

**What's in a package? Effects of color-shape congruence
on consumer response to beverage products.**

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Abstract

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Confronting with various kinds of packaging design elements, consumers face the challenge of integrating meanings conveyed by different cues into a relatively holistic impression. Much work so far has focused on the examination of the importance of symbolic congruence among various marketing cues. However, controlled studies with respect to congruence effects of packaging cues on consumer responses are sparse. In an effort to fill this gap, the current study explores how a congruent or incongruent of symbolic meanings expressed by two visual packaging cues (i.e., package shape and label color) affects consumers' cognitive (i.e., brand credibility), affective (i.e., brand aesthetics), and behavioral (i.e., purchase intention) responses. In addition, processing fluency and uncertainty avoidance are also included as measured factors to investigate the mechanism underlying the congruence effects and the possible moderation effects. The results of the experimental studies have revealed that brand credibility, brand aesthetics and purchase intention ratings are positively affected by the symbolic congruence of shape and color, and such effects are mediated by the extent to which people can process the information fluently (i.e., processing fluency). Moreover, it has been found that the influence of processing fluency on brand credibility is more prominent for individuals with high rather than low level of uncertainty avoidance. The results of the study might provide new insights to the domain of congruence effects as well as practical guidelines for the release of new fast-moving consumer products.

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1. INTRODUCTION

Packaging design, as one of the extrinsic product attributes, has played an increasingly important role in marketing as decades passed by. Research in the fields of psychology, design, advertising, and marketing has established that visual cues such as shape, typeface, and color not only lead to functional associations, but also connote affective or symbolic meanings (e.g., Childers & Jass, 2002; Van Rompay, Hekkert, Saakes, & Russo, 2005; Zhang, Feick, & Price, 2006). With regard to the marketing domain, for instance, the studies of Zhang et al. (2006) have demonstrated that compared to round logos, angular logos are perceived as more aggressive and less harmonious.

Indeed, several prior studies have found that consumers' brand selection, brand perception as well as the impression of brand image can be affected by symbolic meanings expressed by visual cues (Bloch, 1995; Childers & Jass, 2002; Creusen & Schoormans, 2005; Pantin-Sohier, 2009). For instance, visual cues such as the packaging color have been found to affect brand judgments (Gordon et al., 1994). Similarly, the modification of typeface in ads has been found to affect brand perception and product memorization (Childers and Jass, 2002). Besides, it is argued that the brand and product impression can benefit a lot from symbolic congruence among different visual cues (Van Rompay, Pruyn, & Tieke, 2009).

Being in a congruent state requires two or more stimuli to possess consistent characteristics. With respect to the visual aspects of products, effects of symbolic congruence among packaging cues on consumer responses have been intensively investigated (e.g., Van Rompay et al., 2009; Van Rompay & Pruyn, 2011; Becker et al., 2011). For instance, the findings of Van Rompay and Pruyn (2011) proved that the consistency of shape and typeface in product packaging can lead to an overall positive brand and product perceptions. Several previous studies have explored various types of congruence effects, such as brand personality and consumer personality (Grohmann, 2009), sponsored event and brand image (Gwinner & Eaton, 1999), brand slogan and packaging shape (Van Rompay et al., 2009). Nonetheless, we observe that controlled studies concerning congruence effects of visual packaging cues on consumer responses are sparse. Since the exterior form of a product is a vital determinant of consumers' psychological and behavioral responses (Bloch, 1995), and considering that at the buying stage, color and shape are suggested to be important and obvious cues that appeal to

consumers and anchor their subsequent experience (Piqueras-Fiszman & Spence, 2005), related studies are called for. Therefore, this study aims to explore the influence of symbolic (in)congruence on consumer various response. To be more specific, we explore whether the (in)congruence of symbolic meanings expressed by two packaging cues (i.e., package shape and label color) affects consumers' cognitive, affective and behavioral responses. Since it has been proved that compared with the bottle with a short and wide shape, the bottle with a slender and elongated shape tends to be perceived as more expensive and luxurious (Van Rompay & Pruyn, 2011) and that as opposed to pale, dark-colored package triggers the impression of expensive (Rouillet & Droulers, 2004), we expect that when the bottle shape and the label color both express luxury (slender shape x dark color) or both connote casualness (wide shape x bright color), congruence of symbolic meaning would be perceived. While incongruence is predicted to occur when there is a combination of luxury and casualness (slender shape x bright color; wide shape x dark color). In addition, to explore the mechanism underlying the congruence effect and the possible moderation effects, the processing fluency and the uncertainty avoidance are also included as measured factors in the study.

Concluding, the following shows the scope and objectives of the present study: (1) The effect of symbolic meaning (in)congruence on consumers' cognition-based (i.e., brand credibility), affect-based (i.e., brand aesthetics), and behavior-based (i.e., purchase intention) responses, (2) The role of processing fluency in mediating the influence of symbolic congruence on consumer responses, and (3) The moderating role of uncertainty avoidance. The results of the study are expected to provide new insights to the domain of congruence effects. With respect to an applied contribution, the research is expected to provide practical guidelines for the release of new fast-moving consumer products such as beverage products. Specifically, by understanding the important role of design cue congruence on consumer evaluations and the potential moderating factors, relevant retail companies may better communicate with target consumers within the specific consumption context.

2. LITERATURE REVIEW

2.1 Packaging Design and Symbolic Meaning

2.1.1 The role of packaging design in the literature

Bloch (1995) proposed that the exterior form of products is a vital determinant of consumers' psychological and behavioral responses. Crilly, Moultrie, and Clarkson (2004) further explored an integrated framework showing that consumers' perception of the visual cues in product design can lead to affective, cognitive and behavioral responses. Indeed, well-designed packaging not only enables consumers to effectively identify and recognize the product but also helps them to easily distinguish the product from all the other competitors on the shelf (Pantin-Sohier, 2009). Besides, various packaging cues communicate specific product information that expresses not only the functional but also the aesthetic and symbolic values, which may induce affect and subconscious decision behaviors (Pantin-Sohier, 2009; Underwood, 2003).

It is indicated that consumers' inferences about the product and perceptions of the brand characteristics are based on both explicit and implicit packaging cues (Van Ooijen, Franssen, Verlegh, & Smit, 2017). At the purchase stage of fast-moving consumer goods, such as food and beverage, consumers are exposed to both explicit packaging cues such as claims (Lähteenmäki et al., 2010), price (Mitra, 1995), country of origin (Chao, 1998), and labels (Roberto et al., 2012), and subtle design cues such as shape, color, graphics and container materials (Becker, Rompay, Schifferstein, & Galetzka, 2011). Contrary to the explicit packaging cues that provide salient and persuasive product information, design cues are rather implicit communicators and are less often perceived as persuasive and diagnostic by consumers (Van Ooijen et al., 2017). Considerable research efforts have been devoted to the persuasive effect of explicit visual cues on consumer perceptions. However, as pointed out by Van Ooijen et al. (2017), the actual diagnostic value of design cues seems to be unconsciously underestimated by consumers. Indeed, the specific stimuli could affect consumers' behavior without their awareness (Martin & Morich, 2011). For instance, Becker et al. (2011) argued that consumers tend to unconsciously use the packaging design elements to form their impression of product attributes in situations where product-related information is lacking or inconspicuous. As also demonstrated by Mueller, Lockshin, and Borgelink (2010), even if consumers regard packaging design as an unimportant factor in determining their judgments, in the real consumption environment their product preferences are actually affected by different

packaging visual elements. Due to such implicit diagnostic value of design cues, in the past two decades, substantial attention was paid to the role of packaging design in affecting consumers' evaluations. For example, several studies have explored the effects of structural and graphical design cues on product perceptions, such as effects of shape, color, or images on flavor perceptions (Becker et al., 2011; Piqueras-Fiszman & Spence, 2011; Mizutani, et al., 2010), value of packaging color on product quality inferences (Ampuero & Vila, 2006; Van Ooijen et al., 2017), and packaging shape on healthiness impressions (Van Ooijen et al., 2017). Moreover, other studies identified the powerful role of packaging design in influencing consumers' expectations of the product, brand impressions and even purchase intentions (Orth & Malkewitz, 2008; Pantin-Sohier, 2009; Rebollar et al., 2012).

2.1.2 Symbolic meaning in packaging design

Why do the visual design cues affect consumers' product perceptions and brand impressions? Relevant research in the fields of psychology, design, advertising and marketing has demonstrated that visual cues such as shape, typeface, and color not only give rise to functional associations, but also connote affective or symbolic meanings (e.g., Childers & Jass, 2002; Becker et al., 2011; Van Rompay, Hekkert, Saakes, & Russo, 2005; Zhang, Feick, & Price, 2006). With regard to the art domain, for instance, Hevner (1935) argued that colors and lines have their unique affective value. By conducting a series of experiments in which the sketches of different colors and lines were combined as the stimulus, his results showed that the feeling tone of red is exciting and happy, whereas blue is sad, dignified and serene. As for the lines, curves are found to be sentimental and graceful compared to the energy, sadness, and dignity expressed by straight lines. Although one possible explanation for such relations can be attributed to the artist's sensitivity, in recent times a number of studies have explored the structural relations between visual cues and symbolic association from a scientific perspective (Van Rompay, Pruyn, & Tieke, 2009).

Based on previous research, such structural relations can be explained from the perspectives of perceptivity, affectivity, and cognition. With respect to the perceptual perspective, studies conducted by Zhang et al. (2006) suggested that people tend to perceive the angular logos as more aggressive and the rounded logos as more harmonious. Such symbolic associations of shapes were further confirmed by the study of Van

Rompay and Pruyn (2011), who found that “angular bottle was perceived as more masculine and less feminine than the rounded bottle” (p.605). These findings are consistent with conclusions from previous research. For instance, Berlyne (1976) demonstrated that angular shapes are usually related to the perceptions of toughness and strength, whereas rounded shapes are perceived as harmonious, approachable and friendly. Besides, symbolic associations can also be triggered by the morphological message in product shape (Damak, 1997). In a recent study, for instance, Van Ooijen et al. (2017) established a link between the packaging’s height-width ratio and consumers’ healthiness perception. Specifically, the slim packaging is perceived as healthier than the wider packaging. They account for such association by arguing that the slim packaging symbolizes a slim human body shape whereas the wide one symbolizes a fat and heavy body. And on a perceptual level, people tend to believe that a thin and slim body shape indicates a healthy condition, whereas an overweight body indicates unhealthy eating or living habits.

With respect to the affective perspective, it was proposed that symbolic associations are grounded in people’s embodied interactions with their environment (Kreuzbauer & Malter, 2005; Van Rompay et al., 2005). For example, it has been demonstrated that vertical dimension (i.e., a product’s relative height) is associated with symbolic meanings expressing power or dominance (Van Rompay et al. 2005). In explaining this, the researchers argued that in people’s daily interactions, being physically higher can lead to the affective experiences of feeling powerful, dominant or proud, thus a product’s relative height influences people’s perceptions of power and control. Finally, in terms of the cognitive perspective, it was proposed that categorical symbolism allows people to express their membership in a group or social status (Dittmar, 1992). The symbolic associations of modern or luxury, for instance, might derive from a process in which people cognitively compare the target product with other examples or prototypes already in existence within the same category (Van Rompay et al., 2009).

As illustrated by these examples, symbolic associations come from perceptual thinking, affective experiences or cognitive judgments. And the symbolism associated with products not only enables the expression of one’s distinct personality but also allows the expression of one’s social position (Dittmar, 1992). With reference to brands, symbolic meanings also help to shape the brand’s personality (Aaker, 1997). In fact, several prior studies have found that consumers’ brand selection, brand perception as

well as the impression of brand image can be affected by symbolic meanings expressed by visual cues (Bloch, 1995; Childers & Jass, 2002; Creusen & Schoormans, 2005; Gordon, Finlay, & Watts, 1994; Pantin-Sohier, 2009). It has been demonstrated that except for the aesthetic value, consumers' preferences for the product's appearance are mainly motivated by the connoted symbolic meanings (Creusen & Schoormans, 2005). Furthermore, research also showed that brand impression is communicated through the symbolic meanings embodied in visual cues such as the packaging color has been found to influence brand judgments (Gordon et al., 1994), and the modification of typeface in ads has been found to affect brand perception and product memorization (Childers & Jass, 2002).

In addition to exploring the symbolic meaning regarding the isolated visual cues, previous research also investigated the effects of congruence on impression formation. It is argued that the ratings of brand and product impressions can benefit a lot from symbolic congruence among different visual cues (Van Rompay et al., 2009). In a way, such congruence effects can be explained by the Gestalt psychologists' argument that reactions to objects are based on holistic rather than atomistic processing (Ellis, 2013; Katz, 1950).

2.2 Congruence and Consumer Response

Confronting with various kinds of marketing mix elements such as the brand, the product, and the advertisement, consumers face the challenge of integrating meanings conveyed by different cues into a relatively holistic impression. And such a holistic impression is argued to affect consumer evaluation (Orth & Malkewitz, 2008). Being in a congruent state requires two or more stimuli to possess consistent characteristics (e.g., both brand slogan and product shape connoting natural). Regardless of the type of the congruence effect, research has established that stimulus congruence leads to an overall positive product or brand evaluations (e.g., Grohmann, 2009; Van Rompay et al., 2009; Van Rompay & Pruyn, 2011). By tracing to the argument that people instinctively prefer objects with harmonious, united and symmetrical elements (Papanek, 1972), this positive effect of congruence can be partially understood.

Several previous studies have explored the effects of various types of congruence with respect to different marketing mix elements, such as congruence of brand personality and consumer personality (Grohmann, 2009), congruence of sponsored event

and brand image (Gwinner & Eaton, 1999). For instance, it was demonstrated that when the sponsored event is matched with the related brand on either a functional or image basis, the image transfer process is enhanced (Gwinner & Eaton, 1999). Likewise, Bottomley, and Doyle (2006) found that the congruence of product type and color facilitates the product presentation. Furthermore, the importance of congruence of brand personality and consumer personality was examined by Grohmann (2009). Results showed that enhanced perceived brand trustworthiness is formed when the brand personality is consistent with consumer personality. This is in accord with earlier findings in developmental psychology. Specifically, when people assess the perceived truthfulness of communication, they adopt the consistency principle (Friedman, 1979; Rotenberg, Simourd, & Moore, 1989). And in addition to research on congruence among different marketing mix elements, there is also research that emphasizes the importance of contextual congruence. By showing a mayonnaise advertisement prior to a ketchup advertisement, Lee and Labroo (2004) demonstrated that such contextual congruence positively affects consumers' attitudes toward the ketchup.

Concerning the visual aspects of products, effects of symbolic congruence among packaging cues on consumer responses have been intensively investigated (e.g., Van Rompay et al., 2009; Van Rompay & Pruyn, 2011; Becker et al., 2011). For instance, it has been found that the congruence of advertising slogan and the product shape can lead to enhanced consumer evaluations (Van Rompay et al., 2009). Specifically, more positive product evaluations were evoked when both of the bottle shape and advertising slogan inspired the natural impression. Likewise, the 'artificial-slogan' advertisement led to higher scores on product evaluation when matched with a shape that inspired an artificial impression. Similar results were obtained with respect to brand evaluations. Van Rompay and Pruyn (2011) also strengthened these findings, as they proved that when the symbolic meanings of packaging shape and typeface are consistent, an overall positive brand and product perceptions occurred. By using the bottled water as the stimulus, they found that ratings on both brand credibility and price expectations were higher for congruent rather than incongruent stimuli. What's more, to replicate the results in the first study, another study was conducted with another set of stimuli that connoted either masculinity or femininity. Results showed that when both of the typeface and the bottle shape expressed the symbolic meaning of femininity, the brand was perceived as having higher aesthetics value and the product was expected to be more expensive.

Several prior studies provided reasonable explanations for the effect of symbolic congruence on constructs such as brand credibility, trustworthiness, and brand aesthetics. Erdem and Swait (1998), for instance, indicated that consistency and clarity among the marketing mix elements play a vital role in reducing uncertainty and enhancing brand credibility. Likewise, Grohmann (2009) found that the consistency of brand and consumer personality positively influenced the brand trustworthiness perception. Indeed, confronting various product and brand information, consumers can better assess product benefits and identity when the presented cues are clear rather than ambiguous. And confusions resulting from information ambiguity might lead consumers to perceive the product or brand as less credible (Van Rompay & Pruyn, 2011). In terms of the effect of congruence on affect-based responses, Bloch (1995) argued that the design and sensory attributes of the product can trigger positive responses such as liking, or aesthetic responses. And this notion became even more salient by the finding that perceived unity positively affects individual's aesthetic responses (Veryzer & Hutchinson, 1998), thus partially explains the positive effect of symbolic congruence on brand aesthetics.

Based on the reasonings above, it is expected that a package with congruent symbolic meanings connoted by two packaging cues (i.e., package shape and label color) will positively affect consumers' cognitive response (i.e., brand credibility) and affective response (i.e., brand aesthetics) (Van Rompay & Pruyn, 2011). In contrast, it is expected that brand perceptions will be negatively affected if incongruent symbolic meanings are expressed. In conclusion, the following hypotheses are stated:

H1: Congruence of symbolic meaning in color and shape influences perceived brand credibility; specifically color-shape congruence will trigger a more positive perceived brand credibility compared with color-shape incongruence.

H2: Congruence of symbolic meaning in color and shape influences perceived brand aesthetics; specifically color-shape congruence will trigger a more positive perceived brand aesthetics compared with color-shape incongruence.

Furthermore, since symbolic congruence can influence brand credibility (Van Rompay & Pruyn, 2011), and it has been found that brand choice and consideration, word-of-mouth, and consumer loyalty are influenced by the improved brand credibility (Erdem & Swait, 2004; Sweeney & Swait, 2008), we also predicted that a package with congruent symbolic meanings connoted by two packaging cues (i.e., package shape and

color) will positively affect consumers' behavioral response (i.e., purchase intention) (Bloch, 1995). Stated formally:

H3: Congruence of symbolic meaning in color and shape influences future purchase intention; specifically the color-shape congruence will enhance future purchase intention, while color-shape incongruence will decrease future purchase intention.

2.3 Processing Fluency

2.3.1 The concept of processing fluency

In order to explore the underlying mechanism for the effects of symbolic congruence on consumer responses, much work so far has focused on the amount of mental effort people put into the processing of the stimuli. With respect to the visual domain, for instance, it was indicated that visual stimuli following the “gestalt” rules such as symmetry and figure-ground contrast facilitate processing (Reber, Schwarz, & Winkielman, 2004). This is in line with the previous findings of Reber, Winkielman, and Schwarz (1998). Specifically, the figure-ground contrast of the stimuli was manipulated and it was demonstrated that the clearer the stimuli were, the less processing effort was required and the more positive judgments were developed. Such ease of processing is theorized as processing fluency and is argued to account for the overall positive evaluation and favorable attitudes towards the presented stimuli (Lee & Labroo, 2004; Reber et al., 2004). In explaining this, it was argued that high fluency tends to be intrinsically pleasant and triggers positive affect (Reber et al., 2004). Indeed, if the stimuli in the environment are fluent, people may face fewer cognitive challenges and less potential danger while dealing with the information (Becker et al., 2011). Thus, they naturally enjoy this smooth process and the feeling of liking is elicited. In addition, it has been demonstrated that such fluency-driven positive affect is unconsciously misattributed to the liking of the objects at hand (Winkielman and Fazendeiro, 2003).

2.3.2 Effects of processing fluency on consumer responses

It is reasonable to believe that the congruent stimuli also requires less processing effort compared to the incongruent ones. Specifically, when the presented stimuli are congruent, the embedded information is more consistent and less ambiguous, thus the identification process is boosted and the processing fluency is enhanced (Hekkert, 2006). In fact, several studies have confirmed the positive effect of stimuli congruence on

processing fluency (Labroo & Lee, 2006; Lee & Aaker, 2004; Reber et al., 1998). For instance, the study of Reber et al. (1998) demonstrated that pictures preceded by matched contours are processed more fluently than mismatched contours. Identical conclusions were obtained in a series of studies of Lee and Aaker (2004). Manipulating the framing style of the appeals, they found that promotion-focused appeals are processed more fluently and are more persuasive when presented in congruent messages (i.e., gain-frame taglines) rather than in incongruent messages (i.e., loss-frame taglines). Similarly, prevention-focused appeals are shown to be more persuasive and with higher processing fluency when presented in loss versus gain frames. Labroo and Lee (2006) confirmed these findings, as they found that processing fluency is enhanced if the goal addressed by the target advertisement is congruent with the goal addressed by the prime. Based on these reasons, it is hypothesized that stimuli congruence positively affect processing fluency.

Of particular relevance to the current context are the studies emphasizing the role of processing fluency in affecting constructs such as aesthetic value (Reber et al., 2004), liking (Labroo & Lee, 2006; Reber et al., 1998), truthfulness or credibility (Reber & Schwarz, 1999), and purchase intention (Labroo & Lee, 2006). In the study of Reber and Schwarz (1999), for instance, the processing fluency of the statements was manipulated by presenting different combinations of background colors and texts. Participants were asked to judge the truthfulness of the statements and results showed that high visible statements that were easier to process were more often judged to be true. Conversely, moderately visible statements that were difficult to process were judged more often false than true. In explaining this effect, they argued that statements with high processing fluency tend to be experienced as familiar, thus lead to enhanced perceived truthfulness. In terms of the affective respect, in the three experiments of Reber et al. (1988), the processing fluency was respectively manipulated by the visual priming procedure, figure-ground contrast and presentation duration. Results showed that pictures primed by matched contours, stimulus with high figure-ground contrast, and stimuli presented for a longer duration were all liked more by the participants. In other words, the more fluent the stimuli, the more people like them. Likewise, Labroo and Lee (2006) found that the processing fluency mediates the effects of goal compatibility on brand evaluation. More specifically, the processing fluency is promoted if the regulatory goals served by the prime and the target brand are congruent, and such high fluency further leads to the

enhanced consumer attitudes and approach behavior as well. In addition, research also indicated that in terms of the aesthetics value, fluent stimuli are preferred than disfluent stimuli (Reber et al., 2004; Van Rompay & Pruyn, 2011). For, instance, by using bottles comprising shapes and typefaces expressing (in)congruent meanings as stimuli, Van Rompay and Pruyn (2011) found that scores on brand aesthetics are higher when both the typeface and shape connote femininity. Concluding, the perceived liking, truthfulness or credibility and even purchase intention benefit from high processing fluency.

In the present study, we predicted that the processing fluency underlies the effect of symbolic congruence on consumer responses. That is to say, a package with congruent symbolic meanings connoted by two packaging cues (i.e., package shape and color) facilitates the ease of processing, and such processing fluency further positively influences consumer responses. In contrast, it is expected that incongruence of the symbolic meanings decreases the ease of processing and in turn, negatively influences consumer responses. Stated formally:

H4: The effect of color-shape congruence on consumer responses is mediated by processing fluency; specifically color-shape congruence enhances processing fluency and will further positively influence a) brand credibility, b) brand aesthetics, and c) purchase intention, while color-shape incongruence decreases processing fluency and will further negatively influence a) brand credibility, b) brand aesthetics, and c) purchase intention.

2.4 Uncertainty Avoidance

As these studies indicate, the effect of symbolic congruence on consumer evaluations can be ascribed to processing fluency. However, it has been argued that with regard to consumer responses to design, moderating influences may occur at any stage of information processing (Crilly, 2004). Personal characteristics, cultural influences, and situational factors have been identified as the main aspects in moderating consumer's responses to design messages (Bloch, 1995; Crilly, 2004). Indeed, there are many studies devoted to the exploration of the possible moderating effects in the relationship between visual stimuli and consumer responses. For instance, Becker et al. (2011) demonstrated that symbolic meanings connoted by shape curvature inspire the relevant taste sensations and depending on consumers' sensitivity to design, such effects may vary. More specifically, an angular, rather than a rounded package shape leads to a more intense taste experience of the yogurt, but this effect of design features on taste perception only

appears for consumers who are sensitive to design. It was also pointed out that the importance of consumers' cognitive and affective responses to product design may vary depending on product type (Van Rompay & Pruyn, 2011).

Concerning the effects of congruence and processing fluency on consumer evaluations, moderators such as the need for cognition, tolerance for ambiguity have been extensively investigated (Van Rompay, De Vries, & Van Venrooij, 2008; Van Rompay et al., 2009). For instance, in a previous study, the hotel pictures and descriptions on a fictitious hotel-booking site were manipulated to achieve varying degrees of visual-text congruence. Results not only revealed a positive effect of visual-text congruence on evaluation, but also showed that such effect is more pronounced for participants who have a high need for cognition (Van Rompay et al., 2008). Based on this finding, Van Rompay et al. (2009) further examined the effect of "slogan-product shape" congruence on product and brand evaluation and the moderating role of "tolerance for ambiguity" in influencing the congruence effect. According to the researchers, since people high in need for structure prefer situations with certainty and are uncomfortable with ambiguous or ill-structured stimuli, and considering that incongruence among symbolic meanings can be regarded as unclear or ambiguous information, the incongruencies would be more distressing for them. In other words, depending on the different degrees of tolerance for ambiguity, the effectiveness of processing fluency may vary. High processing fluency will enhance and low processing fluency will decrease evaluations by individuals of high tolerance ambiguity more than by individuals of low tolerance ambiguity.

Inspired by the findings regarding the consumer differences in accounting for the congruence effects on consumer evaluation, the current study aims to further explore other factors such as risk avoidance characteristics that might moderate congruence effects. One potential moderator that could be examined relates to cultural dimensions. Defined as the extent to which individuals are comfortable with uncertain, ambiguous and ill-structured situations (Hofstede, 2001), "uncertainty avoidance" can be regarded as a measure of intolerance of risk (Money & Crofts, 2003). There is empirical evidence that people with a higher level of uncertainty avoidance tend to reduce the perceived ambiguity and unknown in daily life as they feel threatened and uncomfortable with such situations (Doney, Cannon, & Mullen, 1998; Money & Crofts, 2003). Applying this notion to the present study, it is expected that the fluent and easy characterization and identification are especially important to individuals from cultures high in uncertainty

avoidance. The logic behind this assumption is that stimuli with high processing fluency have been found to be related to safety and familiarity and can trigger more favorable evaluations (Winkielman, Schwarz, Fazendeiro, & Reber, 2003), and people with higher level of uncertainty avoidance also prefer relative familiar and structured information, thus the effect of processing fluency on evaluations might be more pronounced among this group of people. On the other hand, people with a lower level of uncertainty avoidance are more risk-bearing and are less influenced by the external ambiguous situations (Money & Crotts, 2003). Thus, the incongruencies among symbolic meanings might be less distressing for them.

Based on the reasonings outlined above, it can be predicted that the strength of the effects of processing fluency on consumer responses might be stronger for people with high rather than low level of uncertainty avoidance. As a result, the following hypothesis is stated:

H5: The level of uncertainty avoidance moderates the effects of processing fluency on consumer responses; specifically the positive effect of high processing fluency and the negative effect of low processing fluency on a) brand credibility, b) brand aesthetics, and c) purchase intention will be more prominent for people with high rather than low level of uncertainty avoidance.

Hypotheses statements

In summary, all the hypotheses are listed below and the conceptual model is shown in Figure 2.1:

H1: Congruence of symbolic meaning in color and shape influences perceived brand credibility; specifically color-shape congruence will trigger a more positive perceived brand credibility compared with color-shape incongruence.

H2: Congruence of symbolic meaning in color and shape influences perceived brand aesthetics; specifically color-shape congruence will trigger a more positive perceived brand aesthetics compared with color-shape incongruence.

H3: Congruence of symbolic meaning in color and shape influences future purchase intention; specifically the color-shape congruence will enhance future purchase intention, while color-shape incongruence will decrease future purchase intention.

H4: The effect of color-shape congruence on consumer responses is mediated by processing fluency; specifically color-shape congruence enhances processing fluency and will further positively influence a) brand credibility, b) brand aesthetics, and c) purchase intention, while color-shape incongruence decreases processing fluency and will further negatively influence a) brand credibility, b) brand aesthetics, and c) purchase intention.

H5: The level of uncertainty avoidance moderates the effects of processing fluency on consumer responses; specifically the positive effect of high processing fluency and the negative effect of low processing fluency on a) brand credibility, b) brand aesthetics, and c) purchase intention will be more prominent for people with high rather than low level of uncertainty avoidance.

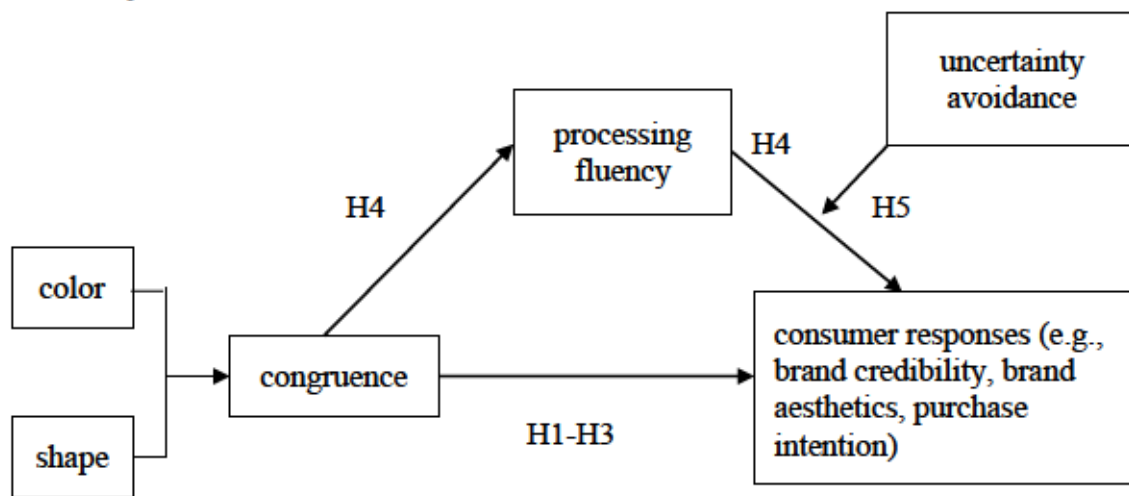


Figure 2.1 Conceptual Model

3. RESEARCH METHODOLOGY

3.1 Methodology Overview

To test these hypotheses, a mixed-measures design was used: congruence vs. incongruence was a between-subjects factor, and the moderator uncertainty avoidance was a measured factor. Two pre-tests were conducted to validate the visual stimulus materials that will be used in four main study situations. A within-subjects design was used for both of the pre-tests. For the main study, participants were randomly assigned to evaluate one of the four product variants on several evaluation criteria (i.e., brand credibility, brand aesthetics, purchase intentions). The mediator and moderator were measured after the product variant section. A scale including five items (Graf, Mayer, & Landwehr, 2018) was used to measure the processing fluency. In terms of the uncertainty avoidance, a five-item scale (Yoo, Donthu, & Lenartowicz, 2011) was adopted in this

research. Demographic questions were presented last.

3.2 Pre-test 1

Pre-test 1 was designed to ensure the effectiveness of the two selected bottle shapes and two label colors for the main study. In this stage, a specific visual element of the package (i.e., bottle shape, label) rather than the whole product, was presented with the participants to evaluate.

3.2.1 Stimuli and questionnaire

By varying the width-height ratio of the main part of the bottle, two bottles that were different in their contours were created. It has been demonstrated that compared with the bottle with a short and wide shape, the bottle with a slender and elongated shape tends to be perceived as more expensive and luxurious by the consumers (Van Rompay & Pruyn, 2011). One possible explanation for such relations can be attributed to the influence of embodied interactions between individuals and their surroundings on perceived symbolic meanings. It is argued that in people's daily interactions, being physically higher can lead to the affective experiences of feeling powerful, dominant, successful, exclusive or luxurious (Kreuzbauer & Malter, 2005; Van Rompay et al., 2005). Thus, a vertical and slender shape leads to the association of power and control (Van Rompay et al., 2005). Based on these reasons, a visually slender bottle and a relatively wide bottle were designed by Adobe Photoshop CC 2018 (see Appendix A for stimulus materials).

Prior research indicating the relations between the brightness of colors and consumers' judgments and impressions (Gordon, Finlay, & Watts, 1994; Rouillet & Droulers, 2004) provide empirical support for the color manipulation. For instance, Gordon et al. (1994) found that compared with the color white and purple, the dark-blue package of coffee receives more favorable evaluations. Consumers tend to judge it as having better quality and powerful aroma. Likewise, the study of Rouillet and Droulers (2004) demonstrated that as opposed to pale, dark-colored package triggers the impression of more expensive and fast-acting of the medicine. Based on this evidence, it was predicted that compared with bright colors, dark colors tend to symbolize a higher degree of luxury and a lower degree of casualness. Therefore, two brightness variants of three blue color pairs were created and they were used to design three pairs of product labels with the same brand name (a fictitious brand "AQR"), logo (a drop of water), and the basic product information ("purified water"). All images were designed by Adobe

Photoshop CC 2018 (see Appendix A for stimulus materials).

The pre-test 1 questionnaire was designed using Qualtrics and launched on the Amazon MTurk platform. For the shape manipulation condition, after the informed consent part, participants were presented with the two bottle shapes representing the intended manipulation. Three items were used to measure the level of luxury (i.e., luxurious, classy and exclusive; $\alpha = .839$) and other three items were used to measure the level of casualness (i.e., casual, cheap and ordinary; $\alpha = .876$) (Van Rompay & Pruyn, 2011). Participants were asked to respond on a 7-point Likert-scale (1=strongly disagree, 7=strongly agree) to what extent they thought these words could describe the presented bottle shapes. Similarly, for the color manipulation condition, participants were randomly and evenly assigned to one of the three color pairs and were asked to rate the stimuli using the same scale.

3.2.2 Sampling

In total, 50 responses were received for the shape manipulation survey. After excluding 1 response that was incomplete, 49 responses remained and were analyzed through SPSS. While for the color manipulation survey, a total of 149 usable responses were received, 52 participants were assigned to the color pair with hue 215, 49 participants were assigned to the color pair with hue 220, and 48 participants were assigned to the color pair with hue 225.

3.2.3 Results

According to the ANOVA results, the two bottle shapes were indeed perceived as significantly different by the participants. The slender bottle was perceived as more luxurious ($M = 4.41$, $SD = 1.29$ vs. $M = 2.13$, $SD = 1.28$, $F(1, 96) = 77.31$, $p < .001$) and less casual ($M = 3.44$, $SD = 1.28$ vs. $M = 5.63$, $SD = 1.11$, $F(1, 96) = 81.43$, $p < .001$) than the wide bottle. Comparisons of means of the bottle shape perceptions can be seen in Table 3.1 and check Appendix C for more detailed ANOVA results.

Table 3.1 Mean and standard deviations of the bottle shape perceptions

	Luxurious			Casual		
	M	SD	N	M	SD	N
Slender bottle	4.41	1.29	49	3.44	1.28	49
Wide bottle	2.13	1.28	49	5.63	1.12	49

Note. M = mean; SD = standard deviation.

In terms of the label colors, results of the ANOVA analysis showed that for all the three blue color pairs, the 50% bright colors were rated as more luxurious than the 100% bright colors and the results of means indicated that within color pair with hue 215, the level of brightness differentiated most distinctly on the luxury as well as the casualness constructs. Such difference was shown to be significant according to the analysis of variance ($F(1,102) = 11.91, p < .01$). Therefore, the first pair of blue color (i.e., hue 215, saturation 100, brightness 50 vs. hue 215, saturation 100, brightness 100) was selected as the color stimuli. Related means of the label color perceptions can be seen in Table 3.2 and check Appendix C for more detailed ANOVA results.

Table 3.2 Mean and standard deviations of the label color perceptions

	Luxurious			Casual		
	M	SD	N	M	SD	N
Color 215 - dark	4.67	1.25	52	3.83	1.17	52
Color 215 - bright	3.81	1.31	52	4.58	0.96	52
Color 220 - dark	4.22	1.61	49	4.18	1.34	49
Color 220 - bright	3.77	1.8	49	4.49	1.53	49
Color 225 - dark	4.34	1.28	48	4.01	1.32	48
Color 225 - bright	3.55	1.52	48	4.58	1.31	48

Note. M = mean; SD = standard deviation.

Based on these results, four versions of a brand of a bottled water were created by combining the two bottle shape manipulations with the two color manipulations. Brand name (“AQUR”), product information (“purified water”) and brand logo were identical across the four conditions (see Appendix A).

3.3 Pre-test 2

3.3.1 Stimuli and questionnaire

Based on the results of pre-test 1, a second pre-test was designed to validate the stimulus materials. It was expected that when the bottle shape and the label color both expressed luxury or both connoted casualness, congruence of symbolic meaning would be perceived. Meanwhile, incongruence was predicted to occur when there was a combination of luxury and casualness.

The pre-test 2 questionnaire was designed using Qualtrics and launched on the Amazon MTurk platform. After the informed consent part, the four different product

variants were presented in random order. And participants were asked to indicate on a 5-point Likert-scale (1 = strongly disagree, 5 = strongly agree) to what extent they agree with three statements (i.e., “The bottle shape and the label’s color belong together”, “The label’s color is appropriate for this bottle shape”, and “Shape and color design of this product connote similar meanings”; $\alpha = .892$) (Van Rompay & Pruyn, 2011) measuring the perceived congruence of the stimuli.

3.3.2 Sampling

In total 50 responses were received for pre-test 2. None of them was incomplete, leaving 50 usable responses remained and were analyzed through SPSS.

3.3.3 Results

Based on the results of ANOVA analysis, congruent combinations of bottle shape and label color were confirmed to be rated as more congruent than incongruent ones. Specifically, within the luxurious color conditions, results shown that the bottle with luxurious label color was perceived as more congruent when combined with a luxurious bottle shape ($M = 4.07$, $SD = .97$) rather than with a casual bottle shape ($M = 3.67$, $SD = 1.03$) and such difference was significant ($F(1, 98) = 3.99$, $p < .05$). Similarly, within the casual color conditions, results showed that the bottle with casual label color was indeed perceived as more congruent when combined with a casual bottle shape ($M = 4.11$, $SD = .88$) rather than with a luxurious bottle shape ($M = 3.65$, $SD = 1.33$) and such difference was significant ($F(1, 98) = 4.05$, $p < .05$). See Table 3.3 for the comparison of means of the congruence perceptions and check Appendix C for more detailed ANOVA results.

Table 3.3 Mean and standard deviations of the congruence perceptions

	Luxurious color			Casual color		
	M	SD	N	M	SD	N
Luxurious shape	4.07	0.97	50	3.65	1.33	50
Casual shape	3.67	1.03	50	4.11	0.88	50

Note. M = mean; SD = standard deviation.

Based on these findings, it was confirmed that compared with stimuli with shape and color expressing different facets of association (e.g., shape expressing luxury and color expressing casualness), the stimuli with shape and color expressing same facets of

association (e.g., shape and color both expressing luxury) were perceived as more congruent. Therefore, the effectiveness of the stimulus materials was confirmed.

3.4 Main study

In the main study, the following will be investigated: (1) the effect of symbolic meaning (in)congruence on consumers' cognition-based (i.e., brand credibility), affect-based (i.e., brand aesthetics), and behavior-based (i.e., purchase intention) responses, (2) The mediating effect of processing fluency in influencing the relationship between congruence and consumer responses, and (3) The moderating effect of uncertainty avoidance.

3.4.1 Design and procedure

A mixed-measures design was adopted: congruence vs. incongruence was a between-subjects factor, and the moderators (i.e., uncertainty avoidance) was a measured factor. The main study survey was designed using Qualtrics and was launched on the Amazon MTurk platform. The expected time for participants to complete the survey was 10 minutes. Four versions of packaging visual cue combinations for a brand of a mineral bottled water were created: 1, luxurious shape x luxurious color; 2, luxurious shape x casual color; 3, casual shape x luxurious color; 4, casual shape x casual color. After the introduction and the informed consent parts, participants were randomly assigned to one of the conditions and were given a scenario that stated: "In order to convey the 'right' brand impression to consumers, companies spend lots of effort in designing their products. A manufacturer is interested in your perception of the brand of a bottled water that will be soon launched in the market." Next, participants completed the 3-item scale measuring perceived color-shape congruence used in pre-test 2 ($\alpha = .892$). Then they were asked to evaluate the product variants on several evaluation criteria (i.e., brand credibility, brand aesthetics, and purchase intention). Before measuring the processing fluency, a page break was added and the product's picture was shown again on the screen to improve the effectiveness of the manipulation. Next, a question containing items measuring the uncertainty avoidance had to be completed. Demographic questions were presented last, and participants were thanked and were paid \$0.95 (USD) for finishing the questionnaire. Besides, to exclude the potential invalid responses, an attention check question was presented after the processing fluency part and a question regarding color blindness was presented at the end of the demographic part (see Appendix B for the full

questionnaire).

3.4.2 Participants and sampling

This study aims at exploring the effect of color-shape congruence on consumers' responses. Therefore, the only prerequisite is that participants should be capable of identifying different colors. The question "Do you feel difficult identifying different colors?" was used to satisfy this prerequisite.

The main study survey was designed using Qualtrics and completed in January 2020 on the Amazon MTurk platform. A total of 312 responses were received, of which 59 responses were incomplete, failed to satisfy the prerequisite, or failed to pass the attention check question. As a result, 253 responses remained for the analysis. Specifically, 157 responses belong to the congruence (coded 1) condition (i.e., luxurious shape x luxurious color; casual shape x casual color) and 156 responses belong to the incongruence (coded 0) condition (i.e., luxurious shape x casual color; casual shape x luxurious color). For more details of the demographic information, please refer to Table 3.4.

Table 3.4 Sample demographics

		Frequency	Percentage
Gender	Male	170	67.50%
	Female	82	32.50%
	Total	252	100%
Age	Under 18	0	0%
	18-24	28	11.10%
	25-34	106	42.10%
	35-44	68	27%
	45 or older	50	19.80%
	Total	252	100%
Education level	Less than high school	1	0.40%
	High school/ college	62	24.60%
	Undergraduate	162	64.30%
	Master/ PHD or higher	27	10.70%
	Total	252	100%

3.4.3 Measurement and scales

In this study, all scales were adopted from prior studies. A scale of three items was used to measure brand credibility (e.g., "This brand makes a sincere impression")

and another three items were used to measure brand aesthetics (e.g., “This brand differentiates itself from competitors through eye-pleasing designs”) (Van Rompay & Pruyn, 2011). To measure purchase intention, three items were chosen from the study of Fenko et al. (2016) and were applied with minor modifications (e.g., “I would buy this bottled water.”). A scale of five pairs of items (e.g., “difficult-easy”, “disfluent-fluent”) was used to measure processing fluency (Graf, Mayer, & Landwehr, 2018). In terms of the uncertainty avoidance, a five-item scale for use at the individual level (Yoo, Donthu, & Lenartowicz, 2011) was adopted in this research (e.g., “It’s important to have instructions spelled out in detail so that I always know what I’m expected to do”). All items were measured by a 7-point Likert-scale (1= strongly disagree, 7 = strongly agree). See Table 3.5 for the summary of the reliability test and see Appendix D for more detailed SPSS results.

Table 3.5 Reliability Test

Constructs	Adopted from	Used Items	Cronbach’s Alpha
Brand credibility	Van Rompay & Pruyn (2011)	3	0.852
Brand aesthetics	Van Rompay & Pruyn (2011)	3	0.836
Purchase intention	Fenko et al., (2016)	3	0.926
Processing fluency	Graf et al., (2018)	5	0.831
Uncertainty avoidance	Yoo et al., (2011)	5	0.883

4. DATA ANALYSIS AND RESULTS

4.1 Manipulation checks

A one-way ANOVA was conducted with the congruence measures as dependent variable. The results confirmed that products with congruent symbolic meanings were indeed rated as more congruent ($M = 5.77$, $SD = .83$) compared with products with incongruent symbolic meanings ($M = 5.21$, $SD = 1.10$). Such difference was significant ($F(1, 251) = 21.65$, $p < .001$). Therefore, perceived congruence was successfully manipulated (see Appendix E for more detailed SPSS results).

4.2 Assumptions checks for the MANOVA

Before conducting the MANOVA, several assumptions were tested through SPSS.

4.2.1 Outliers

To test the outliers, a linear regression was conducted with the congruence as dependent variable and brand credibility, brand aesthetics and purchase intention as independent variables. A new variable was created by saving the “Mahalanobis”. Results showed that only one outlier should be removed for the present study. Therefore, 156 remained in the congruence condition and 156 responses remained in the incongruence condition after the exclusion.

4.2.2 Linear relationship

To test if there is a linear relationship assumption, a scatterplot matrix was created with the brand credibility, brand aesthetics and purchase intention as dependent variables and the congruence as row. As shown in Figure 4.1, the plots in each cell generally moved from the top left left to the bottom right, indicating the assumption of a linear relationship was satisfied.

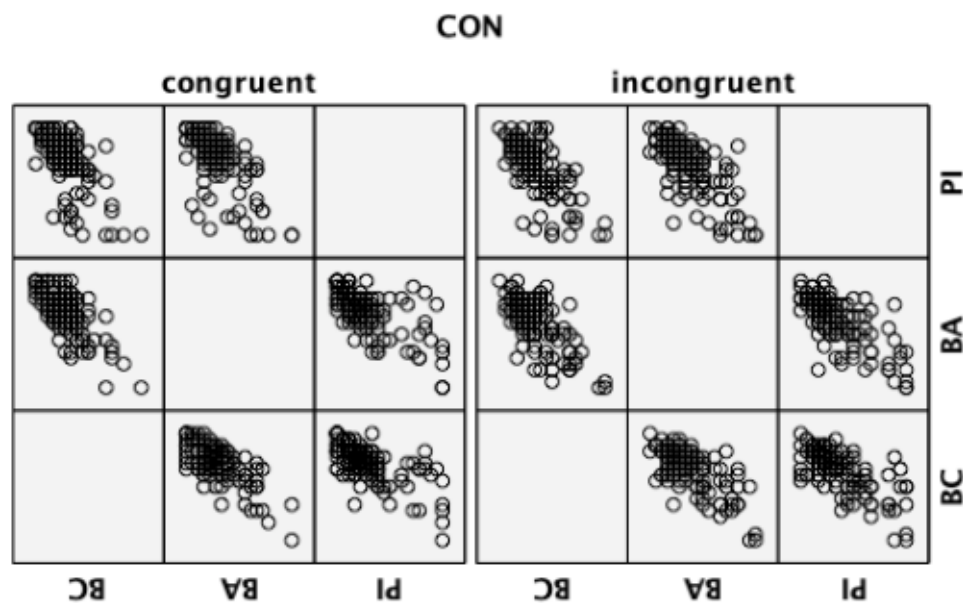


Figure 4.1 Scatterplot matrix

4.2.3 multicollinearity

To test the existence of multicollinearity, a correlation analysis was conducted with brand credibility, brand aesthetics and purchase intention as variables. As shown in Table

4.1, none of the Pearson correlation values were greater than 0.8, indicating that none of the dependent variables were multicollinear.

Table 4.1 The correlation analysis of the dependent variables

		BC	BA	PI
BC	Pearson Correlation	1	.731**	.701**
	Sig. (2-tailed)		.000	.000
	N	252	252	252
BA	Pearson Correlation	.731**	1	.710**
	Sig. (2-tailed)	.000		.000
	N	252	252	252
PI	Pearson Correlation	.701**	.710**	1
	Sig. (2-tailed)	.000	.000	
	N	252	252	252

** Correlation is significant at the 0.01 level (2-tailed).

4.2.4 multivariate normality

To test the normality for each of the dependent variables, three pairs of histograms were created. The results showed that the assumption of multivariate normality was violated. However, as long as the number of observations is much, the MANOVA results will remain robust under deviation for normality (see Appendix E).

4.2.5 Equality of variance-covariance matrices

This assumption was tested as part of MANOVA. As can be seen in Table 4.2, the box's test of equality of covariance matrices for three dependent variables was statistically insignificant ($p > .05$). Thus, the null hypothesis cannot be rejected and the assumption of the equality of variance-covariance matrices was satisfied.

Table 4.2 Box's Test of Equality of Covariance Matrices

Box's M	5.750
F	.946
df1	6
df2	452830.189
Sig.	.461

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + CON

4.3 Effects of color-shape congruence on consumer responses

In this study, Hypothesis 1 to Hypothesis 3 proposed that the symbolic congruence of shape and color would affect various consumer responses. Specifically, color-shape congruence was expected to trigger more positive responses, whereas color-shape incongruence was expected to result in negative responses. In order to test Hypothesis 1 to Hypothesis 3, a between-subject one-way MANOVA was conducted with congruence as independent variable and brand credibility, brand aesthetics, and purchase intention as dependent variables. Since the p-value of the Pillai's Trace was smaller than .05, at least one of the dependent variable's mean in one condition is significantly different from the mean of the same dependent variable in the other condition. To further investigate the effect of congruence on three dependent variables, we need to check the tests of between-subjects effects of individual ANOVAs.

In terms of the results, using the 5% level of statistical significance, ANOVA test showed a significant effect of congruence on brand credibility ($F(1, 250) = 7.439, p = .007$), a significant effect of congruence on brand aesthetics ($F(1, 250) = 10.572, p = .001$), and a significant effect of congruence on purchase intention ($F(1, 250) = 4.320, p = .039$) (see Appendix F for more detailed SPSS results). In addition, further mean comparisons confirmed that for all the three dependent variables, color-shape congruence combinations were rated as higher than color-shape incongruence combinations. Please refer to Table 4.3 for the related means and standard deviations of brand credibility, brand aesthetics, and purchase intention.

Table 4.3 Mean and standard deviations of the effect of congruence condition on consumer responses

	Congruence			Incongruence		
	M	SD	N	M	SD	N
Brand credibility	5.38	1.09	126	4.98	1.21	126
Brand aesthetics	5.28	1.25	126	4.74	1.4	126
Purchase intention	5.28	1.58	126	4.87	1.57	126

Note. M = mean; SD = standard deviation.

Based on these findings, it was confirmed that symbolic congruence of color-shape packaging cues will lead to a more positive perceived brand credibility, perceived brand aesthetics and purchase intention compared to color-shape incongruence. In other words, Hypothesis 1 to Hypothesis 3 are supported.

4.4 The mediating effect of processing fluency

In this study, Hypothesis 4 proposed that the effect of color-shape congruence on consumer responses is mediated by processing fluency. Specifically, color-shape congruence enhances processing fluency and will further positively influence brand credibility, brand aesthetics, and purchase intention, while color-shape incongruence decreases processing fluency and will further negatively influence brand credibility, brand aesthetics, and purchase intention. To test this hypothesis, three analyses were conducted using PROCESS macro model 4 (Hayes, 2017).

4.4.1 the role of processing fluency in mediating the effect of color-shape congruence on brand credibility

The first analysis aimed to test if processing fluency mediates the relationship between the congruence condition (incongruence = 0, and congruence = 1) and brand credibility. Thus, the congruence condition was entered as the independent variable, processing fluency was entered as the mediator, and brand credibility was entered as the dependent variable. As shown in Figure 4.2, congruence condition was predicted to positively influence processing fluency (path a), and will further influence brand credibility (path b). The influence of congruence condition on brand credibility through processing fluency was considered as the indirect effect (path a*b). While the direct effect (path c') was the effect of congruence condition on brand credibility while keeping the levels of processing fluency constant. And the combination of direct and indirect

effects is the total effect (path c). The statistical significance of all the effects was calculated by means of 5000 bootstrap samples to create 95% confidence intervals.

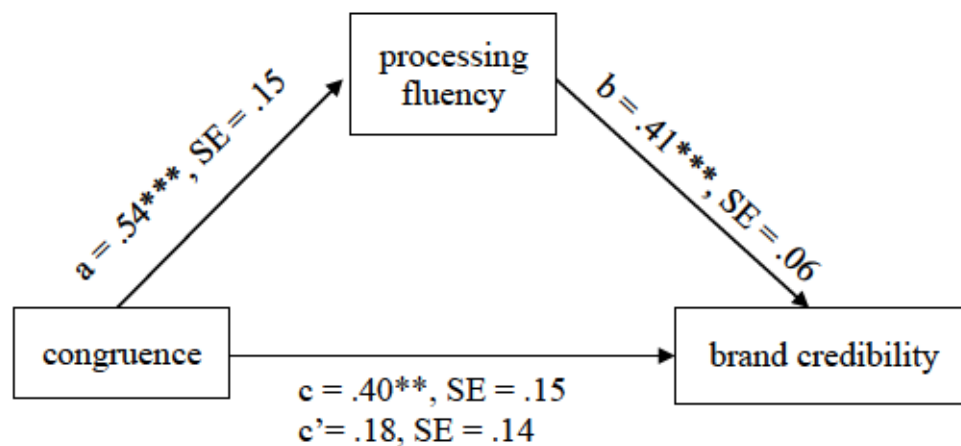


Figure 4.2 Processing fluency as a full mediator of the relationship between congruence and brand credibility

As shown in Table 4.4, SPSS results indicated that congruence condition had a significant positive effect on processing fluency ($B = .5397$, $t = 3.5927$, $p = .0004$), and processing fluency further positively influenced brand credibility ($B = .4055$, $t = 7.2738$, $p = .0000$). In terms of the indirect effect of the congruence condition on brand credibility through processing fluency, it can be seen that the upper and lower limits of the bootstrap confidence intervals did not include zero ($B = .2188$, 95% CI = [.0901, .3754]), indicating a significant indirect effect (path $a*b$). The total effect (path c) of congruence condition on brand credibility was also shown to be significant ($B = .3968$, $t = 2.7274$, $p = .0068$). In addition, there was no significant direct effect (path c') of congruence condition on brand credibility ($B = .1780$, $t = 1.3110$, $p = .1911$). Therefore, a complete mediation effect can be concluded. Specifically, color-shape congruence enhances processing fluency and will further positively influence brand credibility, while color-shape incongruence decreases processing fluency and will further negatively influence brand credibility. (see Appendix G for more detailed SPSS results)

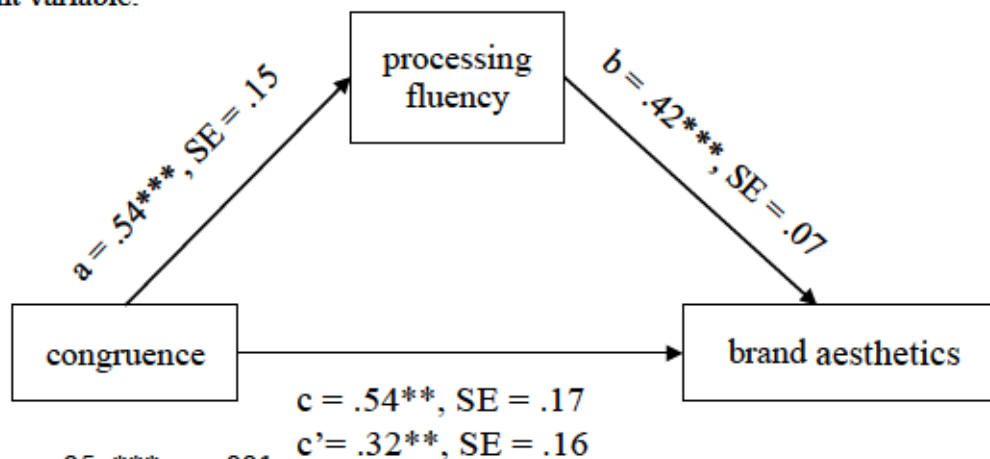
Table 4.4 The mediation analysis of the influence of congruence on brand credibility

Effect	Coeff	SE	t	p	LLCI	ULCI	BootSE	BootLLCI	BootULCI
Congruence on processing fluency	.5397	.1502	3.5927	.0004	.2438	.8355			
Processing fluency on brand credibility	.4055	.0557	7.2738	.0000	.2957	.5153			
Mediation of processing fluency	.2188						.0733	.0901	.3754
Congruence on brand credibility	.3968	.1455	2.7274	.0068	.1103	.6834			
Direct effect	.1780	.1358	1.3110	.1911	-.0894	.4454			

Note. Coeff = coefficient; SE = standard error; LLCI = lower- limit confidence interval; ULCI = upper-limit confidence interval.

4.4.2 the role of processing fluency in mediating the effect of color-shape congruence on brand aesthetics

The second analysis aimed to examine if the relationship between the congruence condition (incongruence = 0, and congruence = 1) and brand aesthetics is mediated by processing fluency. As shown in Figure 4.3, the congruence condition was the independent variable, processing fluency was the mediator, and brand aesthetics was the dependent variable.



Note. ** p < .05; *** p < .001

Figure 4.3 Processing fluency as a partial mediator of the relationship between congruence and brand aesthetics

Table 4.5 included the SPSS results of the analysis. It can be seen that congruence condition had a significant positive effect on processing fluency ($B = .5397$, $t = 3.5927$, $p = .0004$), and processing fluency further positively influenced brand aesthetics ($B = .4212$, $t = 6.4687$, $p = .0000$). In terms of the indirect effect of the congruence condition on brand aesthetics through processing fluency, it can be seen that the upper and lower limits of the bootstrap confidence intervals did not include zero ($B = .2273$, 95% CI = [.0878, .3998]), indicating a significant indirect effect (path a*b). The total effect (path c) of congruence condition on brand aesthetics was also shown to be significant ($B = .5424$,

$t = 3.2515, p = .0013$). However, there was also a significant direct effect (path c') of congruence condition on brand aesthetics ($B = .3150, t = 1.9866, p = .0481$). Therefore, a partial mediation effect can be concluded. In other words, color-shape congruence leads to the enhanced perceived brand aesthetics, whereas color-shape incongruence leads to decreased perceived brand aesthetics. And the effects are mediated by the processing fluency. (see Appendix G for more detailed SPSS results)

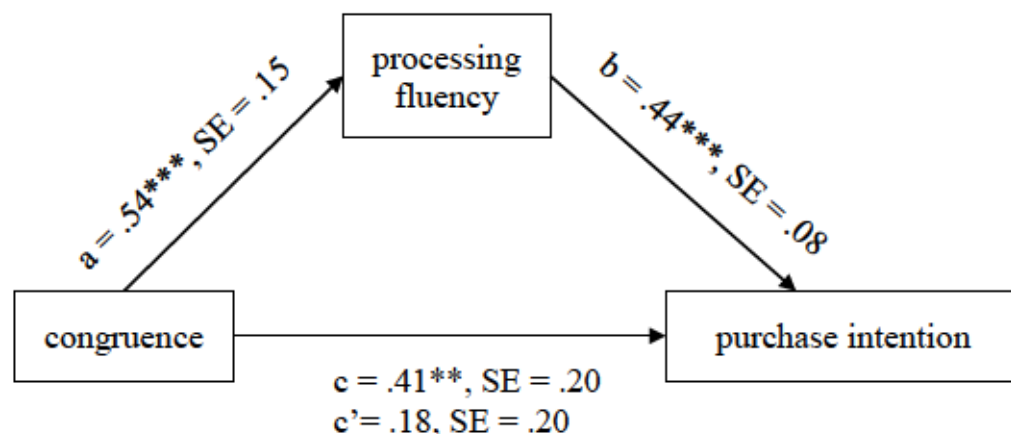
Table 4.5 The mediation analysis of the influence of congruence on brand aesthetics

Effect	Coeff	SE	t	p	LLCI	ULCI	BootSE	BootLLCI	BootULCI
Congruence on processing fluency	.5397	.1502	3.5927	.0004	.2438	.8355			
Processing fluency on brand aesthetics	.4212	.0651	6.4687	.0000	.2929	.5494			
Mediation of processing fluency	.2273						.0798	.0878	.3998
Congruence on brand aesthetics	.5424	.1668	3.2515	.0013	.2138	.8709			
Direct effect	.3150	.1586	1.9866	.0481	.0027	.6274			

Note. Coeff = coefficient; SE = standard error; LLCI = lower-limit confidence interval; ULCI = upper-limit confidence interval.

4.4.3 the role of processing fluency in mediating the effect of color-shape congruence on purchase intention

The third analysis aimed to investigate if processing fluency also plays a mediating role in the relationship between the congruence condition (incongruence = 0, and congruence = 1) and purchase intention. As shown in Figure 4.4, the congruence condition was included as the independent variable, processing fluency was still the mediator, and purchase intention was the dependent variable.



Note. ** $p < .05$; *** $p < .001$

Figure 4.4 Processing fluency as a full mediator of the relationship between congruence and purchase intention

In terms of the SPSS results, it can be seen in Table 4.6, that congruence condition had a significant positive effect on processing fluency ($B = .5397, t = 3.5927, p = .0004$). In addition, processing fluency further positively influenced purchase intention ($B = .4384, t = 5.5474, p = .0000$). As for the indirect effect of the congruence condition on purchase intention through processing fluency, results showed that the upper and lower limits of the bootstrap confidence intervals did not include zero ($B = .2366, 95\% CI = [.0854, .4273]$), indicating a significant indirect effect (path a*b). The total effect (path c) of congruence condition on purchase intention was also shown to be significant (Effect = .4127, $t = 2.0785, p = .0387$). Besides, there was no significant direct effect (path c') of congruence condition on purchase intention ($B = .1761, t = .9150, p = .3611$). As a result, a complete mediation effect can be concluded. That is to say, the enhanced purchase intention was present only due to the high level of processing fluency and such a high level of processing fluency was associated with only the symbolic congruence of the shape and color packaging cues. (see Appendix G for more detailed SPSS results)

Table 4.6 The mediation analysis of the influence of congruence on purchase intention

Effect	Coeff	SE	t	p	LLCI	ULCI	BootSE	BootLLCI	BootULCI
Congruence on processing fluency	.5397	.1502	3.5927	.0004	.2438	.8355			
Processing fluency on purchase intention	.4384	.0790	5.5474	.0000	.2827	.5940			
Mediation of processing fluency	.2366						.0873	.0854	.4273
Congruence on purchase intention	.4127	.1986	2.0785	.0387	.0216	.8037			
Direct effect	.1761	.1925	.9150	.3611	-.2030	.5552			

Note. Coeff = coefficient; SE = standard error; LLCI = lower-limit confidence interval; ULCI = upper-limit confidence interval.

Based on the results of the three mediation analyses, it can be concluded that processing fluency fully mediated the influence of congruence condition on brand credibility as well as the influence of congruence condition and the purchase intention. However, it only partially mediated the relationship between the congruence condition and brand aesthetics. In conclusion, Hypothesis 4 was supported.

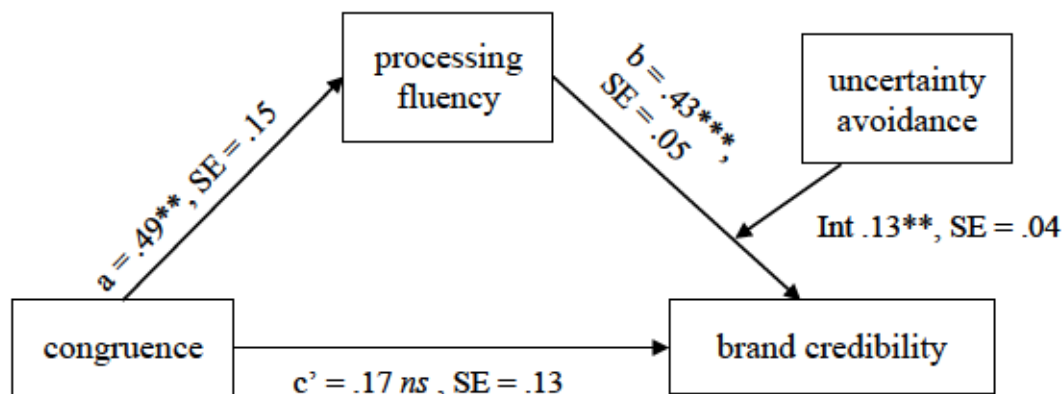
4.5 The moderated mediation

In this study, Hypothesis 5 proposed that the level of uncertainty avoidance moderates the effect of processing fluency on consumer responses. To be more specific, the positive effect of high processing fluency and the negative effect of low processing fluency on a) brand credibility, b) brand aesthetics, and c) purchase intention will be more prominent for people with high rather than low level of uncertainty avoidance. To test these moderated mediation effects, three analyses were conducted using PROCESS

macro model 14 (Hayes, 2017).

4.5.1 the role of uncertainty avoidance in moderating the effect of processing fluency on brand credibility

As illustrated in Figure 4.5, the congruence condition was entered as the independent variable, the processing fluency was entered as the mediator, the brand credibility was entered as the dependent variable, and the uncertainty avoidance was entered as the moderator.



Note. Int = Interaction; ns = not significant; ** $p < .05$; *** $p < .001$

Figure 4.5 The moderated mediation of the influence of congruence on brand credibility

SPSS results showed that the index of the moderated mediation was significant as the bootstrap confidence intervals did not include zero (95% CI = [.0099, .1355]). This evidence demonstrates that the overall model is robust. As can be seen in Table 4.7, the congruence condition led to higher processing fluency ($B = .4921, p = .0017$), and the processing fluency was positively related to brand credibility ($B = .4287, p = .0000$). In addition, as hypothesized in Hypothesis 5, the uncertainty avoidance moderated the effect of processing fluency on brand credibility ($B = .1272, p = .0036$). To be more specific, the relationship between the processing fluency and the brand credibility was stronger for individuals who had a high level of uncertainty avoidance (effects at the values of moderator: $UncertaintyAvoidance_{high} = .5507, 95\% CI = [.4197, .6817]$; $UncertaintyAvoidance_{LOW} = .3067, 95\% CI = [.1780, .4353]$) (Table 4.8). No direct effect emerged for the congruence condition on brand credibility ($B = .1664, p = .1887$)

(see Appendix G for more detailed SPSS results).

Table 4.7 The moderated mediation of the influence of congruence on brand credibility

Effect	Coeff	SE	t	p	LLCI	ULCI
Congruence on processing fluency	.4921	.1548	3.1791	.0017	.1872	.7969
Processing fluency on brand credibility	.4287	.0512	8.3708	.0000	.3278	.5295
Uncertainty avoidance on brand credibility	.2354	.0661	3.5614	.0004	.1052	.3656
Moderation of uncertainty avoidance	.1272	.0433	2.9386	.0036	.0420	.2125
Congruence on brand credibility	.1664	.1262	1.3180	.1887	-.0823	.4151
Direct effect	.1664	.1262	1.3180	.1887	-.0823	.4151

Note. Coeff = coefficient; SE = standard error; LLCI = lower-limit confidence interval; ULCI = upper-limit confidence interval

Table 4.8 Moderator analysis: Conditional effect of processing fluency on brand credibility at values of the moderator (uncertainty avoidance)

Uncertainty avoidance	Effect	SE	LLCI	ULCI
Low	.3067	.0653	.1780	.4353
Medium	.4287	.0512	.3278	.5295
High	.5507	.0665	.4197	.6817

Note. SE = standard error; LLCI = lower-limit confidence interval; ULCI = upper-limit confidence interval

Overall, the results support that the mediation of congruence on brand credibility is conditional. Specifically, as the slopes shown in Figure 4.6, people with high rather than low level of uncertainty avoidance tend to be more sensitive to the positive effect of processing fluency on brand credibility.

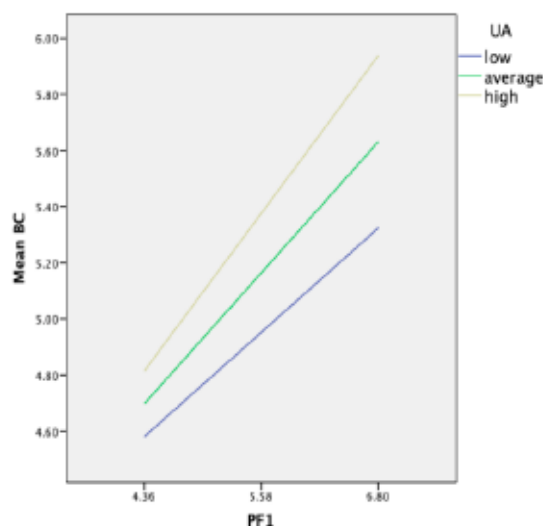
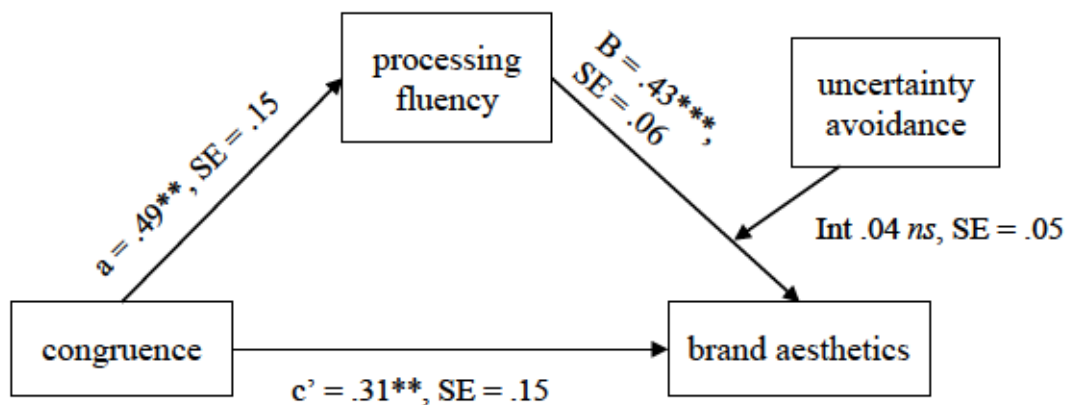


Figure 4.6 Moderator analysis: Conditional effect of processing fluency on brand credibility at values of the moderator (uncertainty avoidance)

4.5.2 the role of uncertainty avoidance in moderating the effect of processing fluency on brand aesthetics

The second analysis aimed to test the moderating role of uncertainty avoidance in influencing the relationship between processing fluency and brand aesthetics. As illustrated in Figure 4.7, the congruence condition was entered as the independent variable, the processing fluency was entered as the mediator, the brand aesthetics was entered as the dependent variable, and the uncertainty avoidance was entered as the moderator.



Note. Int = Interaction; ns = not significant; ** $p < .05$; *** $p < .001$

Figure 4.7 The moderated mediation of the influence of congruence on brand aesthetics

In terms of the SPSS results, although the overall model was statistically significant ($R^2 = .0389$, $F(4, 247) = 10.1067$, $p = .0017$), the interaction of processing fluency and brand aesthetics was not significant ($B = .0407$, $t = .7857$, $p = .4328$) (Table 4.9). Additionally, the index of the moderated mediation was not significant as the bootstrap confidence intervals included zero (95% CI = [- .0322, .1118]). This evidence suggested that the uncertainty avoidance did not moderate the relationship between the processing fluency and the brand aesthetics (see Appendix G for more detailed SPSS results).

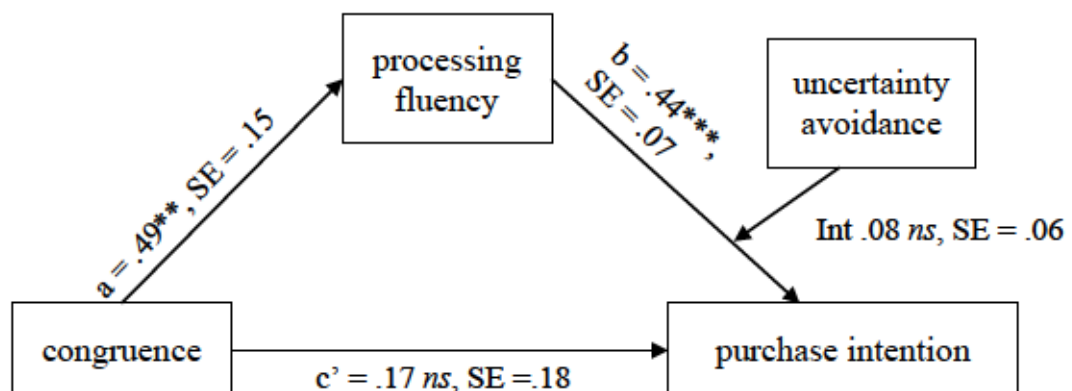
Table 4.9 The moderated mediation of the influence of congruence on brand aesthetics

Effect	Coeff	SE	t	p	LLCI	ULCI
Congruence on processing fluency	.4921	.1548	3.1791	.0017	.1872	.7969
Processing fluency on brand aesthetics	.4344	.0613	7.0893	.0000	.3137	.5551
Uncertainty avoidance on brand aesthetics	.2637	.0791	3.3343	.0010	.1079	.4195
Moderation of uncertainty avoidance	.0407	.0518	.7857	.4328	-.0613	.1427
Congruence on brand aesthetics	.3092	.1511	2.0469	.0417	.0117	.6067
Direct effect	.3092	.1511	2.0469	.0417	.0117	.6067

Note. Coeff = coefficient; SE = standard error; LLCI = lower- limit confidence interval; ULCI = upper-limit confidence interval

4.5.3 the role of uncertainty avoidance in moderating the effect of processing fluency on purchase intention

The third analysis aimed to test the moderating role of uncertainty avoidance in influencing the relationship between processing fluency and purchase intention. Similarly, the same independent variable, moderator and mediator were entered. And the purchase intention was entered as the dependent variable (Figure 4.8).



Note. Int = Interaction; ns = not significant; ** $p < .05$; *** $p < .001$

Figure 4.8 The moderated mediation of the influence of congruence on purchase intention

As shown in Table 4.10, the overall model was statistically significant ($R^2 = .0389$, $F(4, 247) = 10.1067$, $p = .0017$). However, the interaction of processing fluency and purchase intention was not significant ($B = .0772$, $t = 1.2230$, $p = .2225$). In addition, the index of the moderated mediation was not significant as the bootstrap confidence intervals included zero (95% CI = [- .0278, .1503]). These results did not provide support for the moderating role of uncertainty avoidance in influencing processing fluency and

purchase intention. (see Appendix G for more detailed SPSS results)

Table 4.10 The moderated mediation of the influence of congruence on purchase intention

Effect	Coeff	SE	t	p	LLCI	ULCI
Congruence on processing fluency	.4921	.1548	3.1791	.0017	.1872	.7969
Processing fluency on purchase intention	.4425	.0746	5.9275	.0000	.2954	.5895
Uncertainty avoidance on purchase intention	.3437	.0964	3.5672	.0004	.1539	.5335
Moderation of uncertainty avoidance	.0772	.0631	1.2230	.2225	-.0471	.2015
Congruence on purchase intention	.1691	.1840	.9188	.3591	-.1934	.5316
Direct effect	.1691	.1840	.9188	.3591	-.1934	.5316

Note. Coeff = coefficient; SE = standard error; LLCI = lower-limit confidence interval; ULCI = upper-limit confidence interval

Based on the results of the three moderated mediation analyses, it can be concluded that the uncertainty avoidance was only shown to moderate the influence of processing fluency on brand credibility. Specifically, the effect of processing fluency on brand credibility was stronger for individuals with high rather than low level of uncertainty avoidance. No moderated mediation occurred for the influence of congruence on brand aesthetics and purchase intention. Therefore, Hypothesis 5 was partially supported.

5. DISCUSSION

5.1 General discussion

The current study aimed to examine the symbolic congruence of packaging color and shape on consumers' cognitive (i.e., brand credibility), affective (i.e., brand aesthetics), and behavioral (purchase intention) responses. The overall results reported confirmed the important role of visual cue congruence in influencing different evaluation criteria. In addition, extending the knowledge regarding the effects of processing fluency contributed to previous research by showing the mechanism underlying the congruence effects. Furthermore, as one of the personal characteristics, the uncertainty avoidance for the use of the individual-level was tested as a moderator to influence congruence effects.

Being consistent with prior research indicating the positive effect of various types of congruence (e.g., Grohmann, 2009; Van Rompay et al., 2009; Van Rompay & Pruyn, 2011), the present study confirmed the positive effects of symbolic congruence among packaging cues on consumer responses. Specifically, the results reported demonstrated that symbolic congruence of color-shape packaging cues led to a more positive perceived brand credibility, perceived brand aesthetics and purchase intention compared to color-shape incongruence. This is in accord with the findings of Van Rompay and Pruyn

(2011), as they proved that when the symbolic meanings of packaging shape and typeface are consistent, an overall positive brand and product perceptions occurred. In addition, to our knowledge, no prior research has been conducted to address the effects of color-shape congruence on brand perceptions and purchase intention. Thus the current study has improved the external validity and provided new insights to the domain of congruence effects.

In addition to replicating the congruence effects testified in previous research, the contribution of this study also lied in its exploration of the underlying process by which symbolic congruence influences consumer evaluations. Specifically, by including the processing fluency as a measured construct, the study's results suggested that it was the processing fluency that accounted for the enhancing effects of symbolic congruence on consumer responses. This is in line with previous findings concerning processing fluency (Labroo & Lee, 2006; Lee & Aaker, 2004; Reber et al., 1998). For instance, the study of Reber et al. (1998) demonstrated that pictures preceded by matched contours are processed more fluently than mismatched contours. Furthermore, largely in line with hypothesis 4, the results of the mediation analysis confirmed that the enhanced processing fluency would further trigger the enhanced brand perceptions and approach behaviors. To be more specific, when the processing fluency was entered as the mediator, the positive direct effects of congruence condition on brand credibility and purchase intention diminished. This evidence suggested that processing fluency fully mediates the influence of congruence condition on brand credibility as well as the influence of congruence condition on purchase intention. In other words, it can be argued that enhanced brand credibility and purchase intention were present only due to enhanced processing fluency. Besides, the high processing fluency was derived from the congruence of the stimulus. Such results were in accord with findings by Reber and Schwarz (1999) and Labroo and Lee (2006). In the study of Reber and Schwarz (1999), for instance, high visible statements that were easier to process were more often judged to be credible. Likewise, Labroo and Lee (2006) found that ratings of brand attitudes and purchase intention benefit a lot from the high processing fluency deriving from the congruence of regulatory goals.

However, in terms of the relationship between congruence condition and brand aesthetics, the results reported only confirmed a partial mediation effect of processing fluency. This means that the symbolic congruence of shape and color caused the

enhanced brand aesthetics, but the impact was mediated by the extent to which people can fluently process the presented information. One possible explanation for the significant path from congruence condition to brand aesthetics could be that the stimuli used in the current study were relatively visual striking since shape and color were obvious design elements, thus it is of highly possible that affect-based construct such as brand aesthetics tend to be more easily and directly affected by the congruence condition. In a way, this result was consistent with the findings of Van Rompay and Pruyn (2011). In their study, the shape-typeface congruence was found to influence price expectations via the perceived brand aesthetics rather than via brand credibility. However, they attributed such differences to the product type. Specifically, perceptions concerning credibility are more important when it comes to expensive or luxurious products, whereas with regard to low-involvement products associated with less risk while purchasing such as bottled water, consumers are inclined to form their impression from affect-based measures such as the brand aesthetics, but rather from cognition-based measures, such as brand credibility. Overall, by demonstrating the mediating role of processing fluency in influencing consumer responses, the current study supported that consumers' positive evaluations are based on the pleasant experience associated with high fluency.

Furthermore, by focusing on the role of personal characteristics in influencing congruence effects, the current study also included the uncertainty avoidance as a possible moderator. As outlined in hypothesis 5, uncertainty avoidance was assumed to moderate the effect of processing fluency on all three consumer responses. However, the results reported showed that the uncertainty avoidance was only found to moderate the effect of processing fluency on the perception of brand credibility. That is to say, the positive effect of high processing fluency and the negative effect of low processing fluency on brand credibility were more prominent for people with high rather than low level of uncertainty avoidance. The explanation of this effect can be traced to the findings indicating that high processing fluency is related to safety and familiarity (Winkielman et al., 2003) and that people with higher level of uncertainty avoidance tend to reduce the perceived ambiguity in daily life as they feel threatened and uncomfortable with such situations (Doney, Cannon, & Mullen, 1998; Money & Crofts, 2003). Thus it is reasonable that for this group of people, the feeling of safety is more important and that the perceived brand credibility is more easily to benefit from the high processing fluency. In contrast, people with low level of uncertainty avoidance tend to care less about

ill-structured, ambiguous situations (Hofstede, 2001), thus they are less sensitive to the high processing fluency and its influence on brand credibility. In a way, the results were in line with the findings of Van Rompay et al. (2009). In their study, people high in the need for structure were found to be more sensitive to the effect of slogan-shape congruence effects.

However, no moderated mediation occurred for the influence of congruence on brand aesthetics and purchase intention. In other words, when it comes to brand aesthetics and purchase intention, people with different levels of uncertainty avoidance were shown to be of equal sensitivity to the effect of processing fluency. In explaining this, it is argued that one characteristic that distinguishes people of different levels of uncertainty avoidance is the degree to which they get involved in the information-seeking behavior before purchasing (Jordan, Norman, & Vogt, 2013). Such a process seems to be more related to rational cognitive rather than affective process. Thus, it is possible that the moderating effect only appears to be significant when it is a cognition-based response.

5.2 Managerial implications

With respect to the managerial implications, firstly, the research is expected to provide practical guidelines for marketers and designers involved in the launch of new brands. Specifically, the confirmation of the importance of symbolic congruence among packaging cues in influencing consumer responses enables marketers to better design the ‘right’ package of the products and shape the desired perceptions of the brand. In fact, when faced with a newly launched product, consumers’ knowledge of the product or brand is relatively lacking, thus the visual elements such as color and shape tend to play a crucial role in forming a good first impression. As the results of the current study suggested, one practical packaging design principle is to fully consider the congruence among visual elements. The symbolic congruence can lead to the hedonic-marked high processing fluency, and will in turn lead to the enhanced brand perceptions and even the purchase behavior. By selecting the appropriate symbolic meaning based on the different kinds of products and obeying the principle of holistic presentation, marketers may have a greater chance to evoke the desired consumer responses and distinguish their products from the competitors. For instance, for a mineral bottled water positioned as luxury, designers can regard “luxury” as the starting point to integrate various visual elements to

realize symbolic congruence. Similarly, for an orange juice that positioned as natural, curve and round shapes and typeface can be combined to better communicate the symbolic meaning of “naturalness”.

Actually, compared to other marketing strategies, visual cue symbolism has some unique advantages. For one thing, effects of visual cues are less likely affected by different languages, which means that no matter what country people come from, similar impression and associations may be generated in their mind in the face of symbolic color and shape design; for another, in addition to leading to the high processing fluency and positive perceptions, visual cue symbolism can also shape the taste expectations. For instance, Becker et al. (2011) demonstrated that symbolic meanings connoted by shape curvature inspire the relevant potency perception of the taste of a yogurt.

In addition, for existing brands that plan to make modifications to the package, the conclusions of the current study also suggested that it is necessary to take symbolic congruence among visual cues into consideration. After all, designing solely for visual impact might result in undesired and unexpected consumer responses. Marketers should always remember to consider the specific context while adopting the symbolic congruence method while designing the products.

5.3 Limitations and future research

Inevitably, there are a few limitations worth mentioning in the current study. Firstly, the method of data collection is limited to an online questionnaire. Although manipulation checks and attention check questions have been included to guarantee the effectiveness of the stimulus materials and the quality of responses, the consumption context is lacking. Participants only finish the questions regarding different evaluative constructs by looking at the product pictures on the screen, which is quite different from the actual environment when they buy similar products in daily life. In fact, given that the products selected in this study are beverages, it is important for participants to be able to access the products in a more three-dimensional and authentic way. Therefore, future research should consider setting the experiment in a more realistic environment to better understand the symbolic congruence effects. For instance, by creating the real stimulus material and conducting the experiment in a real supermarket aisle, more concrete and practical results might be realized. Additionally, in terms of the stimulus design, due to the limited Photoshop knowledge of the researcher, it seems that the material texture of

the bottles was not perfectly manipulated. The slender one looks like a glass bottle, while the wide one looks like a plastic bottle. Although we try to make up for this problem by emphasizing the “shape” when asking the questions, to some extent it may still affect the research results. Furthermore, with respect to the manipulation of the samples, the question regarding the color blindness was asked at last, resulting in lots of invalid responses. Actually, it would be better to present this question at the beginning of the questionnaire and add a skip logic to exclude the participants who do not meet the sample prerequisite in advance.

Secondly, the packaging design cues selected for symbolic congruence are limited to bottle shape and label color. However, there are many additional aspects of design elements worth investigating. For instance, when it comes to the combination of multiple design elements (e.g., color, shape, and typeface), what will the effects of symbolic congruence on consumer response be like? In addition to visual aspects of packaging design, will tactile sensation aspects such as material texture and product weight also lead to the same congruence effects? Among all the design elements, which one is relatively more powerful in influencing consumer perceptions? In addition, will the symbolic congruence of visual cues also influence consumers’ taste perceptions? All these possibilities remain to be explored in the future. Additionally, previous studies have pointed out that sometimes minor incongruencies among design cues might also be used to trigger positive responses since such design can elicit surprise and attract more attention (Ludden, Schifferstein, & Hekkert, 2008). Thus, topics regarding the effects of different levels of incongruence on consumer evaluations could be an interesting avenue to investigate for future research.

Thirdly, this study only adopts one aspect (i.e., symbolic congruence) to achieve different levels of processing fluency. However, other means such as symmetry design or figure-ground contrast (Reber et al., 1988) were also used to boost processing fluency in previous studies. Hence, further studies could investigate whether other aspects, for instance, the symmetry of the logo and graphic designs, the graphic-text ratio on the package, or the color contrasts of various visual elements could also evoke different levels of processing fluency.

Fourthly, only one moderator (i.e., uncertainty avoidance) was assessed in the current study. However, it has been argued that with regard to consumer responses to

design, moderating influences may occur at any stage of information processing (Crilly, 2004) and that personal characteristics, cultural influences and situational factors have all been identified as the possible aspects in moderating consumer's response to design cues (Bloch, 1995; Crilly, 2004). For instance, it has been demonstrated that the effect of visual elements on taste perceptions are qualified by consumers' sensitivity to design (Becker et al., 2011). Product type is also argued to moderate the congruence effects. Specifically, it was argued that the effect of high processing fluency on consumer evaluations was more prominent for everyday products since compared to special occasion products, they were more related to familiarity and safety (Pocheptsova, Labroo, & Dhar, 2009). Besides, demographic factors such as gender or age were not taken into consideration in this study. As the table of sample demographics showed, of the remaining valid responses, males are twice as many as females. It would be possible that females are more sensitive to the effects of processing fluency on evaluations since they might value safety more than males. The imbalance in the gender distribution of the respondents may partially explain the insignificant moderation effects of uncertainty avoidance in influencing the relationship between processing fluency and brand aesthetics as well as purchase intention. Therefore, future research could incorporate other moderators in order to reach more holistically informed results.

Furthermore, only one kind of beverage product (i.e., mineral bottled water) is selected in the current study. In order to have better external validity, future research could replicate the congruence effects with more kinds of fast-moving consumer goods, such as packaged foods or toiletries. Lastly, the uncertainty avoidance in this study is measured for the use of the individual level. It has been emphasized in earlier research that cultural dimension may also influence individuals' perception towards packaging design (Aaker, Bene-Martinez, & Garolera, 2011). Thus it would be interesting to incorporate other cultural dimensions on the national level for future research to assess how symbolic congruence effects work differently in different cultures or global markets. For instance, will the positive effects of symbolic congruence be more prominent in high rather than low uncertainty avoidance culture? Will the indulgence-restraint cultural dimension also play a moderating role in the relationship between congruence condition and consumer responses? All these possibilities await future research to address.

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Appendix A

Stimulus materials for pre-test 1

Bottle shape



Label color

Pair 1

color 215 - bright



color 215 - dark



Pair 2 - color 220

color 220 - bright



color 220 – dark



Pair 3 – color 225

color 225 - bright



color 225 - dark



Stimulus materials for pre-test 2



From left to right: luxurious shape and luxurious color; luxurious shape and casual color; casual shape and luxurious color; casual shape and casual color.

Appendix B

Main study questionnaire

Q0 Welcome to the survey! You are being invited to participate in the survey mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

A. PURPOSE The purpose of the survey is to better understand individuals' impressions of certain packaging design elements.

B. PROCEDURES If you participate, you will be presented with pictures relevant to packaging design cues and asked to answer some questions about them. In total, participating in this study will take about 10 minutes. As a research participant, your responsibilities would be to read the questions carefully and answer as accurately and honestly as possible.

C. RISKS AND BENEFITS There are no risks associated with participating in this research. This research is not intended to benefit you personally, however as a compensatory indemnity for participating in this research, you will receive \$0.95 (USD).

D. CONFIDENTIALITY We will gather your impressions of the design elements in this brief survey. We will not allow anyone to access the information, except people directly involved in conducting the research. We will only use the information for the purposes of the research described in this form. The information gathered will be anonymous. That means that it will not be possible to make a link between you and the information you provide. We will protect the information by storing it in a password-protected file on the researcher's hard drive. We intend to publish the results of the research. However, it will not be possible to identify you in the published results. We will destroy the information five years after the end of the study.

F. CONDITIONS OF PARTICIPATION You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time by closing your browser. You will however not be able to withdraw your information once you have submitted the questionnaire given that the research is anonymous and it will be impossible for the researcher to match your identity and your answers. If you withdraw before the end of the research, you will not receive the money. There are no negative consequences for not participating, stopping in the middle, or asking us not to use your information.

G. PARTICIPANT'S DECLARATION I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this survey under the conditions described.

- Yes, I agree to participate. (1)
- No, I do not agree to participate. (2)

Q1 In order to convey the "right" brand impression to consumers, companies spend lots of effort in designing their products. A manufacturer is interested your perception of the brand of a bottled water that will be soon launched in the market. Please take a moment to look at the packaging design of the product below and complete the questions.



Q2 Please look at the bottle shape and label's color and indicate to what extent you agree with the following statements.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The bottle shape and the label's color belong together. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label's color is appropriate for this bottle shape. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shape and color design of this product connote similar meanings. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Please indicate to what extent you agree with the following statements.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
This brand makes a sincere impression. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand makes a credible impression. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand makes a trustworthy impression. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beautiful design is a characteristic of this brand. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand puts in a lot of time and effort in product design. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand differentiates itself from competitors through eye-pleasing designs. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Please describe your overall purchase intention towards the product.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I would like to try this bottled water. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would consider buying this bottled water. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would buy this bottled water. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Please look at the product design elements again and continue answering the questions.



Q6 The process of understanding the meanings connoted by the bottle shape and label's color was :

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
difficult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy
disfluent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fluent
unclear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	clear
effortful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	effortless
incomprehensible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	comprehensible

Q7 The colour test is simple. When asked for your favorite color you must enter the word maroon in the text box below.

Based on the text you read above, what color have you been asked to enter?

Q8 Please indicate to what extent you agree with the following statements.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
It is important to have instructions spelled out in detail so that I always know what I'm expected to do. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to closely follow instructions and procedures. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules and regulations are important because they inform me of what is expected of me. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standardized work procedures are helpful. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructions for operations are important. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 Your age is between:

- under 18 (1)
- 18 - 24 (2)
- 25 - 34 (3)
- 35 - 44 (4)
- 45 - 54 (5)
- 55 or older (6)
-

Q10 Your gender:

- Male (1)
- Female (2)
-

Q11 Your highest education diploma:

- less than high school (1)
- high school graduate (2)
- Some college (3)
- 2 year degree (4)
- 4 year degree (5)
- master/PHD or higher (6)
-

Q12 Do you feel difficult identifying different colors?

- Yes (1)
- No (2)
-

Appendix C

SPSS results for the pre-tests

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
lux	slender	49	4.4080	1.28536	.18362	4.0388	4.7772	1.67	7.00
	wide	49	2.1292	1.28023	.18289	1.7615	2.4969	1.00	6.00
	Total	98	3.2686	1.71470	.17321	2.9248	3.6123	1.00	7.00
cas	slender	49	3.4422	1.28092	.18299	3.0743	3.8102	1.00	5.67
	wide	49	5.6331	1.11690	.15956	5.3123	5.9539	1.33	7.00
	Total	98	4.5377	1.62527	.16418	4.2118	4.8635	1.00	7.00

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
lux	Between Groups	127.224	1	127.224	77.313	.000
	Within Groups	157.974	96	1.646		
	Total	285.198	97			
cas	Between Groups	117.592	1	117.592	81.428	.000
	Within Groups	138.635	96	1.444		
	Total	256.227	97			

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
lux21 5	dark	52	4.6735	1.25186	.17360	4.3249	5.0220	2.00	7.00
	bright	52	3.8071	1.30790	.18137	3.4430	4.1712	1.00	6.33
	Total	104	4.2403	1.34627	.13201	3.9785	4.5021	1.00	7.00
cas21 5	dark	52	3.8331	1.17037	.16230	3.5072	4.1589	1.33	6.00
	bright	52	4.5837	.95609	.13259	4.3175	4.8498	1.67	6.33
	Total	104	4.2084	1.12830	.11064	3.9889	4.4278	1.33	6.33

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
lux215	Between Groups	19.514	1	19.514	11.907	.001
	Within Groups	167.166	102	1.639		
	Total	186.680	103			
cas215	Between Groups	14.648	1	14.648	12.827	.001

Within Groups	116.478	102	1.142
Total	131.125	103	

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
lux22 0	dark	49	4.2176	1.60692	.22956	3.7560	4.6791	1.00	7.00
	bright	49	3.7616	1.79945	.25706	3.2448	4.2785	1.00	7.00
	Total	98	3.9896	1.71249	.17299	3.6463	4.3329	1.00	7.00
cas22 0	dark	49	4.1767	1.34039	.19148	3.7917	4.5617	1.00	7.00
	bright	49	4.4896	1.53277	.21897	4.0493	4.9299	1.00	7.00
	Total	98	4.3332	1.44096	.14556	4.0443	4.6221	1.00	7.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
lux220	Between Groups	5.093	1	5.093	1.750	.189
	Within Groups	279.371	96	2.910		
	Total	284.463	97			
cas220	Between Groups	2.398	1	2.398	1.157	.285
	Within Groups	199.009	96	2.073		
	Total	201.407	97			

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
lux22 5	dark	48	4.3400	1.28327	.18522	3.9674	4.7126	1.67	7.00
	bright	48	3.5481	1.52279	.21980	3.1060	3.9903	1.00	6.67
	Total	96	3.9441	1.45615	.14862	3.6490	4.2391	1.00	7.00
cas22 5	dark	48	4.0144	1.32333	.19101	3.6301	4.3986	1.67	6.67
	bright	48	4.5771	1.31350	.18959	4.1957	4.9585	1.33	7.00
	Total	96	4.2957	1.34162	.13693	4.0239	4.5676	1.33	7.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
lux225	Between Groups	15.050	1	15.050	7.590	.007
	Within Groups	186.386	94	1.983		
	Total	201.436	95			
cas225	Between Groups	7.599	1	7.599	4.372	.039
	Within Groups	163.394	94	1.738		
	Total	170.994	95			

Descriptives

score1

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
slender+dark	k	50	4.0670	.96912	.13705	3.7916	4.3424	1.00	5.00
wide+dark		50	3.6672	1.03166	.14590	3.3740	3.9604	1.67	5.00
Total		100	3.8671	1.01587	.10159	3.6655	4.0687	1.00	5.00

ANOVA

score1

		Sum of Squares	df	Mean Square	F	Sig.
Between Groups		3.996	1	3.996	3.989	.049
Within Groups		98.172	98	1.002		
Total		102.168	99			

Descriptives

CON2

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
wide+bright		50	4.1066	.88208	.12475	3.8559	4.3573	2.00	5.00
slender+brigh	t	50	3.6530	1.32658	.18761	3.2760	4.0300	1.00	5.00
Total		100	3.8798	1.14371	.11437	3.6529	4.1067	1.00	5.00

ANOVA

CON2

		Sum of Squares	df	Mean Square	F	Sig.
Between Groups		5.144	1	5.144	4.054	.047
Within Groups		124.356	98	1.269		
Total		129.500	99			

Appendix D

Reliability test

Brand credibility:

Reliability Statistics	
Alpha	N of Items
.852	3

Brand aesthetics:

Reliability Statistics	
Alpha	N of Items
.836	3

Purchase intention:

Reliability Statistics	
Alpha	N of Items
.926	3

Processing fluency:

Reliability Statistics	
Alpha	N of Items
.831	5

Uncertainty avoidance:

Reliability Statistics	
Alpha	N of Items
.883	5

Appendix E

Manipulation checks for the main study

Descriptives

MANCHEK

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
incongruent	126	5.2063	1.09532	.09758	5.0132	5.3995	1.67	7.00
congruent	127	5.7743	.82924	.07358	5.6287	5.9199	2.67	7.00
Total	253	5.4915	1.00989	.06349	5.3664	5.6165	1.67	7.00

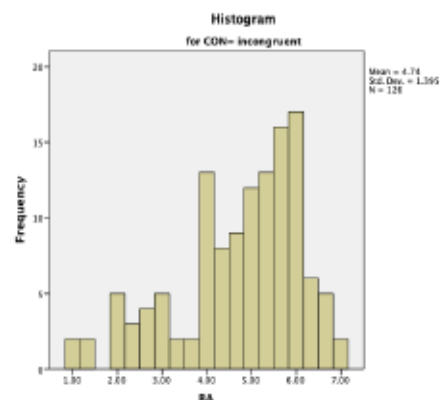
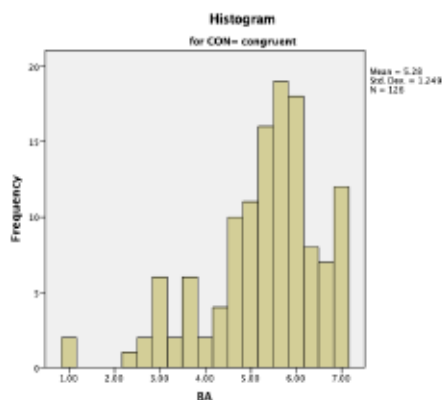
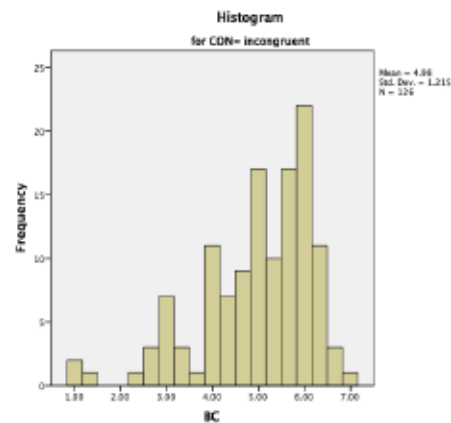
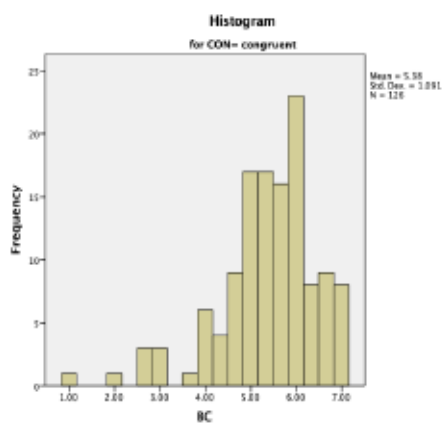
ANOVA

MANCHEK

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.404	1	20.404	21.645	.000
Within Groups	236.608	251	.943		
Total	257.011	252			

Assumption checks

Multivariate normality



Appendix F

SPSS results for the MANOVA analysis

Between-Subjects Factors			
	Value	Label	N
CON	.00	incongruent	126
	1.00	congruent	126

Multivariate Tests ^a									
Effect		Value	F	Hypothesis			Partial Square	Noncent. Parameter	Observed Power ^c
				s df	Error df	Sig.			
Intercept	Pillai's Trace	.954	1732.737 ^b	3.000	248.000	.000	.954	5198.211	1.000
	Wilks' Lambda	.046	1732.737 ^b	3.000	248.000	.000	.954	5198.211	1.000
	Hotelling's Trace	20.961	1732.737 ^b	3.000	248.000	.000	.954	5198.211	1.000
	Roy's Largest Root	20.961	1732.737 ^b	3.000	248.000	.000	.954	5198.211	1.000
	Pillai's Trace	.043	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Wilks' Lambda	.957	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Hotelling's Trace	.045	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
CON	Roy's Largest Root	.045	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Pillai's Trace	.043	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Wilks' Lambda	.957	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Hotelling's Trace	.045	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Roy's Largest Root	.045	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Pillai's Trace	.043	3.693 ^b	3.000	248.000	.013	.043	11.078	.800
	Wilks' Lambda	.957	3.693 ^b	3.000	248.000	.013	.043	11.078	.800

a. Design: Intercept + CON

b. Exact statistic

c. Computed using alpha =

Dependent Variable	CON				
	CON	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
BC	incongruent	4.984	.103	4.781	5.187
	congruent	5.381	.103	5.178	5.584
BA	incongruent	4.741	.118	4.508	4.973
	congruent	5.283	.118	5.051	5.515
PI	incongruent	4.870	.140	4.594	5.147
	congruent	5.283	.140	5.007	5.560

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^d
Corrected Model	BC	9.922 ^a	1	9.922	7.439	.007	.029	7.439	.775
	BA	18.532 ^b	1	18.532	10.572	.001	.041	10.572	.900
	PI	10.730 ^c	1	10.730	4.320	.039	.017	4.320	.544
Intercept	BC	6768.428	1	6768.428	5074.385	.000	.953	5074.385	1.000
	BA	6330.086	1	6330.086	3611.236	.000	.935	3611.236	1.000
	PI	6494.813	1	6494.813	2615.044	.000	.913	2615.044	1.000
CON	BC	9.922	1	9.922	7.439	.007	.029	7.439	.775
	BA	18.532	1	18.532	10.572	.001	.041	10.572	.900
	PI	10.730	1	10.730	4.320	.039	.017	4.320	.544
Error	BC	333.460	250	1.334					
	BA	438.222	250	1.753					
	PI	620.909	250	2.484					
Total	BC	7111.810	252						
	BA	6786.839	252						
	PI	7126.452	252						
Corrected Total	BC	343.382	251						
	BA	456.753	251						
	PI	631.638	251						

a. R Squared = .029 (Adjusted R Squared = .025)

b. R Squared = .041 (Adjusted R Squared = .037)

c. R Squared = .017 (Adjusted R Squared = .013)

Appendix G

SPSS results for the mediation and moderation effects

The mediation analysis of the influence of congruence on brand credibility

OUTCOME VARIABLE: PF1 (path a)						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2216	.0491	1.4216	12.9075	1.0000	250.0000	.0004
Model						
	coeff	se	t	p	LLCI	ULCI
constant	5.3111	.1062	50.0014	.0000	5.1019	5.5203
CON	.5397	.1502	3.5927	.0004	.2438	.8355
OUTCOME VARIABLE: BC (path b and path c')						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.4462	.1991	1.1045	30.9454	2.0000	249.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	2.8305	.3105	9.1150	.0000	2.2189	3.4421
CON	.1780	.1358	1.3110	.1911	-.0894	.4454
PF1	.4055	.0557	7.2738	.0000	.2957	.5153
***** TOTAL EFFECT MODEL *****						
OUTCOME VARIABLE: BC						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1700	.0289	1.3338	7.4385	1.0000	250.0000	.0068
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.9841	.1029	48.4420	.0000	4.7815	5.1868
CON	.3968	.1455	2.7274	.0068	.1103	.6834
***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****						
Total effect of X on Y (path c)						
Effect	se	t	p	LLCI	ULCI	
.3968	.1455	2.7274	.0068	.1103	.6834	
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.1780	.1358	1.3110	.1911	-.0894	.4454	
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
PF1	.2188	.0733	.0901	.3754		

The mediation analysis of the influence of congruence on brand aesthetics

OUTCOME VARIABLE: PF1 (path a)						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2216	.0491	1.4216	12.9075	1.0000	250.0000	.0004
Model						
	coeff	se	t	p	LLCI	ULCI
constant	5.3111	.1062	50.0014	.0000	5.1019	5.5203
CON	.5397	.1502	3.5927	.0004	.2438	.8355
OUTCOME VARIABLE: BA (path b and path c')						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.4226	.1786	1.5067	27.0716	2.0000	249.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	2.5038	.3627	6.9033	.0000	1.7894	3.2181
CON	.3150	.1586	1.9866	.0481	.0027	.6274
PF1	.4212	.0651	6.4687	.0000	.2929	.5494
***** TOTAL EFFECT MODEL *****						
OUTCOME VARIABLE: BA						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2014	.0406	1.7529	10.5720	1.0000	250.0000	.0013
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.7407	.1179	40.1934	.0000	4.5084	4.9730
CON	.5424	.1668	3.2515	.0013	.2138	.8709
***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****						
Total effect of X on Y (path c)						
Effect	se	t	p	LLCI	ULCI	
.5424	.1668	3.2515	.0013	.2138	.8709	
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.3150	.1586	1.9866	.0481	.0027	.6274	
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
PF1	.2273	.0798	.0878	.3998		

The mediation analysis of the influence of congruence on purchase intention

OUTCOME VARIABLE: PF1 (path a)						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2216	.0491	1.4216	12.9075	1.0000	250.0000	.0004
Model						
	coeff	se	t	p	LLCI	ULCI
constant	5.3111	.1062	50.0014	.0000	5.1019	5.5203
CON	.5397	.1502	3.5927	.0004	.2438	.8355
OUTCOME VARIABLE: PI (path b and path c')						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.3537	.1251	2.2193	17.8043	2.0000	249.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	2.5421	.4402	5.7752	.0000	1.6752	3.4091
CON	.1761	.1925	.9150	.3611	-.2030	.5552
PF1	.4384	.0790	5.5474	.0000	.2827	.5940
***** TOTAL EFFECT MODEL *****						
OUTCOME VARIABLE: PI						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1303	.0170	2.4836	4.3202	1.0000	250.0000	.0387
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.8704	.1404	34.6899	.0000	4.5939	5.1469
CON	.4127	.1986	2.0785	.0387	.0216	.8037
***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****						
Total effect of X on Y (path c)						
Effect	se	t	p	LLCI	ULCI	
.4127	.1986	2.0785	.0387	.0216	.8037	
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.1761	.1925	.9150	.3611	-.2030	.5552	
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
PF1	.2366	.0873	.0854	.4273		

The moderated mediation of the influence of congruence on brand credibility

OUTCOME VARIABLE: PF1						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1971	.0389	1.5093	10.1067	1.0000	250.0000	.0017
Model						
	coeff	se	t	p	LLCI	ULCI
constant	-.2460	.1094	-2.2480	.0255	-.4616	-.0305
CON	.4921	.1548	3.1791	.0017	.1872	.7969
OUTCOME VARIABLE: BC						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5532	.3060	.9648	27.2259	4.0000	247.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	5.0749	.0887	57.2247	.0000	4.9002	5.2496
CON	.1664	.1262	1.3180	.1887	-.0823	.4151
PF1	.4287	.0512	8.3708	.0000	.3278	.5295
UA	.2354	.0661	3.5614	.0004	.1052	.3656
Int_1	.1272	.0433	2.9386	.0036	.0420	.2125
Product terms key:						
Int_1 : PF1 x UA						
Test(s) of highest order unconditional interaction(s):						
	R2-chng	F	df1	df2	p	
M*W	.0243	8.6351	1.0000	247.0000	.0036	
Focal predict: PF1 (M)						
Mod var: UA (W)						
Conditional effects of the focal predictor at values of the moderator(s):						
UA	Effect	se	t	p	LLCI	ULCI
-.9588	.3067	.0653	4.6942	.0000	.1780	.4353
.0000	.4287	.0512	8.3708	.0000	.3278	.5295
.9588	.5507	.0665	8.2792	.0000	.4197	.6817
***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****						
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.1664	.1262	1.3180	.1887	-.0823	.4151	
Conditional indirect effects of X on Y:						
INDIRECT EFFECT:						
CON	-> PF1	-> BC				
UA	Effect	BootSE	BootLLCI	BootULCI		
-.9588	.1509	.0586	.0441	.2711		
.0000	.2109	.0746	.0751	.3626		
.9588	.2710	.0979	.0960	.4753		
Index of moderated mediation:						
Index	BootSE	BootLLCI	BootULCI			
UA	.0626	.0321	.0099	.1355		

The moderated mediation of the influence of congruence on brand aesthetics

OUTCOME VARIABLE: PF1						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1971	.0389	1.5093	10.1067	1.0000	250.0000	.0017
Model						
	coeff	se	t	p	LLCI	ULCI
constant	-.2460	.1094	-2.2480	.0255	-.4616	-.0305
CON	.4921	.1548	3.1791	.0017	.1872	.7969
OUTCOME VARIABLE: BA						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5030	.2530	1.3813	20.9183	4.0000	247.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.8495	.1061	45.7018	.0000	4.6405	5.0585
CON	.3092	.1511	2.0469	.0417	.0117	.6067
PF1	.4344	.0613	7.0893	.0000	.3137	.5551
UA	.2637	.0791	3.3343	.0010	.1079	.4195
Int_1	.0407	.0518	.7857	.4328	-.0613	.1427
Product terms key:						
Int_1 : PF1 x UA						
Test(s) of highest order unconditional interaction(s):						
	R2-chng	F	df1	df2	p	
M*W	.0019	.6173	1.0000	247.0000	.4328	
***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****						
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.3092	.1511	2.0469	.0417	.0117	.6067	
Conditional indirect effects of X on Y:						
INDIRECT EFFECT:						
CON -> PF1 -> BA						
UA	Effect	BootSE	BootLLCI	BootULCI		
-.9588	.1945	.0807	.0473	.3562		
.0000	.2137	.0792	.0703	.3790		
.9588	.2329	.0913	.0741	.4299		
Index of moderated mediation:						
	Index	BootSE	BootLLCI	BootULCI		
UA	.0200	.0355	-.0322	.1118		

The moderated mediation of the influence of congruence on purchase intention

OUTCOME VARIABLE: PF1						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1971	.0389	1.5093	10.1067	1.0000	250.0000	.0017
Model						
	coeff	se	t	p	LLCI	ULCI
constant	-.2460	.1094	-2.2480	.0255	-.4616	-.0305
CON	.4921	.1548	3.1791	.0017	.1872	.7969
OUTCOME VARIABLE: PI						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.4454	.1983	2.0500	15.2780	4.0000	247.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.9773	.1293	38.5031	.0000	4.7227	5.2320
CON	.1691	.1840	.9188	.3591	-.1934	.5316
PF1	.4425	.0746	5.9275	.0000	.2954	.5895
UA	.3437	.0964	3.5672	.0004	.1539	.5335
Int 1	.0772	.0631	1.2230	.2225	-.0471	.2015
Product terms key:						
Int_1 : PF1 x UA						
Test(s) of highest order unconditional interaction(s):						
	R2-chng	F	df1	df2	p	
M*W	.0049	1.4957	1.0000	247.0000	.2225	
***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****						
Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.1691	.1840	.9188	.3591	-.1934	.5316	
Conditional indirect effects of X on Y:						
INDIRECT EFFECT:						
CON	-> PF1	-> PI				
UA	Effect	BootSE	BootLLCI	BootULCI		
	-.9588	.1813	.0907	.0143	.3610	
	.0000	.2177	.0844	.0676	.3926	
	.9588	.2541	.0986	.0820	.4572	
Index of moderated mediation:						
	Index	BootSE	BootLLCI	BootULCI		
UA	.0380	.0448	-.0278	.1503		