

# **IN THE EYE OF THE BEHOLDER: THE ROLE OF COGNITIVE STYLE AND SIMILARITY IN THE EVALUATION OF BRAND EXTENSIONS**

## **Short Title: Similarity, Cognitive Style and Brand Extension Evaluation**

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## **ABSTRACT**

Fit has been identified as an antecedent of the success of brand extensions. Recently, a new stream of literature has distinguished two different types of fit: feature-based taxonomic similarity and relation-based thematic similarity. While researchers in this field have investigated how thematic and taxonomic brand extensions are evaluated, they have not accounted for interindividual differences in these evaluations. To address this gap, we investigate how cognitive styles are related to the evaluation of brand extensions that are based on different types of similarity. We show that a systematic cognitive style is related to the evaluation of taxonomic brand extensions. Moreover, we take the first steps to disentangle the relationship between intuitive cognitive style and the evaluation of thematic brand extensions, and we show that positive affect might play an important role as a moderator in these cases. The results provide us with a better understanding of how interindividual differences in information processing might account for differences in preferences for different types of brand extensions and, hence, consumer behavior.

*Keywords: similarity; brand extension; cognitive style; fit; thematic similarity*

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## **1 INTRODUCTION**

Understanding how customers evaluate brand extensions is crucial for both marketing researchers and managers. “Fit”, defined as the similarity between a brand extension and the firm’s current brand offerings (Aaker & Keller, 1990), is considered one of the most important antecedents of successful brand extensions (e.g., Aaker & Keller, 1990; Boush & Loken, 1991; Martin & Stewart, 2001; Voelckner & Sattler, 2007).

Although decades of research have consistently demonstrated that fit leads to more favorable consumer attitudes (Alba & Hutchinson, 2000; Bottomley & Holden, 2001; Boush & Loken, 1991), an important question, namely, “What constitutes ‘good’ fit?”, has not been systematically studied. In an attempt to combine different definitions of fit, the dual-process model of similarity (Golonka & Estes, 2009; Wisniewski & Bassok, 1999) has only recently been applied to address this question by linking the notion of fit to recent advances in the literature on similarity from cognitive psychology. More specifically, the dual-process model of similarity (Golonka & Estes, 2009; Wisniewski & Bassok, 1999) provides a parsimonious dichotomy to understand what constitutes similarity and how this understanding might inform our appreciation of fit in brand extension. According to this model, there are two different types of similarity: feature-based taxonomic similarity and relation-based thematic similarity. Taxonomic similarity refers to items that share common features, whereas thematic similarity refers to items that interact in the same context or scenario (Estes, Golonka, & Jones, 2011). These two types of similarity counterintuitively suggest that sofas and energy drinks are “similar”, at least from the perspective of Starbucks.

While Estes et al. (2012) have taken important first steps in establishing the meaning of fit by introducing the dual-process model of similarity to the business context, what constitutes “similarity” is very much in the eye of the beholder. Currently, we know virtually nothing about how potentially consequential interindividual differences, such as cognitive style, affect the perception of similarity (and, analogically, “fit” in brand extensions) (Cools & Van den Broeck, 2007; S. Messick, 1984; Witkin & Goodenough, 1977). Consequently, the question of *how* an extension can fit the parent brand can be addressed only in the light of another question, namely that of *how* consumers’ cognitive style influences the perception of similarity (i.e., fit) and brand extension evaluations. Unless we understand individual-level differences in cognitive style in how consumers evaluate, say, Starbucks extending its brand to energy drinks (taxonomic fit) or sofas (thematic fit), we cannot establish the likely success of such marketing strategies.

Cognitive style is assumed to be relatively stable over time, possibly innate, related to personality and relevant to decision making, problem solving, learning, creativity, and the support of different values (e.g., Armstrong, Peterson, & Rayner, 2012; Spicer & Sadler-Smith, 2005). As cognitive styles refer to the preferences of individuals in processing information, they are also connected to how brand extensions are processed and evaluated (Monga & John, 2007). Previously, Monga and John (2007) found that differences in cognitive styles are the drivers of intercultural differences in the evaluation of brand extensions. Moreover, research has shown that thematic brand extensions are processed more easily than taxonomic ones (Estes, Gibbert, Guest, & Mazursky, 2012) and appear to be more intuitive than taxonomic brand extensions. However, to our knowledge, little is known about the relationships between taxonomic and thematic similarity, cognitive styles and brand extension evaluation. We therefore address this gap in the literature by investigating how cognitive styles interact in the evaluation of thematic and taxonomic brand extensions, as moderated by positive affect. More specifically, positive affect

appears to promote attention to global information, and individuals showing a positive affect usually classify objects based on their global appearance (Gasper & Clore, 2002). Thus, it is closely related and tied to similarity (Gasper & Clore, 2002; Isen, 2001; Isen & Daubman, 1984): positive affect appears to be more connected to thematic disposition, i.e., thematic thinking rather than taxonomic thinking. Specifically, and foreshadowing our results, we show that while there is a stable positive relationship between systematic cognitive style and the evaluation of taxonomic brand extensions, the relationship between cognitive styles and thematic brand extensions is more complex. As a matter of fact, we could not identify a direct relationship between intuitive cognitive style and the evaluation of thematic brand extensions, but we found that positive affect positively interacts with intuitive cognitive style in the evaluation of thematic brand extensions. When both intuitive cognitive style and positive affect are present, individuals seem to evaluate thematic brand extensions more positively.

We contribute to extant research in different ways. First, we contribute to the literature on similarity, fit and cognitive styles (e.g., Estes et al., 2012) by emphasizing how these constructs are related (i.e., systematic cognitive style with taxonomic brand extensions; intuitive cognitive style with thematic brand extensions). Second, we contribute to the brand extension literature. To date, the consequences of (stable) interindividual cognitive differences in the evaluation of brand extensions have not received substantial scholarly attention (Estes et al., 2012; Monga & John, 2010). In this work, we address this important gap by conducting the first investigation into how taxonomic and thematic similarity and cognitive styles affect the evaluation of thematic and taxonomic brand extensions. Finally, this research also has important implications for business practice. Brand extensions are a popular strategy used to introduce new products on the market (Aaker & Keller, 1990); thus, understanding the antecedents of better customer evaluations of newly introduced brand extensions is crucial for companies (Voelckner & Sattler, 2006). For

instance, if new brand extensions must be launched, measures can be taken to enable a systematic or intuitive cognitive style and foster positive evaluations of taxonomic or thematic evaluations, respectively.

The present paper is structured as follows. We first review the relevant literature on different types of similarity, cognitive styles, and brand extensions. We then derive our hypotheses related to the relationships between similarity and cognitive styles and the evaluations of thematic and taxonomic brand extensions. We test our hypotheses using data collected through two online studies. The paper closes with a discussion of the implications and limitations of the present research.

## **2 THEORETICAL BACKGROUND**

### **2.1 Fit in brand extensions**

Within the vast literature on brand extensions, there is broad agreement among researchers that evaluations of a brand's extension depend largely on fit, defined as the similarity between a brand extension and the firm's current brand offerings (e.g., Aaker & Keller, 1990; Voelckner & Sattler, 2006). Fit fosters a more favorable attitude toward the new product and thus influences consumers' evaluations of the extension (Boush & Loken, 1991; Estes et al., 2012; Martin & Stewart, 2001). In addition, perceived fit has a positive effect on the post-extension image of the parent brand itself (John, Loken, & Joiner, 1998; Loken & John, 1993), reducing the risk of possible brand equity dilution (Aaker & Keller, 1990; Loken & John, 1993; Martinez & De Chernatony, 2004; C Whan Park, McCarthy, & Milberg, 1993).

Some literature has suggested that consumers are likely to evaluate an extension more favorably if its features are somehow "similar" to those of the parent brand (C. Whan Park, Milberg, & Lawson, 1991) or if the extension and brand belong to the same product category (Aaker &

Keller, 1990; Boush & Loken, 1991; Zhang & Sood, 2002). This notion of “fit”, however, assumes a one-sided view of similarity and ignores the most recent insights from cognitive psychology on different types of similarity (Estes et al., 2012). The dual-process model of similarity instead attempts to combine various studies related to fit (see Estes et al., 2012 for a review), creating a parsimonious dichotomy that can clearly distinguish two typologies of fit.

## **2.2 Different types of fit: taxonomic vs. thematic**

The dual-process model in cognitive psychology distinguishes taxonomic, feature-based similarities from thematic, relation-based ones (Estes et al., 2011; Lin & Murphy, 2001; Wisniewski & Bassok, 1999). Taxonomic similarity is based on two or more entities being part of the same category because of their shared features (e.g., airplanes and helicopters). Two entities are instead thematically similar if they share external relationships by complementing each other in a scenario or event (e.g., airplanes and suitcases) (Estes et al., 2011). Thematic relations can be spatial (e.g., an airplane is in the hangar), functional (e.g., airplanes are used to transport people and goods), causal (e.g., turbines make an airplane fly), or temporal (e.g., passengers board an airplane before departure). These categories are not mutually exclusive, and entities can be thematically related through several types of relationships (Lin & Murphy, 2001).

Park and colleagues (1991) began to differentiate two types of fit in brand extension, namely, product feature similarity and concept consistency. However, although the definition of concept consistency might be seen as similar to thematic fit (i.e., the ability of an extension product to accommodate the brand concept), the authors broadly categorized product feature fit, confounding taxonomic and thematic similarity. According to their definition, product feature fit relies on identifying the relationships between product extensions and the brand’s existing products, either concrete (e.g., feature correlations – our taxonomic similarity) or abstract (e.g., shared-usage situations – here, thematic similarity). This leads to a certain amount of confusion:

Timex batteries, for instance, are referred to as “taxonomic” even though they qualify as thematic. Therefore, although Park and colleagues proposed a useful first distinction into two types of similarity in the brand extension context, the dual-process model seems to provide a better means of categorizing the two types of fit.

If the dual-process model of similarity is applied to the brand extension scenario, brand extensions can be classified into “better fitting” taxonomic and “less fitting” thematic brand extensions; that is, they can be differentiated based on their relationship to the parent brand. In taxonomic brand extensions, features of the parent brand are transferred to a new product category in which the products belong to the same category of products or services (e.g., Boeing helicopters, Adidas sandals, and BMW motorcycles) (Estes et al., 2012). In contrast, thematic brand extensions relate to the parent brand via spatial, temporal, or functional relationships (e.g., Boeing suitcases and Adidas deodorant) (Estes et al., 2012). As an example, in thinking about possible extensions to the Budweiser brand, the “better fitting” Budweiser cola can be seen as featural (a taxonomic brand extension; both are consumable liquids), whereas the “less fitting” Budweiser chips can be considered relational (a thematic brand extension; consumed together).

### **2.3 Cognitive styles in evaluating different types of fit in brand extensions**

Cognitive styles refer to individuals’ preferred ways of processing information (Cools & Van den Broeck, 2007; S. Messick, 1984; Witkin & Goodenough, 1977). They describe the ways in which individuals, in our case consumers, perceive information and how they use it to regulate their behavior. Cognitive styles are not domain-specific, and they refer to interindividual differences in thinking, perception, problem solving, and behavior (J. Hayes & Allinson, 1994; S. Messick, 1984; Witkin & Goodenough, 1977). Over time, the probability increases that an individual will show one dominating cognitive style that will remain stable across time and



situations (L. Sagiv, Arieli, Goldenberg, & Goldschmidt, 2009).

Scholars differentiate between the bipolar and multidimensional views of cognitive styles. In the bipolar view, cognitive styles are characterized by having two opposite values. In the multidimensional view, individuals can exhibit several cognitive styles (Eysenck & Black, 1971; Keller & Ripoll, 2001; Kholodnaya, 2002; Samuel Messick, 1976). For instance, Kholodnaya (2002) identified four dimensions in the field dependence-independence dimension, whereas in the impulsivity-reflexivity dimension, different authors have suggested that other two dimensions must be considered, i.e., quick/slow (Eysenck & Black, 1971) and fast-accurate/slow-inaccurate (Keller & Ripoll, 2001). Importantly, the multidimensional view does not undermine the bipolar model but only hypothesizes the existence of additional dimensions. The predominant view on cognitive styles that appears in the literature is the bipolar one. As a matter of fact, the vast majority of dimensions of cognitive styles refer to a binary differentiation within which one style refers to analytic, rule-based and verbal information processing and the other refers to more intuition-driven and visual information processing (Kozhevnikov, 2007). Examples are innovators vs. adapters (Kirton, 1976), holistic vs. analytical thinking (Nisbett, Peng, Choi, & Norenzayan, 2001), visualizers vs. verbalizers (i.e., visual learners vs. verbal learners; Mayer and Massa, 2003; Riding, 2001; style of processing scale (SOP), Childers, Houston and Heckler, 1985 ) and, most importantly, intuitive cognitive style vs. systematic cognitive style (Allinson & Hayes, 1996; Hodgkinson & Sadler-Smith, 2003; L. Sagiv et al., 2009). Individuals adhering to a systematic cognitive style tend to use existing methods and known processes and therefore tend to generate quite ordinary solutions. In contrast, the intuitive style is less dependent on rules and discipline: imagination and intuition are more central, and these processes often lead to relatively novel solutions (Scott & Bruce, 1994). There is no agreement on whether intuitive and systematic cognitive styles are two dimensions of cognitive styles or two poles of the same

dimension (Kozhevnikov, 2007). Since the two styles appear incompatible, individuals cannot use both at the same time (L. Sagiv et al., 2009). Furthermore, research indicates that a two-factor model is more appropriate to explain this relationship (Hodgkinson & Sadler-Smith, 2003).

### **3 HYPOTHESES**

Cognitive styles refer to individual information-processing preferences and are also related to preferences in processing and evaluating brand extensions (Monga & John, 2007, 2010). More specifically, since taxonomic similarity is based on entities defined similarly because they share features and belong to the same category (Estes et al., 2011; Saalbach & Imai, 2007), processing taxonomic similarity would appear to be analytical and rule-based. In contrast, thematic similarity is based on the perception of external relationships between entities based on their co-occurrence in space and time (Golonka & Estes, 2009; Wisniewski & Bassok, 1999), and it should be processed more readily than taxonomic similarity. In fact, Estes et al. (2012) demonstrated that apparently “less fitting” thematic brand extensions (e.g., Budweiser chips) are processed more rapidly than “better fitting” taxonomic brand extensions (e.g., Budweiser cola). Hence, we would expect taxonomic thinking to be related to more analytic, rule-driven styles (e.g., adapters, analytical thinking, and systematic cognitive styles), whereas thematic thinking would be related to more intuition-driven styles that focus on the “bigger picture” (e.g., innovators, holistic thinking, and intuitive styles). In support of our general predictions, although no research to date has attempted to connect the dual-process model of similarity with cognitive styles, the previous literature also shows that taxonomic partnerships are less surprising because taxonomic categories are well established in memory. In contrast, thematic partnerships are more surprising because thematic categories are created ad hoc (Poynor &

Wood, 2010; Ross & Murphy, 1999). Consequently, we propose that cognitive styles might play a role in this scenario, where thematic brand extensions seem to be more intuitive than taxonomic ones. Individuals with a stronger preference for intuitively (systematic) processing information should prefer thematic (taxonomic) brand extensions because the necessary information-processing method is consistent with their preferred cognitive style.

*Hypothesis 1: There is a positive relationship between intuitive cognitive style and the evaluation of thematic brand extensions.*

*Hypothesis 2: There is a positive relationship between systematic cognitive style and the evaluation of taxonomic brand extensions.*

## **4. Study 1**

### **4.1. Sample and procedures**

Data collection was conducted via an online questionnaire offered in German. Ninety-eight Swiss-German individuals participated in the study ( $M_{\text{Age}} = 35.24$ ; 50% female), participation was voluntary and anonymous, and participants did not receive an incentive. The questionnaire consisted of three sections. The first section included the evaluation of a set of thematic and taxonomic brand extensions, the second section included the measurement of cognitive styles and control variables, and the third section included a word triad test to measure similarity preference.

**Independent variables.** To assess cognitive styles, we used the Thinking and Working Style scale (TWS) by Sagiv et al. (2009), which provides a valid, general and context-free measurement of cognitive style (Lilach Sagiv, Amit, Ein-Gar, & Arieli, 2014), including five items used to assess the intuitive cognitive style (Cronbach's  $\alpha = .68$ ) and five items used to assess

the systematic cognitive style (Cronbach's alpha = .76). All items were rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree".

**Dependent variables.** To generate the dependent variables, we developed descriptions of thematic and taxonomic brand extensions, which were then evaluated by the study participants. A research assistant first provided a list of 40 brand extension descriptions. The authors and a Ph.D. student who was conducting research in the field of thematic thinking but was not involved in the current project then independently ranked the descriptions based on typicality and ease of understanding. In the final step, the extensions with the highest ratings and the best fit for an international context were selected (twelve extensions: six thematic and six taxonomic). After these data were collected, we externally validated the brand extensions with international experts on taxonomic and thematic similarity from different fields (cognitive psychology, management, and marketing). The experts received the list of all twelve brand extensions and were asked to vote whether the extension was more thematic or taxonomic. The ratings were consistent with our classification. A full list of descriptions of the brand extensions used is shown in the Appendix. The evaluation of the brand extensions presented was based on the criteria used by Estes et al. (2012) in the context of evaluating thematic and taxonomic brand extensions. We calculated a variable referred to as "evaluation of brand extension" that was based on three items measuring the dimensions "perceived usefulness", "intention to buy", and "predicted success". Each item was rated on a five-point Likert scale. This measure was calculated separately for thematic brand extensions (evaluation (thematic); Cronbach's alpha = .79) and taxonomic brand extensions (evaluation (taxonomic); Cronbach's alpha = .71). The overall combined Cronbach's alpha for both taxonomic and thematic extensions was .71.

**Control variables.** Similarity preference (preference for thematic thinking) was assessed via a word triad test, consistent with most relevant studies in the field (e.g., Froehlich & Hoegl,

2012; Golonka & Estes, 2009; Lin & Murphy, 2001; Simmons & Estes, 2008; Smiley & Brown, 1979). We used the procedure and word triads proposed by Froehlich et al. (Froehlich & Hoegl, 2012; Froehlich, Hoegl, & Weiss, 2015), wherein 40-word triads were presented to the participants. Each word triad consisted of a base concept (e.g., airplane) and a thematic (e.g., suitcase) and a taxonomic option (e.g., helicopter) from which the participant could choose. Participants were asked to choose the concept that was most similar to the base concept. The test began with an instruction page containing a sample triad that was excluded from the analyses. To include thematic thinking in our analyses, we calculated the thematic proportion (Golonka & Estes, 2009; Simmons & Estes, 2008), which reflects the percentage of thematic choices in the word triad test and ranges from 0 to 1. A result of 1 indicates that a participant has chosen the thematic option in 100% of the trials, and 0 indicates that a participant has not chosen any thematic option.

In their work on thematic thinking, Froehlich et al. (Froehlich & Hoegl, 2012; Froehlich et al., 2015) used gender and age as control variables. These variables have also been shown to influence thematic thinking. We therefore used the same control variables. Gender was measured with a dummy-coded variable (0 male, 1 female), and age was measured in years. Table 1 presents descriptive statistics and correlations for all variables.

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## **4.2 Results and discussion**

We first used the data collected on similarity preference (thematic thinking, i.e., thematic proportion) to further validate the brand extensions used as stimuli in our study. We discovered a significant positive correlation between the evaluation of thematic brand extensions and thematic

thinking ( $r = .21; p < .05$ ) and a correlation close to zero between the evaluation of taxonomic brand extensions and thematic thinking ( $r = .07; p > .10$ ), suggesting that thematic stimuli are perceived as such by participants (i.e., as experts have also suggested) and that taxonomic stimuli are considered truly taxonomic.

To test Hypothesis 1 and Hypothesis 2, we used hierarchical regression analysis. Gender, age, and thematic thinking control variables were entered in the first step, and cognitive style was entered in the second step. The results of the regression analyses are shown in Table 2. Model 1 explored the relationships between the aforementioned control variables and evaluation (thematic), and Model 2 was used to test Hypothesis 1, which relates to the relationship between the intuitive cognitive style and evaluation (thematic). The results of the regression analysis did not support this hypothesis as no significant amount of variance could be explained beyond the control variables ( $\beta = .013; p > .10$ ). However, the results indicate a significant positive relationship between thematic thinking and evaluation (thematic) ( $\beta = .24; p \leq .05$ ). Hypothesis 2, which assumed a significant positive relationship between systematic cognitive style and evaluation (taxonomic), was tested analogously. Model 3 shows the relationships between evaluation (taxonomic) and the control variables. As we did not expect a relationship between evaluation (taxonomic) and thematic thinking, only age and gender were used as control variables. Model 4 shows the results for the test of Hypothesis 2, which is supported by the results, indicating that systematic cognitive style explained a significant amount of the variance beyond the control variables (Model 4:  $\beta = .24; p \leq .05$ ).

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Study 1 supported the assumption that different cognitive styles are related to the evaluation of thematic and taxonomic brand extensions. While we found evidence that systematic cognitive style is significantly related to a more positive evaluation of taxonomic brand extension, no such relationship was shown for the relationship between intuitive cognitive style and the evaluation of thematic brand extensions.

## **5. Study 2**

The aim of Study 2 was to replicate the results obtained in Study 1. Moreover, we also investigated positive affect as a moderating variable in the relationship between intuitive cognitive style and the evaluation of thematic brand extensions because it has been shown to be a variable tied to thematic similarity.

**The moderating role of positive affect.** As suggested by Isen (Isen, 2001; Isen & Daubman, 1984), positive affective states influence social behavior and cognitive processes, leading to innovative and creative cognitive processing. Positive affect is thought to foster relational processing since it enhances the individual ability to see connections and consider unmentioned categorization possibilities (Estrada, Isen, & Young, 1997; Storbeck & Clore, 2005). More specifically, positive affect appears to promote attention to global information, and individuals showing a state of positive affect usually classify objects based on their global appearance (Gasper & Clore, 2002). This type of classification should be strongly related to the perception of thematic similarity, as thematic categorization is, unlike taxonomic categorization, also based on a global processing approach (Guest et al., 2016). Thus, positive affect is closely related and tied to the perception and processing of thematic similarity (Isen, 1984, 2001; David, 2009; Gasper & Clore, 2002), i.e., thematic thinking.

We argue that positive affect might be very important in research on thematic thinking (e.g., Froehlich & Hoegl, 2012; Froehlich et al., 2015) and might not only affect the evaluation of brand extensions globally but also facilitate interactions with intuitive cognitive style as both factors should foster global processing modes, which in turn build the basis for thematic thinking. Thinking in an intuitive manner while simultaneously being in a positive affective state might hence contribute to better evaluations of thematic brand extensions. Consequently, we posit the following:

*Hypothesis 3: Positive affect moderates the relationship between intuitive cognitive style and the evaluation of thematic brand extensions.*

### **5.1 Sample and procedures**

In the second study, we aimed to overcome some of the shortcomings related to Study 1, replicate the results for Hypothesis 2, and more closely investigate the relationship between positive affect and the evaluation of thematic brand extensions. The data collection was conducted via an online questionnaire offered in German. To control for potential biases related to the acquisition of participants via social media, we used the services of an online panel provider. The participants received a financial incentive for their participation in the study, and 151 Swiss-German individuals participated in the study ( $M_{\text{Age}} = 40.66$ ; 50% female). Unless stated otherwise, the measures and procedures were identical to those in Study 1. In this study, we also added the successful completion of a tertiary degree as control variable (education: 0 = no tertiary degree; 1 = tertiary degree accomplished) and found that 28% of the participants had completed a tertiary degree. Positive affect, i.e., mood, was measured with the Self-Assessment Manikin test (SAM) developed by Lang (1980), which has also been used in prior studies on thematic thinking (Froehlich & Hoegl, 2012; Froehlich et al., 2015). Nine pictures were presented to the participants.



Each of these pictures represented an increasing level of positive affect. The participants had to choose which picture best reflected their present mood.

We used the same dependent variables that were used in Study 1. The measure was calculated separately for thematic brand extensions (evaluation (thematic); Cronbach's alpha = .82) and taxonomic brand extensions (evaluation (taxonomic); Cronbach's alpha = .83). The overall Cronbach's alpha was .86.

## **5.2 Results and discussion**

To test Hypothesis 1, Hypothesis 2 and Hypothesis 3, we used hierarchical regression analysis. Gender, age, and education control variables were entered in the first step, and cognitive style and positive affect were entered in the second step. The results of the regression analyses are shown in Table 3. Model 1 explored the relationships between gender, age, and education and evaluation (thematic), and Model 2 was used to test Hypothesis 1 - the relationship between the intuitive cognitive style and evaluation (thematic). As in Study 1, we did not have direct support for Hypothesis 1 ( $\beta = .035$ ;  $p > .10$ ). Hypothesis 2, which assumed a significant positive relationship between systematic cognitive style and evaluation (taxonomic), was tested analogously. Model 4 shows the relationships of the control variables and evaluation (taxonomic). Model 5 shows the test of Hypothesis 2, which was supported by the results (Model 5:  $\beta = .24$ ;  $p \leq .05$ ), as in Study 1. Moreover, in both models 4 and 5, we also verified that positive affect did not have any effects on the evaluation (taxonomic).

(Model 2:  $\beta = .24$ ;  $p \leq .05$ ). Finally, Model 3 shows the results for the test of Hypothesis 3, i.e., we tested whether positive affect moderates the relationship between the intuitive cognitive style and evaluation (thematic) using a hierarchical moderated multiple regression analysis (Cohen, Cohen, West, & Aiken, 2003). The results supported the assumption that positive affect has a moderating effect on the relationship between intuitive cognitive style and the evaluation of

thematic brand extensions. We entered the control variables in the first step (Model 1); the direct effects of positive affect and the intuitive cognitive style, which were both standardized, in the second step (Model 2); and the interaction term in the third and final step ( $\beta = .195$ ;  $\Delta R^2 = .036$ ;  $p \leq .05$ ) (Model 3).

Figure 1 illustrates the interaction of intuitive cognitive style and positive affect. The plot shows the relationship between intuitive cognitive style and the evaluation of thematic brand extensions at three different levels of positive affect (one standard deviation below the mean, at the mean, and one standard deviation above the mean).

We also used the Johnson-Neyman technique, as suggested by (A. F. Hayes, 2012), by employing the SPSS Macro PROCESS. The results supported Hypothesis 3, showing a significant interaction effect of intuitive cognitive style and positive affect on the evaluation of thematic brand extensions ( $\Delta R^2 = .036$ ,  $F = 4.247$ ,  $p < .05$ ), with intuitive cognitive style being significantly related to better evaluations of thematic brand extensions at high levels of positive affect. Figure 1 illustrates the interaction of intuitive cognitive style and positive affect at high, medium, and low levels. The Johnson-Neyman technique showed that positive affect at a value of 7.86 is the turning point from nonsignificance to significance of the effect of intuitive cognitive style, with 78.15% of the participants below and 21.85% of the participants above this value.

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Study 2, which used a more sophisticated design and a larger sample than Study 1, further supported the assumption that analytic cognitive style is positively related to the evaluation of

taxonomic brand extensions. In addition, this study provided insights into the seemingly more complex relationship between intuitive cognitive style and the evaluation of thematic brand extensions, showing that positive affect plays a role as a moderator. Individuals who possess a more intuitive cognitive style and are in a positive affective state appear to evaluate thematic brand extensions in a more positive manner.

## **6 GENERAL DISCUSSION AND CONCLUSIONS**

The present research aimed to contribute to a finer-grained understanding of “fit” in brand extensions by more closely examining interindividual differences in the perception of fit. In particular, our study represents the first attempt to investigate the relationships *among taxonomic and thematic similarity, cognitive styles and brand extension evaluation*.

We found evidence that individual information-processing preferences explain variance in the evaluation of different types of brand extensions. Our results show a stable significant positive relationship between the systematic cognitive style and the evaluation of taxonomic brand extensions. In addition, our findings show that positive affect, as a situation-dependent factor, acts as a moderator in the relationship between trait-like cognitive styles and the evaluation of thematic brand extensions.

### **6.1 Theoretical implications**

The present research takes important (if initial) steps in disentangling the relationship between taxonomic and thematic similarity, cognitive styles and their relationship with brand extension evaluation. First, it has implications for research on brand extensions, especially with regard for predicting evaluations by consumers (e.g., Aaker & Keller, 1990; Boush & Loken, 1991; Voelckner & Sattler, 2007). Second, we add insight into research investigating the relationship between brand extension and cognitive styles (Monga & John, 2007) by emphasizing the role of

intuitive and systematic cognitive styles in the evaluation of taxonomic and thematic brand extensions. Monga and John (2007) investigated the relationship between intercultural differences, cognitive styles, and evaluations of brand extensions. We advance this perspective by demonstrating that cognitive styles are also relevant in the absence of cultural differences. Third, our findings further support the relevance and usefulness of the dual-process model of similarity (Estes et al., 2011; Lin & Murphy, 2001; Wisniewski & Bassok, 1999), especially within the context of brand extensions (Estes et al., 2012). Differentiating between taxonomic and thematic similarity and the preference for one over the other is important when analyzing brand extensions and how they are evaluated as individuals differ in their levels of thematic thinking, which in turn affects how they evaluate new extensions and products. While Estes et al. (2012) made important steps in showing the importance of this differentiation, our work makes an important contribution beyond their findings by showing that interindividual differences, i.e., cognitive styles, are an important predictor of the evaluation of thematic and taxonomic brand extensions, particularly in light of the fact that this individual-centered perspective has been ignored to date. Furthermore, by investigating the role of positive affect (e.g., Isen, 2001; Isen & Daubman, 1984) in the relationship between intuitive cognitive style and thematic brand extension evaluation, we add support to the literature showing that affect must be carefully considered in the context of thematic similarity and cognitive styles (e.g., Froehlich & Hoegl, 2012; Froehlich et al., 2015). Last but not least, there is a lingering question of whether systematic and intuitive cognitive styles are different scales or extreme ends of the same scale (L. Sagiv et al., 2009). Our research contributes to this debate by showing that the two styles are indeed two different scales. We found a moderately negative

correlation between these styles, and in the context of our research question, both seem to have qualitatively different relationships with the other included constructs.

## **6.2 Managerial implications**

In addition to its scholarly contribution, this research has managerial implications. Brand extensions are a popular way of introducing new products (Aaker & Keller, 1990). Therefore, a better understanding of the antecedents of better customer evaluations of newly introduced brand extensions is of high relevance to companies (Voelckner & Sattler, 2006). Our results indicate that consumers who process information in an analytical and systematic manner evaluate taxonomic brand extensions in a more positive manner. These individuals tend to adhere to rules and prefer ordinary solutions. Therefore, a brand launching a new taxonomic brand extension should consider this information while promoting new taxonomic products. For instance, they could advertise new brand extensions in a more conservative and verbal manner, focusing more on details and avoiding imaginative campaigns. When promoting its new energy drink, Starbucks should focus on the characteristics and details of the energy drink, creating a promotional campaign in line with the target audience, without efforts from the consumer side to understand the relationship between the brand and the extension. In contrast, thematic thinking seems to be more connected with intuitive cognitive styles, especially when positive affect is also present. Thematic thinking can be primed and learned, and empirical evidence exists regarding the antecedents of thematic thinking (Estes et al., 2011; Froehlich & Hoegl, 2012; Simmons & Estes, 2008; Smiley & Brown, 1979), such as age and education. If companies have information on their target customers that allows them to draw conclusions regarding their customers' preference for thematic thinking, these companies can develop and present their brand extensions accordingly. Themes can be used to advertise the product; for instance, if the product has a travel theme (e.g., an innovative type of suitcase), advertising should integrate this theme (e.g., advertisements should be placed in airports). More

importantly, thematic brand extensions should be promoted through campaigns that are considered more innovative, novel or “out of the box”. Starbucks could, for instance, promote the Starbucks sofa through guerilla marketing or other techniques that require consumers to use their imagination. Additionally, as this research demonstrates, positive affect can influence the positive perception of thematic brand extension evaluations.

### **6.3 Limitations and future research**

The present study has several limitations. It builds on Estes and colleagues’ (Estes et al., 2012) seminal work on the evaluation of thematic and taxonomic brand extensions; therefore, we used the same idea evaluation criteria (i.e., intention to buy, usefulness, and predicted success). However, in the literature on brand extension, additional evaluation criteria are frequently used. Evaluating the fit between the brand extension and the parent brand (Aaker & Keller, 1990; Ahluwalia, 2008; Voelckner & Sattler, 2006), the quality of the parent brand (Aaker & Keller, 1990), the quality of the brand extension (Voelckner & Sattler, 2006), or the attitude toward the brand extension (Hem & Iversen, 2002; C. Whan Park et al., 1991) are additional ways to assess brand extensions. We therefore encourage future research to include these factors as dependent variables to determine whether they also might be related to cognitive styles. Furthermore, we considered only the bipolar view on cognitive styles for this research, suggesting a binary differentiation between an analytic, rule-based and verbal form of information processing and a more intuition-driven and visual form of information processing (i.e., intuitive cognitive style vs. systematic cognitive style) (Allinson & Hayes, 1996; Hodgkinson & Sadler-Smith, 2003; L. Sagiv et al., 2009). However, as reported in the theoretical part of this work, it is not always easy to condense different cognitive styles into a mere two dimensions (in our case, analytic vs. intuitive). As shown by different authors, individuals might also exhibit several cognitive styles (Eskola & Black, 1971; Keller & Ripoll, 2001; Kholodnaya, 2002), and this might potentially change or

influence the results we found. Another possibility for future research is to try to replicate or extend the current findings by taking into account other cognitive style dimensions, such as the verbal or visual processing of information (Mayer & Massa, 2003; Riding, 2001) Moreover, in this work, we did not measure negative affect, we simply focused on positive affect. Future research might investigate whether negative affect is related to taxonomic brand extension evaluation or attempt to manipulate affect in general, for instance, by showing positive or negative stimuli to participants (e.g., unexpected gifts or movies; Hill and Ward, 1989). Additionally, future research might consider other variables not considered here that could potentially play a role in this scenario, such as cognitive load or time as other possible moderators. Lastly, a future study might increase external validity by replicating the experiments presented herein while adopting different taxonomic and thematic stimuli to determine whether the results are consistent with those in the current study and literature.

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## TABLES

**Table 1**  
**Descriptive Statistics and Correlations, Study 1**

Variables	Mean	Min.	Max.	SD	1	2	3	4	5	6	
<b>1. Age</b>	35.24	17.00	80.00	13.41							
<b>2. Gender</b>	0.50	0.00	1.00	0.50	-.28**						
<b>3. Thematic Proportion</b>	0.68	0.00	0.97	0.28	.07	-.07					
<b>4. Intuition</b>	3.42	1.60	5.00	0.67	.16	-.16	.01	(.68)			
<b>5. Systematic</b>	3.78	1.40	5.00	0.73	.33**	-.04	.01	-.27**	(.76)		
<b>6. Evaluation (thematic)</b>	2.68	1.44	4.06	0.55	-.03	.02	.21*	-.06	.07	(.79)	
<b>7. Evaluation (taxonomic)</b>	2.83	1.72	4.28	0.51	.39**	-.16	.07	.04	.34**	.17	(.71)

N = 98; for gender: 0 = female, 1 = male. Values in parentheses are reliability coefficients.

\*\* =  $p \leq 0.01$

\* =  $p \leq 0.05$

**Table 2****Results of Regression Analyses, Study 1**

Independent Variables	Dependent Variable											
	Evaluation (Thematic)						Evaluation (Taxonomic)					
	1			2			3			4		
	$\beta$	SE	VIF	$\beta$	SE	VIF	$\beta$	SE	VIF	$\beta$	SE	VIF
Age	-0.115	0.004	1.089	-0.116	0.005	1.106	0.38**	0.004	1.086	0.299**	0.004	1.226
Gender	0.061	0.119	1.089	0.063	0.121	1.104	-0.058	0.099	1.086	-0.073	0.097	1.091
Thematic Thinking	.239*	0.208	1.007	.239*	0.209	1.007						
Intuition				0.013	0.087	1.042						
Systematic										0.24*	0.068	1.13
R <sup>2</sup>	0.072			0.072			0.16			0.21		
$\Delta R^2$	0.072			0			.16**			.05*		
F	2.443†			1.816			5.88**			6.14**		

N = 98

\*\* =  $p \leq 0.01$ ; \* =  $p \leq 0.05$  (two-tailed); † =  $p \leq 0.10$  (two-tailed)

**Table 3**

**Results of Regression Analyses, Study 2**

Independent Variables	Dependent Variable														
	Evaluation (Thematic)									Evaluation (Taxonomic)					
	1			2			3			4			5		
	$\beta$	SE	VIF	$\beta$	SE	VIF	$\beta$	SE	VIF	$\beta$	SE	VIF	$\beta$	SE	VIF
Age	-0.095	0.004	1.227	-0.134	0.004	1.258	-0.094	0.004	1.303	-0.092	0.003	1.25	-0.11	0.003	1.257
Gender	-0.116	0.124	1.226	-0.107	0.122	1.252	-0.127	0.12	1.264	0.138	0.107	1.226	0.135	0.105	1.226
Education	-0.136†	0.124	1.013	-0.172	0.122	1.037	-0.174	0.12	1.037	-0.182*	0.108	1.036	-0.179	0.106	1.037
Positive Affect				0.245**	0.058	1.023	0.262	0.058	1.034	0.111	0.028	1.048	0.084	0.028	1.064
Intuition				0.035	0.053	1.048	0.055	0.052	1.056						
Intuition X Positive Affect							0.195*	0.054	1.065						
Systematic													0.209**	0.07	1.028
R <sup>2</sup>	0.056			0.115			0.15			0.053			0.095		
$\Delta R^2$	.056*			.059**			.036*			0.053†			0.042*		
F	2.896**			3.752**			4.247**			2.045†			3.056*		

N = 151;

\*\* =  $p \leq 0.01$

\* =  $p \leq 0.05$  (two-tailed)

† =  $p \leq 0.10$  (two-tailed)

## APPENDIX

### Descriptions of brand extensions used in this study

Description	Taxonomic	Thematic
Sports equipment and apparel manufacturer Nike produces a jogging shoe that can be used together with Apple iPods or iPhones to track miles run and other data and to share and compare these data with other users.		x
The Airline Hop developed a suitcase that follows the user. The suitcase contains three receivers that are able to receive, identify and triangulate different signals coming from the user's cell phone.		x
Clothing company Levi's produces the most famous jeans in the world. Now, it also produces stylish and functional work trousers.	x	
Furnishing house Conforama sells sofas and armchairs that guarantee the highest level of enjoyment when watching movies and sports. The pieces of furniture are equipped with speakers, beverage coolers and a compartment for snacks in the armrests.		x
Skiing equipment manufacturer Stöckli produces sleds that excel in quality and robustness.	x	
Snowboard manufacturer Burton produces a snowboard that is equipped with a waterproof display and displays maps of the skiing trails of the relevant skiing region.		x
Tennis equipment and apparel manufacturer HEAD now also produces table tennis rackets.	x	
Electronics company Philips produces alarm clocks that wake the user at a set time by slowly increasing light intensity, simulating sunrise.		
The detergent brand Cillit Bang also produces a dishwashing detergent that lets stains simply vanish from dishes and cutlery.	x	
Car manufacturer BMW also produces motorcycles that are located in the upper price range.	x	
The coffee shop chain Starbucks offers energy drinks that can be bought freshly prepared in shops or canned for sale in the supermarket.	x	
Multimedia company Samsung produces glasses that can be connected to Samsung smartphones. The device displays incoming messages and calls inside the glasses without the smartphone disturbing the user with a vibration or ring tone.		x