2 = 0.462$) indicates moderate predictive capacity of the conceptual model (Hair Jr, et al., 2016).

However, the two components of the self-concept (i.e., actual self and ideal self) have different effects on the emotional attachment toward brands in advertisements. The weak actual self/dance-congruence suggests that dance featured in ads scarcely reflects the consumers' actual selves. Furthermore, unlike the results of previous studies in the related area of self/image-congruence and emotional attachment (e.g., Huang, et al., 2017; Hung, 2014; Malär, et al., 2011; Wallace, et al., 2017; Wang, et al., 2016), the results of the present study indicate that actual self/dance has limited impact on emotional attachment toward advertised brands. These results suggest that most consumers perceive little resemblance between their actual selves and the personalities or image of dance featured in ads. Furthermore, any existing actual self/dance-congruence has little influence on emotional attachment towards the advertised brand. The results also suggest that, given the weak actual self/dance-congruence, any visual metaphorical influences and related kinesthetics effects of the dance in ads that may exist had negligible influences on the relationship between actual self/dance-congruence and the emotional attachment towards the advertised brand.

On the contrary, the present study indicates strong ideal self/dance-congruence and positive significant contribution of actual self/dance-congruence on emotional attachment toward advertised brands. This outcome suggests that, generally, consumers admire the dances featured in ads and consider the dances to be aspirational performances, and such admiration for the dance in ads leads to emotional attachment towards the advertised brand. Therefore, developing emotional attachment toward brands in advertisements through self-congruence, self-enhancement motives (Pyszczynski and Greenberg, 1987) and aspirational goals (Markus and Nurius, 1986) play more significant roles than do viewers' self-consistency motives (Epstein, 1980). These results are consistent with past studies (Singh and Banerjee, 2018; Spears, Royne,

& Van Steenburg, 2013), which established positive association between celebrity worship (aspirational goals) ad attitudes and purchase intention.

This study contributes to the literature in several ways. First, the study advances the theoretical framework of self-congruence as a viable explanation for the widely adopted practice of pairing dance with brands in advertisements. More specifically, the study illustrates, through empirical evidence, the key role of ideal self/dance-congruence in the creation of emotional attachment towards dance featured in ads. The study also demonstrates that, unlike in the traditional self-congruence/emotional brand attachment relationships (e.g., Astakhova, et al., 2017; Huber, et al., 2018; Malär, et al., 2011), actual self/dance-congruence has negligible impact on emotional attachment towards advertised brand. Therefore, when the objective is to create emotional attachment towards brands featured together with dance in ads through self-congruence theory, the focus should be on highlighting consumer's ideal self/dance-congruence with minimal emphasis on actual self/dance-congruence.

MANAGERIAL IMPLICATIONS

There are important managerial implications for the findings of the present study. Findings of the present study indicate that marketing managers who aim to create emotional attachment through the incorporation of dance in ads should focus on incorporating dance in ads that appeals to the aspirations of a given market segment. Therefore, marketing managers should choose a specific dance that is most likely to inspire the target consumers. For example, marketers should incorporate ballet dance into the ads if the target consumers aspire to match their personalities with the image of ballet dance. Similarly, other dance forms, such as samba, could be incorporated into ads that are targeted at consumers who relate their ideals selves to the characteristics of the specific dance.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE STUDIES

The study has limitations that could be addressed in further studies in this area. Three brands, each representing a product class, i.e., cars, mobile phones, and deodorant. Enough data was collected to test the hypothesized model. Nevertheless, future studies may include a wider range of brands in each product class to further test the external validity of the research results.

Furthermore, cues of dance in ads included a combination of a dance and a specific musical genre. The authors recommend that future studies investigate whether congruence (or incongruence) between the dance and the accompanying musical genre influences the study outcome. Future studies could also examine the extent to which perceived congruence or incongruence between the dance and the brand incorporated into the advertisement affects the hypothesized model. It would be interesting to determine whether, for example, dance perceived to be exclusive, such as ballet dance and classical music, would have the same effect regarding luxury brands as that of brands of necessity.

In conclusion, this research calls for further studies in this embryonic field of study. More specifically, future studies could yield further insight into the boundary conditions of the hypothesized model.

Appendix A: Videos included in the study

Representative image of the video advertisement	Brief description of the dance



j Lexus IS 2013 TV advert: Poise

In this one-minute video, dubbed ‘Poise,’ Tamara Rojo, an accomplished ballerina, presents a dazzling performance that implicitly compares her skilled movements with the performances of the Lexus IS 2013 car. Images of the car frequently appear together with or soon after every dance move. The dance ends with the following words: “A strong body for greater control.” These attempt to connect the dance with the Lexus IS car.



NIVEA Powder Touch Deodorant

The video of 1 minute and 32 seconds presents Jennie Harrington, an accomplished ballerina, in a dance featuring Nivea Powder Touch deodorant. At one point the dancer, wearing a blue dress, puts on the Nivea Powder, and a voice is heard proclaiming, “I am a different person when I dance. There are two sides to me; on the one side, I want to be graceful, feminine, flawless; but, behind every step, am pushing.” The dance continues in close association with the Nivea Powder. The video then ends by displaying the following words: “For your two sides.”



Xperia Z2 from Sony - Details Make The Difference

A video of 1 minute and 31 seconds presents a dance routine starring Jérémie Bélingard, a principal dancer at Paris Opera Ballet, as the choreographer of a ‘street dance.’ He introduces the dance with the following words: “We are going to have to find this sense of freedom.” The video features a dance to Michael Jackson’s “Slave to the Rhythm,” displaying the technologically advanced

	Sony together with the advanced dance moves.
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Appendix B: Summary of the MICOM results

Measurement of invariance throughout commercials

Commercial 1 (Lexus advertisement) vs. Commercial 2 (Nivea advertisement)

MICOM Step 1

Configuration invariance established? Yes

MICOM Step 2

Composite	Correlation c	5% quantile of the empirical distribution of C_u	P-value	Compositional invariance established?
A/D-congruence	0.999	0.995	0.305	Yes
I/D-congruence	0.999	0.998	0.155	Yes
EBA	0.996	0.995	0.096	Yes

MICOM Step 3

Composite	Difference in the composite's mean value (=0)	95% confidence interval	P-value	Equal mean values?
A/D-congruence	-0.115	[-0.288; 0.280]	0.413	Yes
I/D-congruence	-0.144	[-0.271; 0.276]	0.303	Yes
EBA	0.180	[-0.054; 0.296]	0.806	Yes

Composite	Logarithm of the composite's variance ratio (=0)	95% confidence interval	P-value	Equal variance?
A/D-congruence	-0.060	[-0.318; 0.307]	0.719	Yes
I/D-congruence	-0.021	[-0.311; 0.297]	0.896	Yes
EBA	0.321	[-0.341; 0.337]	0.065	Yes

Commercial 1 (Lexus advertisement) vs. Commercial 3 (Sony advertisement)

MICOM Step 1

Configuration invariance established? Yes

MICOM Step 2

Composite	Correlation c	5% quantile of the empirical distribution of C_u	P-value	Compositional invariance established?
A/D-congruence	1.000	0.986	0.861	Yes
I/D-congruence	0.999	0.997	0.288	Yes
EBA	0.998	0.993	0.458	Yes

MICOM Step 3

Composite	Difference in the composite's mean value (=0)	95% confidence interval	P-value	Equal mean values?
A/D-congruence	0.057	[-0.297; 0.287]	0.703	Yes
I/D-congruence	0.017	[-0.308; 0.271]	0.890	Yes
EBA	-0.207	[-0.395; 0.292]	0.633	Yes

Composite	Logarithm of the composite's variance ratio (=0)	95% confidence interval	P-value	Equal variance?
A/D-congruence	-0.125	[-0.367; 0.310]	0.447	Yes
I/D-congruence	0.070	[-0.336; 0.313]	0.666	Yes
EBA	0.377	[-0.346; 0.387]	0.426	Yes

Commercial 2 (Nivea advertisement) vs Commercial 3 (Sony advertisement)

MICOM Step 1

Configuration invariance established? Yes

MICOM Step 2

Composite	Correlation c	5% quantile of the empirical distribution of C_u	P-value	Compositional invariance established?
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A/D- congruence	0.999	0.997	0.370	Yes
I/D-congruence	1.000	0.998	0.933	Yes
EBA	0.998	0.989	0.574	Yes

MICOM Step 3

Composite	Difference in the composite's mean value (=0)	95% confidence interval	P-value	Equal mean values?
A/D- congruence	0.173	[-0.286; 0.276]	0.232	Yes
I/D-congruence	0.162	[-0.246; 0.268]	0.242	Yes
EBA	0.058	[-0.263; 0.277]	0.668	Yes

Composite	Logarithm of the composite's variance ratio (=0)	95% confidence interval	P-value	Equal variance?
A/D- congruence	-0.064	[-0.292; 0.293]	0.685	Yes
I/D-congruence	0.084	[-0.271; 0.292]	0.581	Yes
EBA	0.082	[-0.364; 0.368]	0.638	Yes

AS/D-congruence = Actual self/dance-congruence; EBA = Emotional brand attachment; IS/D-congruence = Ideal self/dance-congruence.

References

- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of marketing research*, pp. 347-356.
- Aaker, J. L. (1999). The malleable self: The role of self-expression in persuasion. *Journal of marketing research*, pp. 45-57.
- Astakhova, M., Swimberghe, K. R., & Wooldridge, B. R. (2017). Actual and ideal-self congruence and dual brand passion. *Journal of Consumer Marketing*, 34(7), pp. 664-672.
- Batra, R., Ahuvia, A., & Bagozzi, R. P. (2012). Brand love. *Journal of Marketing*, 76(2), pp. 1-16.
- Boon, S. D., & Lomore, C. D. (2001). Admirer-celebrity relationships among young adults. *Human Communication Research*, 27(3), pp. 432-465.
- Carroll, B. A., & Ahuvia, A. C. (2006). Some antecedents and outcomes of brand love. *Marketing Letters*, 17(2), pp. 79-89.
- Chin, W. W. (2010). How to write up and report PLS analyses *Handbook of partial least squares* (pp. 655-690): Springer.
- Dijkstra, T. K., & Henseler, J. (2015). Consistent partial least squares path modeling. *MIS quarterly= Management information systems quarterly*, 39(2), pp. 297-316.

- Epstein, S. (1980). The self-concept: A review and the proposal of an integrated theory of personality. *Personality: Basic aspects and current research*, 81132
- Evans, N. J., & Bang, H. (2018). Extending Expectancy Violations Theory to Multiplayer Online Games: The Structure and Effects of Expectations on Attitude Toward the Advertising, Attitude Toward the Brand, and Purchase Intent. *Journal of Promotion Management*, pp. 1-20.
- Fassott, G., Fassott, G., Henseler, J., Henseler, J., Coelho, P. S., & Coelho, P. S. (2016). Testing moderating effects in PLS path models with composite variables. *Industrial management & data systems*, 116(9), pp. 1887-1900.
- Fedorikhin, A., Park, C. W., & Thomson, M. (2008). Beyond fit and attitude: The effect of emotional attachment on consumer responses to brand extensions. *Journal of Consumer Psychology*, 18(4), pp. 281-291.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, pp. 39-50.
- Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), pp. 343-373.
- Gilmore, J. H., & Pine, B. J. (2007). *Authenticity: What consumers really want*: Harvard Business Press.
- Goodman, J. K., Cryder, C. E., & Cheema, A. (2013). Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26(3), pp. 213-224.
- Grisaffe, D. B., & Nguyen, H. P. (2011). Antecedents of emotional attachment to brands. [Article]. *Journal of Business Research*, 64(10), pp. 1052-1059. doi:10.1016/j.jbusres.2010.11.002 Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-79959923505&partnerID=40&md5=e8b87d57bb9b222fe0212f185d35c9bd>
- http://ac.els-cdn.com/S0148296310002250/1-s2.0-S0148296310002250-main.pdf?_tid=ba30837c-bbc6-11e6-840b-00000aacb360&acdnat=1481037468_a9878fed76abfbf719ca7cbcada08c19
- Grohmann, B. (2009). Gender dimensions of brand personality. *Journal of marketing research*, 46(1), pp. 105-119.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), pp. 414-433.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage Publications.
- Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced Issues in Partial Least Squares Structural Equation Modeling*: SAGE Publications.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, 17(1), pp. 82-109.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), pp. 115-135.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International marketing review*, 33(3), pp. 405-431.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing *New challenges to international marketing* (pp. 277-319): Emerald Group Publishing Limited.
- <https://hingemarketing.com/blog/story/what-is-the-cost-of-video-production-for-the-web-> accessed on 22 September 2018.

<http://www.thecoalshed.co.uk/how-much-does-it-cost-to-make-a-tv-advert/> accessed on 22

September 2018.

- Huang, Z., Zhang, C., & Hu, J. (2017). Destination brand personality and destination brand attachment—the involvement of self-congruence. *Journal of Travel & Tourism Marketing*, pp. 1-13.
- Huber, F., Eisele, A., & Meyer, F. (2018). The role of actual, ideal, and ought self-congruence in the consumption of hedonic versus utilitarian brands. *Psychology & Marketing*, 35(1), pp. 47-63.
- Hung, H.-Y. (2014). Attachment, identification, and loyalty: Examining mediating mechanisms across brand and brand community contexts. *Journal of Brand Management*, 21(7-8), pp. 594-614.
- Japutra, A., Keni, K., & Nguyen, B. (2016). What's in a university logo? Building commitment in higher education. *Journal of Brand Management*, 23(2), pp. 137-152.
- Jeong, S. H. (2008). Visual metaphor in advertising: Is the persuasive effect attributable to visual argumentation or metaphorical rhetoric? *Journal of Marketing Communications*, 14(1), pp. 59-73.
- Jordan, A. H., & Audia, P. G. (2012). Self-enhancement and learning from performance feedback. *Academy of Management Review*, 37(2), pp. 211-231.
- Langner, T., Bruns, D., Fischer, A., & Rossiter, J. R. (2016). Falling in love with brands: a dynamic analysis of the trajectories of brand love. *Marketing Letters*, 27(1), pp. 15-26.
- Lohmöller, J.-B. (1989). Predictive vs. Structural Modeling: PLS vs. ML *Latent Variable Path Modeling with Partial Least Squares* (pp. 199-226): Springer.
- Malär, L., Krohmer, H., Hoyer, W. D., & Nyffenegger, B. (2011). Emotional brand attachment and brand personality: The relative importance of the actual and the ideal self. [Article]. *Journal of Marketing*, 75(4), pp. 35-52. doi:10.1509/jmkg.75.4.35 Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-79959372122&partnerID=40&md5=6b35ffe3c33dfd686c28691f6b35e418>
- Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management science*, 52(12), pp. 1865-1883.
- Markus, H., & Nurius, P. (1986). Possible selves. *American psychologist*, 41(9), p 954.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior research methods*, 44(1), pp. 1-23.
- McCracken, G. (1989). Who is the celebrity endorser? Cultural foundations of the endorsement process. *Journal of Consumer Research*, 16(3), pp. 310-321.
- Mohanty, P., & Ratneshwar, S. (2015). Did you get it? Factors influencing subjective comprehension of visual metaphors in advertising. *Journal of Advertising*, 44(3), pp. 232-242.
- Mosteller, J., & Poddar, A. (2017). To Share and Protect: Using Regulatory Focus Theory to Examine the Privacy Paradox of Consumers' Social Media Engagement and Online Privacy Protection Behaviors. *Journal of Interactive Marketing*, 39, pp. 27-38.
- Ott, H. K., Vafeiadis, M., Kumble, S., & Waddell, T. F. (2016). Effect of message interactivity on product attitudes and purchase intentions. *Journal of Promotion Management*, 22(1), pp. 89-106.
- Phillips, B. J., & McQuarrie, E. F. (2004). Beyond visual metaphor: A new typology of visual rhetoric in advertising. *Marketing theory*, 4(1-2), pp. 113-136.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), p 879.
- Pyszczynski, T., & Greenberg, J. (1987). Toward an integration of cognitive and motivational perspectives on social inference: A biased hypothesis-testing model. *Advances in experimental social psychology*, 20, pp. 297-340.

- Rezaei, S. (2015). Segmenting consumer decision-making styles (CDMS) toward marketing practice: A partial least squares (PLS) path modeling approach. *Journal of Retailing and Consumer Services*, 22, pp. 1-15.
- Rigdon, E. E. (2012). Rethinking partial least squares path modeling: In praise of simple methods. *Long Range Planning*, 45(5), pp. 341-358.
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. Bönningstedt: SmartPLS. GmbH, <http://www.smartpls.com>
- Schlägel, C., & Sarstedt, M. (2016). Assessing the measurement invariance of the four-dimensional cultural intelligence scale across countries: A composite model approach. *European Management Journal*, 34(6), pp. 633-649.
- Singh, R. P., & Banerjee, N. (2018). Exploring the Influence of Celebrity Worship on Brand Attitude, Advertisement Attitude, and Purchase Intention. *Journal of Promotion Management*, pp. 1-27.
- Sirgy, M. J. (1982). Self-concept in consumer behavior: A critical review. *Journal of Consumer Research*, 9(3), pp. 287-300.
- Sirgy, M. J. (1985). Using self-congruity and ideal congruity to predict purchase motivation. *Journal of Business Research*, 13(3), pp. 195-206.
- Sirgy, M. J., Grewal, D., Mangleburg, T. F., Park, J.-o., Chon, K.-S., Claiborne, C. B., . . . Berkman, H. (1997). Assessing the predictive validity of two methods of measuring self-image congruence. *Journal of the Academy of Marketing Science*, 25(3), pp. 229-241.
- Smyth, M. M. (1984). Kinesthetic Communication in Dance. *Dance Research Journal*, 16(02), pp. 19-22.
- Spears, N., Royne, M., & Van Steenburg, E. (2013). Are celebrity-heroes effective endorsers? Exploring the link between hero, celebrity, and advertising response. *Journal of Promotion Management*, 19(1), pp. 17-37.
- Sugathan, P., Ranjan, K. R., & Mulky, A. G. (2017). Atypical Shifts Post-Failure: Influence of Co-creation on Attribution and Future Motivation to Co-create. *Journal of Interactive Marketing*, 38, pp. 64-81.
- Thomson, M., MacInnis, D. J., & Park, C. W. (2005). The ties that bind: Measuring the strength of consumers' emotional attachments to brands. *Journal of Consumer Psychology*, 15(1), pp. 77-91.
- Wallace, E., Wallace, E., Buil, I., Buil, I., de Chernatony, L., & de Chernatony, L. (2017). Consumers' self-congruence with a "Liked" brand: Cognitive network influence and brand outcomes. *European Journal of Marketing*, 51(2), pp. 367-390.
- Wang, L., & Zuo, P. (2017). Flag backlash: Why does the presence of the American flag reduce product evaluation? *Psychology & Marketing*, 34(7), pp. 693-707.
- Wang, T., Yeh, R. K.-J., Yen, D. C., & Sandoya, M. G. (2016). Antecedents of emotional attachment of social media users. *The Service Industries Journal*, 36(9-10), pp. 438-451.
- Wold, H. (1985). Partial least squares. *Encyclopedia of statistical sciences*
- Zinkhan, G. M., & Hong, J. W. (1991). Self concept and advertising effectiveness: A conceptual model of congruency conspicuousness, and response mode. *NA-Advances in Consumer Research Volume 18*